VISHAY INTERTECHNOLOGY, INC.

INTERACTIVE
data book

LEADED MAGNETICS AND INDUCTORS
VISHAY DALE

VSD-DB0058-0112

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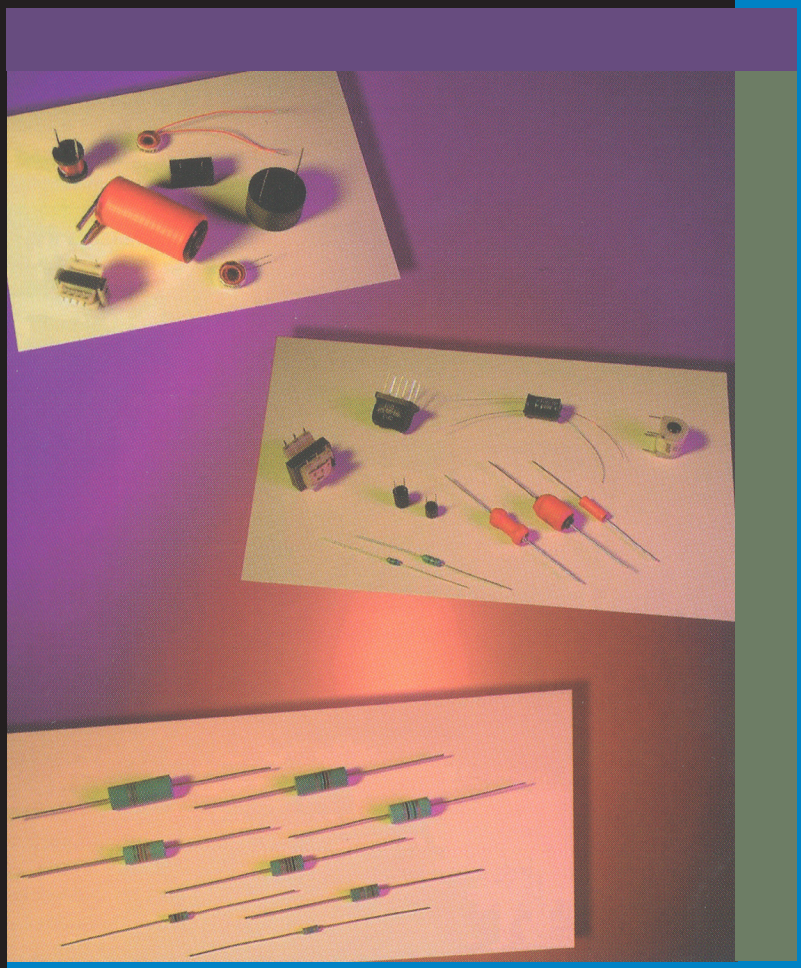
DATA BOOK



LEADED MAGNETICS AND INDUCTORS

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VISHAY INTERTECHNOLOGY, INC.

DISCRETE SEMICONDUCTORS	**RECTIFIERS**	Schottky (single, dual) Standard, Fast and Ultra-Fast Recovery (single, dual) Clamper/Damper Bridge Superectifier®
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	MOSFETs	Power MOSFETs JFETs
	RF TRANSISTORS	Bipolar RF Transistors (AF and RF) Dual Gate MOSFETs MOSMICs®
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MEASUREMENT SENSORS AND EQUIPMENT	**STRAIN GAGES**	Stress Analysis Transducer-Class® Installation Accessories
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ONE OF THE WORLD'S LARGEST MANUFACTURERS OF DISCRETE SEMICONDUCTORS AND PASSIVE COMPONENTS

Vishay Leaded Magnetics and Inductors

Vishay Dale
1505 E. Highway 50
P.O. Box 180
Yankton, SD 57078-0180, USA
Phone: 605-665-9301
Fax: 605-665-1627
www.vishay.com

The products listed in this catalog are not generally recommended for use in life support systems where a failure or malfunction of the component may directly threaten life or cause injury.

The user of products in such applications assumes all risks of such use and will agree to hold Vishay Intertechnology, Inc. and all the companies whose products are represented in this catalog, harmless against all damages.

Table of Contents

Vishay Dale

Leaded Magnetic Products

TERMINATIONS	CORE TYPE	COIL CONSTRUCTION	PHYSICAL CONSTRUCTION	INDUCTOR MODELS	PICTURES	INCHES [MILLIMETERS]			INDUCTANCE						
									μH						
						L	W	H	←0.01	←.10	←1	←10	←100	←1000	←10000
LEADED	NON MAGNETIC, POWERED IRON, FERRITE	WIREWOUND	MOLDED	IM-1		0.210 [5.33]		0.086 [2.18]	0.10				100		
				IM-2		0.260 [6.60]		0.105 [2.67]	0.022					1K	
				IM-4		0.385 [9.78]		0.165 [4.19]		0.15				1.8K	
				IM-6		0.450 [11.43]		0.200 [5.08]	0.1					1K	
				IM-8		0.570 [14.48]		0.225 [5.72]					1.1K	3.6K	
				IM-9		0.570 [14.48]		0.260 [6.60]				68	150		
				IM-10		0.750 [19.05]		0.250 [6.35]						3.9K	10K
				IM-6-38		0.450 [11.43]		0.200 [5.08]		0.22			470		
				IM-6RFCS-40		0.440 [11.18]		0.188 [4.78]	0.1					1K	
				IM-10-22		0.570 [14.48]		0.230 [5.84]		0.47				3.6K	
				IM-10-28		0.570 [14.48]		2.90 [7.37]			1.2		120		
				IM-10-31		0.570 [14.48]		0.320 [8.13]				180	390		
				IM-10-37		0.635 [16.13]		0.385 [9.78]					470	1K	
				IM-10-46		0.697 [17.70]		0.478 [12.14]						1.5K	10K
				IM-10-RFCL-12		0.900 [22.86]		0.310 [7.87]		1.0					10K

RATED CURRENT mA						DCR Ohms					SRF MHz					
←0.1	←1	←10	←100	←1000	←10000	←0.01	←0.1	←1	←10	←100	←0.1	←1	←10	←100	←1000	←10000
		52		895		0.13			17.5			9.5		680		
		28		2.4K		0.025			72			3.4		900		
		56		2.45K		0.03			56.7			1.6		525		
		78		3.6K		0.02			16.5			2.8		510		
		57	78						21 40			1.5	2.8			
			132 168					3.3	5.3				8.3 13			
		47	61						44	72		0.95	1.45			
			185	2.38K		0.024			4.5			2.1		360		
			104	4K		0.02			16.5			2.2		400		
		57		1.97K		0.06			40			1.5		300		
			195	2.4K		0.075			4.1				10	170		
			118 148					5.5	8.7				3.9 6			
			95 125					9	14.5				2.7 3.7			
		47	84						22	70		0.8	2.2			
			80	4K		0.03				80		0.45			136	

TERMINATIONS	CORE TYPE	COIL CONSTRUCTION	PHYSICAL CONSTRUCTION	INDUCTOR MODELS	PICTURES	INCHES [MILLIMETERS] L	W	H	INDUCTANCE µH ←0.01	←0.10	←1	←10	←100	←1000	←10000
LEADED	NON MAGNETIC, POWDERED IRON, FERRITE	WIREWOUND	SHIELDED-MOLDED	IMS-2SWWD-30		0.345 [8.76]		0.136 [3.45]	0.1					1.8K	
				IMS-2WWD-40		0.335 [8.51]		0.133 [3.38]	0.1					1K	
				IMS-2		0.260 [6.60]		0.105 [2.67]	0.1				560		
				IMS-5		0.430 [10.92]		0.172 [4.37]	0.1						100K
				IMS-5WD-40		0.450 [11.43]		0.164 [4.166]	0.1					5.6K	
			ROLL COATED	IR-2		0.330 [8.38]		0.120 [3.05]	0.1					1K	
				IR-4		0.440 [11.18]		0.180 [4.57]	0.15					1.8K	
	FERRITE			IRF-1		0.330 [8.38]		0.120 [3.15]	0.1					1K	
				IRF-3		0.410 [10.41]		0.165 [4.19]	0.22					1K	
				IRF-24		0.394 [10.01]		0.118 [3.00]	0.1					1K	
				IRF-36		0.551 [14.00]		0.157 [3.99]	0.1					1K	
				IRF-46		0.551 [14.00]		0.197 [5.00]					1K	39K	
			SLEEVED	IHD-1		0.700 [17.78]		0.270 [6.86]		1.0				18K	
				IHD-3		0.900 [22.86]		0.460 [11.68]			3.9				100K
				IHA		0.8-1.3 [20.3-33]		0.475-0.700 [12.1-17.8]			5.0			1K	

RATED CURRENT						DCR					SRF					
mA						Ohms					MHz					
←0.1	←1	←10	←100	←1000	←10000	←0.01	←0.1	←1	←10	←100	←0.01	←0.1	←1	←10	←100	←1000
		44		1.038K		0.087			33			2.6			480	
		80		1.72K			0.112		52				4.5		400	
		40	670				0.1		28				7		490	
	11			1.79K		0.025				678	0.11				250	
		56		4K			0.02			104		0.65			400	
	28			1.35K			0.08		72				3.4		680	
		56		2.45K			0.03		56.7				1.6		525	
		60		1.35K			0.06		26				1.4		400	
		100		1.4K			0.1		14				1.4		380	
		60	700				0.085		30				1.15		280	
		100		1.75K			0.15		17.4				1.4		320	
	25		200					8		270	0.2	1.7				
		80		5.3K		0.009			40		N/A					
		70		4K		0.007			76		N/A					
			1.4K	9.3K		0.01	0.60				N/A					

TERMINATIONS	CORE TYPE	COIL CONSTRUCTION	PHYSICAL CONSTRUCTION	INDUCTOR MODELS	PICTURES	INCHES [MILLIMETERS] L	W	H	INDUCTANCE µH ←0.1	←1	←10	←100	←1000	←10000	←100000
LEADED	FERRITE	WIREWOUND	MISC	IH (Sleeved)		0.875-1.687 [22.2-42.8]		0.6-1.0 [15.2-25.4]		5		250			
				IHM-2 (Encap)		1.0 [25.4]	0.5 [12.7]	0.56 [14.22]	1					15K	
				IHB (Open)		0.66 - 2.0 [16.8 - 50.8]		0.84 - 1.5 [21.3 - 38.1]	1					47K	
	VARIABLE			IHV (Sleeved)		2.45-2.55 [62.2-64.8]		1.02-1.92 [25.9-48.8]			24	500			
	TOROID			PC (Shielded)		0.310 [7.87]		0.270 [6.86]	0.1				1K		
				WVL (Variable)		0.320 [8.13]		0.430 [10.92]	0.1				1K		
			OPEN	TJ-3		0.65-0.66 [16.5-16.8]	0.65-0.66 [16.5-16.8]	0.30-0.32 [7.6-8.1]		1.2			1.5K		
				TJ-4		0.88 [22.4]	0.88 [22.4]	0.40 [10.2]		1.2			1.5K		
				TJ-5		1.00 [25.4]	1.00 [25.4]	0.45 [11.4]		1.2			1.5K		
				TJ-6		1.38 [35.1]	1.38 [35.1]	0.83 [21.1]		1.2			2.7K		
				TJ-7		1.65 [41.9]	1.65 [41.9]	0.75 [19.1]		1.2			2.7K		
				TJ-8		1.92-1.94 [48.8-49.3]	1.92-1.94 [48.8-49.3]	1.00 [25.4]		1.5			3.9K		
				TJ-9		2.66-2.72 [67.6-69.1]	2.66-2.72 [67.6-69.1]	1.42 [36.1]		1.5			5.6K		
			DIPENCAP	TE-3		0.685 [17.40]	0.685 [17.40]	1.00 [25.4]			50				4M
				TE-4		1.06 [26.92]	1.06 [26.92]	1.00 [25.4]				150			2M
				TE-5		1.32 [33.53]	1.32 [33.53]	1.00 [25.4]				1K			2M
				TD-3		0.685 [17.40]	0.685 [17.40]	3.00 [76.2]			50				4M
				TD-4		1.06 [26.92]	1.06 [26.92]	4.00 [101.60]				150			2M
				TD-5		1.32 [33.53]	1.32 [33.53]	6.00 [152.40]				1K			2M

RATED CURRENT					DCR					SRF					
mA					Ohms					MHz					
←1	←10	←100	←1000	←10000	←0.001	←0.01	←0.1	←1	←10	←0.001	←0.01	←0.1	←1	←10	←100
			5K	24K	0.008		0.09			N/A					
		260		17.8K	0.005				21.9	N/A					
		800		35K	0.003			6.19		N/A					
				15K 60K	0.0025	0.05						0.8	5.7	670	
		141		2.5K		0.03			12			2.35			250
		141		1.51K		0.03			12			1.9			200
		500		10K	0.006			1.476		N/A					
		900		10.7K	0.006			0.952		N/A					
		1.3K		10.1K	0.006		0.539			N/A					
		2K		16K	0.004		0.499			N/A					
		2.7K		16K	0.005		0.359			N/A					
		3.2K		18.5K	0.005		0.304			N/A					
			5K	20K	0.004		0.224			N/A					
N/A							0.68		2.7K	0.009				7.6	
N/A							0.54		1.2K	0.011				2.6	
N/A							1.7		475	0.008			0.8		
N/A							0.68		2.7K	0.009				7.6	
N/A							0.54		1.2K	0.011				2.6	
N/A							1.7		475	0.008		0.80			

Inductors

Military, MIL-PRF-15305 Qualified, Type LT
and Commercial, Molded

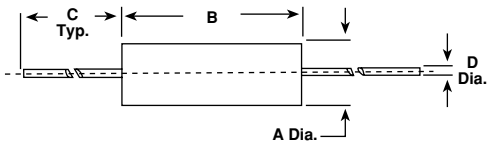
FEATURES

- Wide inductance range in small package.
- Flame retardant coating.
- Precision performance, excellent reliability, sturdy construction.
- Epoxy molded construction provides superior moisture protection.

INDUCTANCE RANGE AND MILITARY STANDARD

MODEL	INDUCTANCE RANGE Mil. Range in bold face FROM	TO	CLASSIFICATION GRADE	CLASS	MILITARY STANDARD
IM-1	0.10µH	100µH	—	—	—
IM-2	0.022µH	0.082µH	—	—	—
	0.10µH	**1µH**	1	B	MS75083
	1.2µH	**27µH**	1	A	MS75084
	33µH	**1000µH**	1	A	MS75085
IM-4	**0.15µH**	**4.7µH**	1	B	MS18130
	5.6µH	**33µH**	1	A	MS14046
	36µH	**240µH**	1	A	MS90538
	270µH	1800µH	—	—	—
IM-6	0.10µH	2.7µH	1	B	MS75008 Not QPL'd
	3.3µH	**27µH**	1	A	MS75101
	33µH	220µH	—	—	—
	270µH	1000µH	1	A	MS90539 Not QPL'd
IM-8	1100µH	3600µH	1	A	MS90540 Not QPL'd
IM-9	68µH	150µH	1	A	MS14047 Not QPL'd
IM-10	3900µH	10,000µH	1	A	MS90541 Not QPL'd

DIMENSIONS in inches [millimeters]



MODEL		A (Dia.)	B	C (Typ.)	D (Dia.)
IM-1	Maximum	0.086 [2.18]	0.210 [5.33]	1.62 [41.15]	0.0215 [.546]
	Minimum	0.070 [1.78]	0.190 [4.83]	1.38 [35.05]	0.0185 [.470]
IM-2	Maximum	0.105 [2.67]	0.260 [6.60]	1.63 [41.40]	0.0215 [.546]
	Minimum	0.085 [2.16]	0.240 [6.10]	1.25 [31.75]	0.0185 [.470]
IM-4	Maximum	0.165 [4.19]	0.385 [9.78]	1.63 [41.40]	0.027 [.686]
	Minimum	0.145 [3.68]	0.365 [9.27]	1.25 [31.75]	0.023 [.584]
IM-6	Maximum	0.200 [5.08]	0.450 [11.43]	1.63 [41.40]	0.027 [.686]
	Minimum	0.180 [4.57]	0.430 [10.92]	1.25 [31.75]	0.023 [.584]
IM-8	Maximum	0.225 [5.72]	0.570 [14.48]	1.63 [41.40]	0.030 [.762]
	Minimum	0.205 [5.21]	0.550 [13.97]	1.25 [31.75]	0.026 [.660]
IM-9	Maximum	0.260 [6.60]	0.570 [14.48]	1.63 [41.40]	0.027 [.686]
	Minimum	0.240 [6.10]	0.550 [13.97]	1.25 [31.75]	0.023 [.584]
IM-10	Maximum	0.250 [6.35]	0.750 [19.05]	1.63 [41.40]	0.034 [.864]
	Minimum	0.230 [5.84]	0.730 [18.54]	1.25 [31.75]	0.030 [.762]

ELECTRICAL SPECIFICATIONS

Inductance Tolerance: ± 1%, ± 3%, ± 5%, ± 10%, ± 20%. Other tolerances available on request.

Insulation Resistance: 1000 Megohm minimum per MIL-STD-202, Method 302, Test Condition B.

Dielectric Strength: Per MIL-STD-202, Method 301:
1000 VAC for IM-2, -4, -6, -8, -9 and -10.
200 VAC for IM-1.

MECHANICAL SPECIFICATIONS

Terminal Strength: Per MIL-STD-202, Method 211, Test Condition A: For IM-1, 3 pounds pull.
For IM-2, -4, -6, -8, -9 and -10, 5 pounds pull and twist.

Weight: IM-1 = .25 gram maximum.
IM-2 = .30 gram maximum.
IM-4 = .65 gram maximum.
IM-6 = .95 gram maximum.
IM-8 = 1.5 gram maximum.
IM-9 = 2.0 gram maximum.
IM-10 = 2.5 gram maximum.

MATERIAL SPECIFICATIONS

Encapsulant: Epoxy.

Standard Terminals: IM-1 and IM-2, 24 AWG; IM-4, IM-6 and IM-9, 22 AWG; IM-8, 21 AWG; and IM-10, 20 AWG, tinned copper.

TEST EQUIPMENT*

- H/P 4342A Q-Meter.
- Measurements Corporation Megacycle Meter, Model 59.
- Wheatstone bridge.

*Test procedures per MIL-PRF-15305.

ENVIRONMENTAL PERFORMANCE

TEST	CONDITIONS	SPECIFICATIONS
Barometric Pressure	Test Condition C	MIL-STD-202, Method 105
Thermal Shock	Test Condition A-1	MIL-STD-202, Method 107
Flammability	—	MIL-STD-202, Method 111
Overload	—	MIL-PRF-15305
Low Temperature Storage	—	MIL-PRF-15305
Resistance to Soldering Heat	Test Condition A	MIL-STD-202, Method 210
Resistance to Solvents	—	MIL-STD-202, Method 215

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	IND. (μH)	TOL.	MIL. STD.	MIL. TYPE	Q MIN.	TEST FREQ. L & Q (MHz)	SELF- RESONANT* FREQ. MIN. (MHz)	DCR MAX. (Ohms)	RATED** DC CURRENT (mA)	
IM-1	0.10	± 10%	—	—	35	25.0	680.0	0.13	895	PHENOLIC CORE
IM-1	0.12	± 10%	—	—	35	25.0	650.0	0.15	835	
IM-1	0.15	± 10%	—	—	35	25.0	560.0	0.18	760	
IM-1	0.18	± 10%	—	—	35	25.0	540.0	0.21	705	
IM-1	0.22	± 10%	—	—	30	25.0	500.0	0.25	645	
IM-1	0.27	± 10%	—	—	30	25.0	440.0	0.38	525	
IM-1	0.33	± 10%	—	—	25	25.0	410.0	0.49	460	
IM-1	0.39	± 10%	—	—	25	25.0	380.0	0.59	420	
IM-1	0.47	± 10%	—	—	25	25.0	340.0	0.62	410	
IM-1	0.56	± 10%	—	—	40	25.0	250.0	0.18	510	IRON CORE
IM-1	0.68	± 10%	—	—	40	25.0	215.0	0.20	485	
IM-1	0.82	± 10%	—	—	40	25.0	200.0	0.22	465	
IM-1	1.0	± 10%	—	—	40	25.0	190.0	0.25	435	
IM-1	1.2	± 10%	—	—	35	7.9	170.0	0.28	410	
IM-1	1.5	± 10%	—	—	40	7.9	150.0	0.49	310	
IM-1	1.8	± 10%	—	—	40	7.9	135.0	0.56	290	
IM-1	2.2	± 10%	—	—	45	7.9	130.0	0.72	257	
IM-1	2.7	± 10%	—	—	45	7.9	110.0	0.85	236	
IM-1	3.3	± 10%	—	—	45	7.9	100.0	1.2	198	
IM-1	3.9	± 10%	—	—	50	7.9	95.0	1.5	178	
IM-1	4.7	± 10%	—	—	55	7.9	88.0	2.1	150	
IM-1	5.6	± 10%	—	—	55	7.9	78.0	2.8	130	
IM-1	6.8	± 10%	—	—	55	7.9	69.0	3.2	122	
IM-1	8.2	± 10%	—	—	45	7.9	52.0	4.4	104	
IM-1	10.0	± 10%	—	—	45	7.9	47.0	5.2	95	
IM-1	12.0	± 10%	—	—	40	2.5	31.0	3.0	126	
IM-1	15.0	± 10%	—	—	40	2.5	26.0	3.4	118	
IM-1	18.0	± 10%	—	—	40	2.5	23.0	3.8	112	
IM-1	22.0	± 10%	—	—	45	2.5	20.0	4.3	105	
IM-1	27.0	± 10%	—	—	45	2.5	17.0	4.7	100	
IM-1	33.0	± 10%	—	—	45	2.5	15.0	5.2	95	
IM-1	39.0	± 10%	—	—	45	2.5	13.5	6.8	83.5	
IM-1	47.0	± 10%	—	—	45	2.5	12.5	8.2	76	
IM-1	56.0	± 10%	—	—	45	2.5	11.5	10.0	69	
IM-1	68.0	± 10%	—	—	45	2.5	10.5	11.5	64	
IM-1	82.0	± 10%	—	—	45	2.5	10.0	16.0	54.5	
IM-1	100.0	± 10%	—	—	45	2.5	9.5	17.5	52	
IM-2	0.022	± 20%	—	—	50	50.0	900.0	0.025	2400	PHENOLIC CORE
IM-2	0.027	± 10%	—	—	40	25.0	875.0	0.03	2200	
IM-2	0.033	± 10%	—	—	40	25.0	850.0	0.035	2000	
IM-2	0.039	± 10%	—	—	40	25.0	825.0	0.04	1900	
IM-2	0.047	± 10%	—	—	40	25.0	800.0	0.045	1800	
IM-2	0.056	± 10%	—	—	40	25.0	775.0	0.05	1700	
IM-2	0.068	± 10%	—	—	40	25.0	750.0	0.06	1500	
IM-2	0.082	± 10%	—	—	40	25.0	725.0	0.07	1400	
			MS75083	LT4K						PHENOLIC CORE
IM-2	0.10	± 10%	-1	339	40	25.0	680.0	0.08	1350	
IM-2	0.12	± 10%	-2	340	40	25.0	640.0	0.09	1270	
IM-2	0.15	± 10%	-3	341	38	25.0	600.0	0.10	1200	
IM-2	0.18	± 10%	-4	342	35	25.0	550.0	0.12	1105	
IM-2	0.22	± 10%	-5	343	33	25.0	510.0	0.14	1025	
IM-2	0.27	± 10%	-6	344	33	25.0	430.0	0.16	960	
IM-2	0.33	± 10%	-7	345	30	25.0	410.0	0.22	815	
IM-2	0.39	± 10%	-8	346	30	25.0	365.0	0.30	700	
IM-2	0.47	± 10%	-9	347	30	25.0	330.0	0.35	650	
IM-2	0.56	± 10%	-10	348	30	25.0	300.0	0.50	545	
IM-2	0.68	± 10%	-11	349	28	25.0	275.0	0.60	495	
IM-2	0.82	± 10%	-12	350	28	25.0	250.0	0.85	415	
IM-2	1.0	± 10%	-13	351	25	25.0	230.0	1.0	385	
			MS75084	LT10K						IRON CORE
IM-2	1.2	± 10%	-01	061	25	7.9	150.0	0.18	590	
IM-2	1.5	± 10%	-02	062	28	7.9	140.0	0.22	535	
IM-2	1.8	± 10%	-03	063	30	7.9	125.0	0.30	455	
IM-2	2.2	± 10%	-04	064	30	7.9	115.0	0.40	395	
IM-2	2.7	± 10%	-05	065	37	7.9	100.0	0.55	355	
IM-2	3.3	± 10%	-06	066	45	7.9	90.0	0x.85	270	
IM-2	3.9	± 10%	-07	067	45	7.9	80.0	1.0	250	
IM-2	4.7	± 10%	-08	068	45	7.9	75.0	1.2	230	

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STANDARD ELECTRICAL SPECIFICATIONS

MODEL	IND. (μH)	TOL.	MIL. STD.	MIL. TYPE	Q MIN.	TEST FREQ. L & Q (MHz)	SELF-RESONANT* FREQ. MIN. (MHz)	DCR MAX. (Ohms)	RATED** DC CURRENT (mA)	
			MS75084	LT10K						
IM-2	5.6	± 10%	-09	069	50	7.9	65.0	1.8	185	
IM-2	6.8	± 10%	-10	070	50	7.9	60.0	2.0	175	
IM-2	8.2	± 10%	-11	071	55	7.9	55.0	2.7	155	
IM-2	10.0	± 10%	-12	072	55	7.9	50.0	3.7	130	
IM-2	12.0	± 10%	-13	073	45	2.5	40.0	2.7	155	
IM-2	15.0	± 10%	-14	074	40	2.5	35.0	2.8	150	
IM-2	18.0	± 10%	-15	075	50	2.5	30.0	3.1	145	
IM-2	22.0	± 10%	-16	076	50	2.5	25.0	3.3	140	
IM-2	27.0	± 10%	-17	077	50	2.5	20.0	3.5	135	IRON CORE
			MS75085	LT10K						
IM-2	33.0	± 10%	-1	078	45	2.5	24.0	3.4	130	
IM-2	39.0	± 10%	-2	079	45	2.5	22.0	3.6	125	
IM-2	47.0	± 10%	-3	080	45	2.5	20.0	4.5	110	
IM-2	56.0	± 10%	-4	081	45	2.5	18.0	5.7	100	
IM-2	68.0	± 10%	-5	082	50	2.5	15.0	6.7	92	
IM-2	82.0	± 10%	-6	083	50	2.5	14.0	7.3	88	
IM-2	100.0	± 10%	-7	084	50	2.5	13.0	8.0	84	
IM-2	120.0	± 10%	-8	085	30	0.79	12.0	13.0	66	
IM-2	150.0	± 10%	-9	086	30	0.79	11.0	15.0	61	
IM-2	180.0	± 10%	-10	087	30	0.79	10.0	17.0	57	
IM-2	220.0	± 10%	-11	088	30	0.79	9.0	21.0	52	
IM-2	270.0	± 10%	-12	089	30	0.79	8.0	25.0	47	
IM-2	330.0	± 10%	-13	090	30	0.79	7.0	28.0	45	
IM-2	390.0	± 10%	-14	091	30	0.79	6.5	35.0	40	
IM-2	470.0	± 10%	-15	092	30	0.79	6.0	42.0	36	
IM-2	560.0	± 10%	-16	093	30	0.79	5.0	46.0	35	
IM-2	680.0	± 10%	-17	094	30	0.79	4.0	60.0	30	
IM-2	820.0	± 10%	-18	095	30	0.79	3.8	65.0	29	
IM-2	1000.0	± 10%	-19	096	30	0.79	3.4	72.0	28	FERRITE CORE
			MS18130	LT4K						
IM-4	0.15	± 20%	-1	074	50	25.0	525.0	0.03	2450	
IM-4	0.22	± 20%	-2	075	50	25.0	450.0	0.055	1810	
IM-4	0.33	± 20%	-3	076	45	25.0	360.0	0.09	1400	
IM-4	0.47	± 20%	-4	077	45	25.0	310.0	0.12	1225	
IM-4	0.56	± 10%	-5	078	50	25.0	280.0	0.135	1150	
IM-4	0.68	± 10%	-6	079	50	25.0	250.0	0.15	1100	
IM-4	0.82	± 10%	-7	080	50	25.0	220.0	0.22	900	
IM-4	1.0	± 10%	-8	081	50	25.0	200.0	0.29	785	
IM-4	1.2	± 10%	-9	082	33	7.9	180.0	0.42	650	
IM-4	1.5	± 10%	-10	083	33	7.9	160.0	0.50	600	
IM-4	1.8	± 10%	-11	084	33	7.9	150.0	0.65	525	
IM-4	2.2	± 10%	-12	085	33	7.9	135.0	0.95	435	
IM-4	2.7	± 10%	-13	086	33	7.9	120.0	1.20	385	
IM-4	3.3	± 10%	-14	087	33	7.9	110.0	2.0	300	
IM-4	3.9	± 10%	-15	088	33	7.9	100.0	2.30	280	
IM-4	4.7	± 10%	-16	089	33	7.9	90.0	2.60	260	PHENOLIC CORE
			MS14046	LT10K						
IM-4	5.6	± 10%	-1	128	45	7.9	60.0	0.32	495	
IM-4	6.8	± 10%	-2	129	50	7.9	55.0	0.50	395	
IM-4	8.2	± 10%	-3	130	50	7.9	50.0	0.60	360	
IM-4	10.0	± 10%	-4	131	55	7.9	45.0	0.90	290	
IM-4	12.0	± 10%	-5	132	65	2.5	42.0	1.10	265	
IM-4	15.0	± 10%	-6	133	65	2.5	40.0	1.40	240	
IM-4	18.0	± 10%	-7	134	75	2.5	34.0	2.25	185	
IM-4	22.0	± 10%	-8	135	75	2.5	30.0	2.50	175	
IM-4	27.0	± 10%	-9	136	60	2.5	25.0	2.60	170	
IM-4	33.0	± 10%	-10	137	65	2.5	19.0	3.0	165	IRON CORE

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STANDARD ELECTRICAL SPECIFICATIONS

MODEL	IND. (μH)	TOL.	MIL. STD.	MIL. TYPE	Q MIN.	TEST FREQ. L & Q (MHz)	SELF-RESONANT* FREQ. MIN. (MHz)	DCR MAX. (Ohms)	RATED** DC CURRENT (mA)	
			MS90538	LT10K						
IM-4	36.0	± 5%	-1	001	60	2.5	15.5	2.50	180	
IM-4	39.0	± 5%	-2	002	60	2.5	14.5	2.60	176	
IM-4	43.0	± 5%	-3	003	60	2.5	13.7	2.70	172	
IM-4	47.0	± 5%	-4	004	55	2.5	13.0	2.75	170	
IM-4	51.0	± 5%	-5	005	55	2.5	12.7	2.85	167	
IM-4	56.0	± 5%	-6	006	55	2.5	12.0	3.0	164	
IM-4	62.0	± 5%	-7	007	55	2.5	11.5	3.15	160	
IM-4	68.0	± 5%	-8	008	55	2.5	11.0	3.30	156	
IM-4	75.0	± 5%	-9	009	55	2.5	10.5	3.70	147	
IM-4	82.0	± 5%	-10	010	50	2.5	10.3	3.90	143	
IM-4	91.0	± 5%	-11	011	50	2.5	10.0	4.30	136	
IM-4	100.0	± 5%	-12	012	50	2.5	9.5	4.50	133	
IM-4	110.0	± 5%	-13	013	60	0.79	8.9	4.90	128	
IM-4	120.0	± 5%	-14	014	65	0.79	8.7	5.20	124	
IM-4	130.0	± 5%	-15	015	65	0.79	8.5	5.45	121	
IM-4	150.0	± 5%	-16	016	65	0.79	8.0	6.05	114	
IM-4	160.0	± 5%	-17	017	65	0.79	7.5	6.40	111	
IM-4	180.0	± 5%	-18	018	65	0.79	7.0	6.75	108	
IM-4	200.0	± 5%	-19	019	65	0.79	6.5	7.10	106	
IM-4	220.0	± 5%	-20	020	65	0.79	6.2	7.45	103	
IM-4	240.0	± 5%	-21	021	65	0.79	5.9	7.80	101	
IM-4	270.0	± 5%	—	—	65	0.79	5.7	11.0	129	
IM-4	300.0	± 5%	—	—	65	0.79	5.4	11.5	125	
IM-4	330.0	± 5%	—	—	65	0.79	5.1	12.0	123	
IM-4	360.0	± 5%	—	—	65	0.79	4.8	15.5	108	
IM-4	390.0	± 5%	—	—	65	0.79	4.5	16.3	105	
IM-4	430.0	± 5%	—	—	65	0.79	4.2	17.1	102	
IM-4	470.0	± 5%	—	—	65	0.79	3.9	17.9	100	
IM-4	510.0	± 5%	—	—	65	0.79	3.7	18.8	98	
IM-4	560.0	± 5%	—	—	65	0.79	3.5	24.7	85	
IM-4	620.0	± 5%	—	—	65	0.79	3.3	25.9	83	
IM-4	680.0	± 5%	—	—	55	0.79	3.1	27.2	81	
IM-4	750.0	± 5%	—	—	55	0.79	2.9	28.6	79	
IM-4	820.0	± 5%	—	—	55	0.79	2.7	30.0	77	
IM-4	910.0	± 5%	—	—	55	0.79	2.5	31.5	76	
IM-4	1000.0	± 5%	—	—	55	0.79	2.3	33.1	74	
IM-4	1100.0	± 5%	—	—	30	0.25	2.1	43.5	64	
IM-4	1200.0	± 5%	—	—	30	0.25	2.0	45.7	63	
IM-4	1300.0	± 5%	—	—	30	0.25	1.9	49.0	61	
IM-4	1500.0	± 5%	—	—	30	0.25	1.8	52.5	59	
IM-4	1600.0	± 5%	—	—	30	0.25	1.7	54.0	58	
IM-4	1800.0	± 5%	—	—	30	0.25	1.6	56.7	56	IRON CORE
			MS75008	LT4K	(Not QPL'd)					
IM-6	0.10	± 20%	—	—	55	25.0	510.0	.020	3600	
IM-6	0.12	± 20%	—	—	55	25.0	510.0	.025	3300	
IM-6	0.15	± 20%	-21	027	55	25.0	510.0	.030	3000	
IM-6	0.18	± 20%	—	—	55	25.0	450.0	.030	2900	
IM-6	0.22	± 20%	-22	028	50	25.0	415.0	.035	2800	
IM-6	0.27	± 20%	—	—	50	25.0	380.0	.050	2400	
IM-6	0.33	± 20%	-23	029	50	25.0	350.0	.065	2000	
IM-6	0.39	± 20%	—	—	50	25.0	320.0	.080	1800	
IM-6	0.47	± 20%	-24	030	50	25.0	300.0	.085	1700	
IM-6	0.56	± 10%	-25	031	50	25.0	270.0	.125	1450	
IM-6	0.68	± 10%	-26	032	45	25.0	250.0	.150	1300	
IM-6	0.82	± 10%	-27	033	40	25.0	210.0	.205	1100	
IM-6	1.0	± 10%	-28	034	40	25.0	200.0	.290	930	
IM-6	1.2	± 10%	-29	035	30	7.9	180.0	.400	785	
IM-6	1.5	± 10%	-30	036	30	7.9	170.0	.485	700	
IM-6	1.8	± 10%	-31	037	30	7.9	150.0	.740	580	
IM-6	2.2	± 10%	-32	038	30	7.9	140.0	.970	505	
IM-6	2.7	± 10%	-33	039	30	7.9	120.0	1.20	460	PHENOLIC CORE

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STANDARD ELECTRICAL SPECIFICATIONS

MODEL	IND. (μH)	TOL.	MIL. STD.	MIL. TYPE	Q MIN.	TEST FREQ. L & Q (MHz)	SELF-RESONANT* FREQ. MIN. (MHz)	DCR MAX. (Ohms)	RATED** DC CURRENT (mA)	
			MS75101	LT10K		LT10K				
IM-6	3.3	± 10%	-01	169	30	7.9	70.0	0.140	990	
IM-6	3.9	± 10%	-02	170	30	7.9	65.0	0.155	870	
IM-6	4.7	± 10%	-03	171	30	7.9	60.0	0.210	745	
IM-6	5.6	± 10%	-04	172	30	7.9	50.0	0.280	645	
IM-6	6.8	± 10%	-05	173	30	7.9	50.0	0.375	560	
IM-6	8.2	± 10%	-06	174	30	7.9	48.0	0.440	540	
IM-6	10.0	± 10%	-07	175	30	7.9	42.0	0.605	440	
IM-6	12.0	± 10%	-08	176	50	2.5	36.0	1.05	370	
IM-6	15.0	± 10%	-09	177	55	2.5	30.0	1.20	310	
IM-6	18.0	± 10%	-10	178	60	2.5	30.0	1.95	255	
IM-6	22.0	± 10%	-11	179	60	2.5	24.0	2.20	240	
IM-6	27.0	± 10%	-12	180	65	2.5	22.0	2.75	205	
IM-6	33.0	± 10%	—	—	75	2.5	20.0	3.5	185	IRON CORE
IM-6	39.0	± 10%	—	—	75	2.5	18.0	3.8	176	
IM-6	47.0	± 10%	—	—	75	2.5	16.0	4.0	170	
IM-6	56.0	± 10%	—	—	75	2.5	15.0	4.4	164	
IM-6	68.0	± 10%	—	—	75	2.5	12.0	4.7	156	
IM-6	82.0	± 10%	—	—	75	2.5	10.0	5.3	143	
IM-6	100.0	± 10%	—	—	65	2.5	8.0	6.0	133	
IM-6	120.0	± 10%	—	—	65	0.79	6.0	5.0	124	
IM-6	150.0	± 10%	—	—	65	0.79	5.4	5.8	118	
IM-6	180.0	± 10%	—	—	65	0.79	5.0	6.6	114	
IM-6	220.0	± 10%	—	—	65	0.79	4.7	7.4	112	
			MS90539	LT10K	(Not QPL'd)					
IM-6	270.0	± 5%	-01	022	65	0.79	5.6	8.2	110	
IM-6	300.0	± 5%	-02	023	65	0.79	5.3	8.7	107	
IM-6	330.0	± 5%	-03	024	65	0.79	5.0	9.1	105	
IM-6	360.0	± 5%	-04	025	65	0.79	4.7	9.6	102	
IM-6	390.0	± 5%	-05	026	65	0.79	4.5	10.0	100	
IM-6	430.0	± 5%	-06	027	65	0.79	4.3	10.6	97	
IM-6	470.0	± 5%	-07	028	65	0.79	4.0	11.1	95	
IM-6	510.0	± 5%	-08	029	65	0.79	3.8	11.6	93	
IM-6	560.0	± 5%	-09	030	65	0.79	3.6	12.3	91	
IM-6	620.0	± 5%	-10	031	60	0.79	3.5	13.0	88	
IM-6	680.0	± 5%	-11	032	60	0.79	3.4	13.7	85	
IM-6	750.0	± 5%	-12	033	60	0.79	3.3	14.4	83	
IM-6	820.0	± 5%	-13	034	60	0.79	3.1	15.1	81	
IM-6	910.0	± 5%	-14	035	60	0.79	2.9	15.8	79	
IM-6	1000.0	± 5%	-15	036	60	0.79	2.8	16.5	78	IRON CORE
			MS90540	LT10K	(Not QPL'd)					
IM-8	1100.0	± 5%	-01	037	60	0.25	2.8	21.0	78	
IM-8	1200.0	± 5%	-02	038	60	0.25	2.7	22.0	76	
IM-8	1300.0	± 5%	-03	039	60	0.25	2.6	23.0	75	
IM-8	1500.0	± 5%	-04	040	65	0.25	2.4	25.0	72	
IM-8	1600.0	± 5%	-05	041	65	0.25	2.3	26.0	70	
IM-8	1800.0	± 5%	-06	042	65	0.25	2.2	28.0	68	
IM-8	2000.0	± 5%	-07	043	65	0.25	2.1	29.0	67	
IM-8	2200.0	± 5%	-08	044	70	0.25	2.0	30.0	66	
IM-8	2400.0	± 5%	-09	045	70	0.25	1.9	31.0	64	
IM-8	2700.0	± 5%	-10	046	70	0.25	1.8	33.0	62	
IM-8	3000.0	± 5%	-11	047	70	0.25	1.7	35.0	61	
IM-8	3300.0	± 5%	-12	048	70	0.25	1.6	38.0	58	
IM-8	3600.0	± 5%	-13	049	70	0.25	1.5	40.0	57	IRON CORE

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MODEL	IND. (μH)	TOL.	MIL. STD.	MIL. TYPE	Q MIN.	TEST FREQ. L & Q (MHz)	SELF-RESONANT* FREQ. MIN. (MHz)	DCR MAX. (Ohms)	RATED** DC CURRENT (mA)	
			MS14047	LT10K	(Not QPL'd)					
IM-9	68.0	± 10%	-01	138	70	2.5	13.0	3.3	168	IRON CORE
IM-9	82.0	± 10%	-02	139	65	2.5	11.7	3.5	162	
IM-9	100.0	± 10%	-03	140	65	2.5	10.7	3.8	155	
IM-9	120.0	± 10%	-04	141	75	0.79	9.3	4.7	142	
IM-9	150.0	± 10%	-05	142	75	0.79	8.3	5.3	132	
			MS90541	LT10K	(Not QPL'd)					
IM-10	3900.0	± 5%	-01	050	80	0.25	1.45	44.0	61	IRON CORE
IM-10	4300.0	± 5%	-02	051	80	0.25	1.40	46.0	59	
IM-10	4700.0	± 5%	-03	052	80	0.25	1.35	48.0	58	
IM-10	5000.0	± 5%	-04	053	80	0.25	1.30	50.0	57	
IM-10	5600.0	± 5%	-05	054	80	0.25	1.25	53.0	56	
IM-10	6200.0	± 5%	-06	055	80	0.25	1.20	56.0	54	
IM-10	6800.0	± 5%	-07	056	80	0.25	1.15	59.0	52	
IM-10	7500.0	± 5%	-08	057	80	0.25	1.10	62.0	51	
IM-10	8200.0	± 5%	-09	058	80	0.25	1.05	65.0	50	
IM-10	9100.0	± 5%	-10	059	80	0.25	1.0	68.0	49	
IM-10	10000.0	± 5%	-11	060	80	0.25	0.95	72.0	47	

*Measured with full length lead. **Rated DC current based on maximum temperature rise as shown in table.

NOTE: Listing of Military Standard does not imply qualification. Contact factory for latest government QPL information.
NOTE: Products with dashes instead of Military Standard value and type designations are not qualified.

MAXIMUM TEMPERATURE RISE

		OPERATING TEMPERATURE RANGE
IM-1	0.10μH to .47μH = 35°C at + 90°C ambient 0.56μH to 1000μH = 15°C at + 90°C ambient	- 55°C to + 125°C - 55°C to + 105°C
IM-2	0.022μH to 1.0μH = 35°C at + 90°C ambient 1.2μH to 27μH = 15°C at + 90°C ambient 33μH to 1000μH = 15°C at + 90°C ambient	- 55°C to + 125°C - 55°C to + 105°C - 55°C to + 105°C
IM-4	0.15μH to 4.7μH = 35°C at + 90°C ambient 5.6μH to 33μH = 15°C at + 90°C ambient 36μH to 240μH = 15°C at + 90°C ambient 270μH to 1800μH = 35°C at + 90°C ambient	- 55°C to + 125°C - 55°C to + 105°C - 55°C to + 105°C - 55°C to + 125°C
IM-6	0.1μH to 2.7μH = 35°C at + 90°C ambient 3.3μH to 1000μH = 15°C at + 90°C ambient	- 55°C to + 125°C - 55°C to + 105°C
IM-8, IM-9, IM-10	= 15°C at + 90°C ambient	- 55°C to + 105°C

ORDERING INFORMATION

IM-2	**10μH**	**± 10%**
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

ORDERING INFORMATION - MILITARY PART NUMBER

MS75084	**- 12**	OR	**LT**	**10**	**K**	**072**
MILITARY STANDARD	INDUCTANCE VALUE		TYPE	GRADE AND CLASS	FAMILY	ID NUMBER

Inductors

Medium Current

FEATURES

- Wide inductance range in small package.
- Flame retardant coating.
- Epoxy molded construction provides superior moisture protection.
- Superior electrical specifications. High Q and self resonant frequency, low DC resistance, high rated DC current.

STANDARD ELECTRICAL SPECIFICATIONS

IND. (μH)	TOL.	Q MIN.	TEST FREQ. L & Q (MHz)	SELF-RESONANT FREQ. MIN. (MHz)	DCR MAX. (Ohms)	RATED DC CURRENT (mA)
0.22	± 20%	55	25.0	360.0	0.024	2380
0.27	± 20%	55	25.0	340.0	0.026	2210
0.33	± 20%	55	25.0	320.0	0.030	2070
0.39	± 20%	55	25.0	260.0	0.033	2000
0.47	± 20%	55	25.0	200.0	0.036	1910
0.56	± 20%	55	25.0	195.0	0.040	1860
0.68	± 20%	55	25.0	190.0	0.043	1810
0.82	± 20%	55	25.0	175.0	0.048	1730
1.0	± 10%	55	25.0	160.0	0.053	1650
1.2	± 10%	65	7.9	145.0	0.058	1570
1.5	± 10%	65	7.9	125.0	0.067	1490
1.8	± 10%	65	7.9	95.0	0.075	1430
2.2	± 10%	65	7.9	85.0	0.083	1370
2.7	± 10%	65	7.9	47.0	0.095	1300
3.3	± 10%	65	7.9	45.0	0.100	1230
3.9	± 10%	55	7.9	35.0	0.110	1210
4.7	± 10%	55	7.9	30.0	0.120	1190
5.6	± 10%	55	7.9	26.0	0.135	1100
6.8	± 10%	55	7.9	24.0	0.155	1020
8.2	± 10%	45	7.9	22.0	0.165	975
10.0	± 10%	45	7.9	20.0	0.175	940
12.0	± 10%	55	2.5	32.0	0.320	775
15.0	± 10%	55	2.5	32.0	0.390	645
18.0	± 10%	55	2.5	23.0	0.475	625
22.0	± 10%	55	2.5	23.0	0.565	600
27.0	± 10%	55	2.5	20.0	0.650	560
33.0	± 10%	55	2.5	20.0	0.720	520
39.0	± 10%	45	2.5	19.0	0.780	495
47.0	± 10%	45	2.5	19.0	0.830	465
56.0	± 10%	45	2.5	14.0	0.900	450
68.0	± 10%	45	2.5	14.0	0.980	440
82.0	± 10%	30	2.5	4.5	1.07	420
100.0	± 10%	30	2.5	4.5	1.15	400
120.0	± 10%	55	0.79	4.0	1.45	365
150.0	± 10%	55	0.79	3.4	1.66	340
180.0	± 10%	60	0.79	8.5	2.80	240
220.0	± 10%	60	0.79	8.2	3.10	235
270.0	± 10%	60	0.79	5.8	3.15	230
330.0	± 10%	60	0.79	5.5	4.30	205
390.0	± 10%	60	0.79	5.1	4.40	190
470.0	± 10%	60	0.79	2.1	4.50	185

MARKING

— Vishay Dale

— Inductance value

— Date code

ELECTRICAL SPECIFICATIONS

Inductance Tolerance: ± 5%, ± 10%, ± 20%. Other tolerances available on request.

Insulation Resistance: 1000 Megohm per MIL-STD-202, Method 302, Test Condition B.

Operating Temperature: - 55°C to + 105°C (no load); - 55°C to + 80°C (at full rated current).

MECHANICAL SPECIFICATIONS

Terminal Strength: 5 pounds pull per MIL-STD-202, Method 211, Test Condition A.

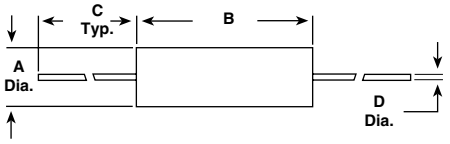
MATERIAL SPECIFICATIONS

Core: Ferrite.

Encapsulant: Epoxy.

Terminals: Tinned copper, standard.

DIMENSIONS in inches [millimeters]



MODEL		A (Dia.)	B	C (Typ.)	D (Dia.)
IM-6-38	Maximum	0.200 [5.08]	0.450 [11.43]	1.63 [41.40]	0.027 [0.686]
	Minimum	0.180 [4.57]	0.430 [10.92]	1.25 [31.75]	0.023 [0.584]

ENVIRONMENTAL PERFORMANCE

TEST	CONDITIONS	SPECIFICATIONS
Flammability	—	MIL-STD-202, Method 111
Resistance to Soldering Heat	Test Condition A	MIL-STD-202, Method 210
Resistance to Solvents	—	MIL-STD-202, Method 215

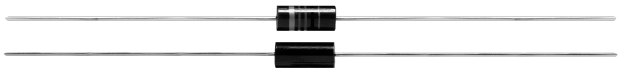
ORDERING INFORMATION

IM-6-38	3.9μH	±10%
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

For technical questions, contact Magnetics@vishay.com

Inductors

Commercial, Molded



STANDARD ELECTRICAL SPECIFICATIONS

MODEL*	IND. (μH)	TOL.	Q MIN.	TEST FREQ. (MHz)	SRF MIN. (MHz)	DCR MAX. (Ohms)	RATED DC CURRENT (mA)	
IM-6RFCS-40	0.10	± 10%	75	50	400	0.02	4000	PHENOLIC CORE
IM-6RFCS-40	0.12	± 10%	75	50	400	0.025	3500	
IM-6RFCS-40	0.15	± 10%	75	50	400	0.03	3000	
IM-6RFCS-40	0.18	± 10%	75	50	400	0.03	3000	
IM-6RFCS-40	0.22	± 10%	75	50	400	0.03	3000	
IM-6RFCS-40	0.27	± 10%	70	45	376	0.04	2700	
IM-6RFCS-40	0.33	± 10%	70	40	352	0.05	2500	
IM-6RFCS-40	0.39	± 10%	65	40	320	0.08	2000	
IM-6RFCS-40	0.47	± 10%	60	25	288	0.08	2000	
IM-6RFCS-40	0.56	± 10%	55	25	264	0.10	1700	
IM-6RFCS-40	0.68	± 10%	55	25	240	0.12	1500	
IM-6RFCS-40	0.82	± 10%	50	25	220	0.18	1300	
IM-6RFCS-40	1.0	± 10%	50	20	200	0.24	1100	
IM-6RFCS-40	1.2	± 10%	45	20	176	0.35	1000	
IM-6RFCS-40	1.5	± 10%	45	15	160	0.43	850	
IM-6RFCS-40	1.8	± 10%	45	15	144	0.65	720	
IM-6RFCS-40	2.2	± 10%	45	15	132	0.80	610	
IM-6RFCS-40	2.7	± 10%	55	10	88	0.12	1600	IRON CORE
IM-6RFCS-40	3.3	± 10%	55	10	80	0.15	1400	
IM-6RFCS-40	3.9	± 10%	60	10	76	0.23	1200	
IM-6RFCS-40	4.7	± 10%	70	7.9	72	0.30	1000	
IM-6RFCS-40	5.6	± 10%	65	7.9	64	0.45	900	
IM-6RFCS-40	6.8	± 10%	65	7.9	56	0.55	800	
IM-6RFCS-40	8.2	± 10%	60	7.9	52	0.65	720	
IM-6RFCS-40	10	± 10%	60	5	48	0.73	650	
IM-6RFCS-40	12	± 10%	65	5	42	1.1	590	
IM-6RFCS-40	15	± 10%	80	2.5	38	1.4	500	
IM-6RFCS-40	18	± 10%	75	2.5	34	1.6	460	
IM-6RFCS-40	22	± 10%	75	2.5	32	1.8	430	
IM-6RFCS-40	27	± 5%	75	2.5	29	2.7	360	
IM-6RFCS-40	33	± 5%	85	2.5	26	3.5	300	
IM-6RFCS-40	39	± 5%	80	2.5	21	3.8	290	
IM-6RFCS-40	47	± 5%	80	2.5	18	4.0	275	
IM-6RFCS-40	56	± 5%	75	2.5	15	4.4	265	
IM-6RFCS-40	68	± 5%	75	2.5	13	4.7	250	
IM-6RFCS-40	82	± 5%	75	2.5	10	5.3	235	
IM-6RFCS-40	100	± 5%	75	1.5	8	6.0	220	
IM-6RFCS-40	120	± 5%	65	0.79	5.7	5.0	170	
IM-6RFCS-40	150	± 5%	65	0.79	5.4	5.8	164	
IM-6RFCS-40	180	± 5%	65	0.79	5.0	6.6	158	
IM-6RFCS-40	220	± 5%	65	0.79	4.7	7.4	155	
IM-6RFCS-40	270	± 5%	65	0.79	4.5	8.0	150	
IM-6RFCS-40	300	± 5%	65	0.79	4.2	8.6	145	
IM-6RFCS-40	330	± 5%	65	0.79	4.0	8.9	142	
IM-6RFCS-40	360	± 5%	65	0.79	3.8	9.6	137	
IM-6RFCS-40	390	± 5%	65	0.79	3.6	9.9	135	
IM-6RFCS-40	430	± 5%	65	0.79	3.4	10.4	131	
IM-6RFCS-40	470	± 5%	65	0.79	3.2	10.9	128	
IM-6RFCS-40	510	± 5%	65	0.79	3.0	11.6	124	
IM-6RFCS-40	560	± 5%	65	0.79	2.9	11.8	123	
IM-6RFCS-40	620	± 5%	60	0.79	2.8	12.5	120	
IM-6RFCS-40	680	± 5%	60	0.79	2.7	13.5	115	
IM-6RFCS-40	750	± 5%	60	0.79	2.6	14.0	113	
IM-6RFCS-40	820	± 5%	60	0.79	2.5	15.0	110	
IM-6RFCS-40	910	± 5%	60	0.79	2.4	15.5	107	
IM-6RFCS-40	1000	± 5%	60	0.79	2.2	16.5	104	

*Model electricals and tolerances shown.

FEATURES

- Classification is Grade 1, Class B.
- Inductance range is .10μH to 1000μH.
- Proven reliability molded inductors.

ELECTRICAL SPECIFICATIONS

Inductance Tolerance: ± 10% on Q-Meter for 0.10μH to 22μH.
± 5% 1000 cps bridge for 27μH to 100μH.
± 5% on Q-Meter for 120μH to 1000μH.

NOTE: L and Q are not always tested at the same frequency. Inductance values that are tested on Q-Meter, are tested at standard test frequencies.

Dielectric Strength: 700V RMS at sea level.

Operating Temperature: - 55°C to + 125°C.

Self-Resonant Frequency: Minimum SRF measured with full length leads on Grid-Dip Meter.

Q: Measured on Q-Meter.

MECHANICAL SPECIFICATIONS

Terminal Strength: Meets 5 pound pull test per MIL-PRF-15305 (latest revision).

DENSITY SPECIFICATIONS

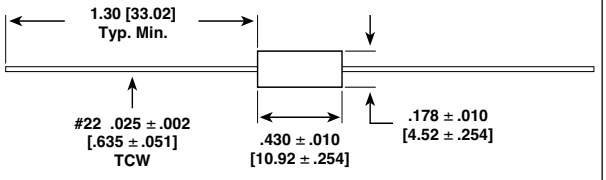
Weight: .9 gram maximum.

ENVIRONMENTAL SPECIFICATIONS

Moisture and Shock Resistance: Meets requirements of MIL-PRF-15305, Grade 1, Class B.

Vibration: High frequency, 10Hz to 2000Hz @ 20 g ± 10% maximum for 12 logarithmic swings, each of 20 minute duration repeated for each of three mutually perpendicular planes.

DIMENSIONS in inches [millimeters]



MARKING

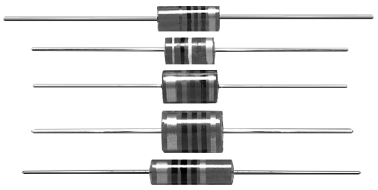
— Color coded per MIL-PRF-15305 (latest revision)

ORDERING INFORMATION

IM-6RFCS-40	10μH	± 10%
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

Inductors

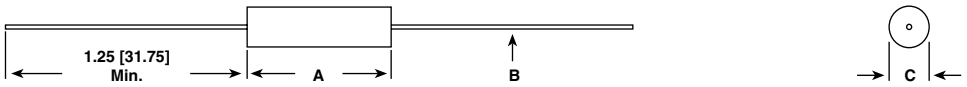
Commercial, Molded



FEATURES

- High Q and SRF.
- Non standard tolerances are also available in all types.
- Maximum protection with minimum size as a result of full encapsulation in a thermo-setting mineral filled plastic jacket.
- Assured uniformity of product, a result of stringent quality control and inspection procedures at every production stage.

DIMENSIONS in inches [millimeters]



MODEL	A	B	C
IM-10-22	0.560 ± 0.010 [14.22 ± 0.254]	#22 AWG 0.025 ± 0.002 [0.635 ± 0.051] (0.47µH thru 39µH) #21 AWG 0.028 ± 0.002 [0.711 ± 0.051] (1100µH thru 3600µH)	0.220 ± 0.010 [5.59 ± 0.254]
IM-10-28	0.940 ± 0.010 [23.88 ± 0.254]	#21 AWG 0 .028 ± 0.002 [0.711 ± 0.051]	0.280 ± 0.010 [7.11 ± 0.254]
IM-10-31	0.560 ± 0.010 [14.22 ± 0.254]	#21 AWG 0 .028 ± 0.002 [0.711 ± 0.051]	0.310 ± 0.010 [7.87 ± 0.254]
IM-10-37	0.625 ± 0.010 [15.88 ± 0.254]	#21 AWG 0 .028 ± 0.002 [0.711 ± 0.051]	0.375 ± 0.010 [9.52 ± 0.254]
IM-10-46	0.687 ± 0.010 [17.45 ± 0.254]	#21 AWG 0 .028 ± 0.002 [0.711 ± 0.051]	0.468 ± 0.010 [11.89 ± 0.254]

INDUCTANCE RANGE

MODEL	INDUCTANCE RANGE		CORE MATERIAL	MAXIMUM OPERATING TEMPERATURE
	FROM	TO		
IM-10-22	0.47µH	4.7µH	Phenolic	+ 125°C
	5.6µH	39µH	Iron	+ 105°C
	1100µH	3600µH	Iron	+ 105°C
IM-10-28	1.2µH	18µH	Phenolic	+ 125°C
	22µH	120µH	Iron	+ 105°C
IM-10-31	180µH	390µH	Iron	+ 105°C
IM-10-37	470µH	1000µH	Iron	+ 105°C
IM-10-46	1500µH	10000µH	Iron	+ 105°C

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	IND. (µH)	TOL.	PREVIOUS PART NO.	Q MIN.	TEST FREQ. (MHz)	SELF-RESONANT FREQ. MIN. (MHz)	DCR @ + 25°C MAX. (Ohms)	RATED DC CURRENT (mA)	
IM-10-22	0.47	± 10%	4412-1K	65	25	300	0.06	1970	PHENOLIC CORE
IM-10-22	0.56	± 10%	4412-2K	65	25	270	0.07	1850	
IM-10-22	0.68	± 10%	4412-3K	65	25	240	0.08	1700	
IM-10-22	0.82	± 10%	4412-4K	65	25	220	0.11	1450	
IM-10-22	1.0	± 10%	4412-5K	65	25	200	0.14	1290	
IM-10-22	1.2	± 10%	4412-6K	40	7.9	180	0.19	1120	
IM-10-22	1.5	± 10%	4412-7K	40	7.9	160	0.28	925	
IM-10-22	1.8	± 10%	4412-8K	40	7.9	150	0.37	790	
IM-10-22	2.2	± 10%	4412-9K	40	7.9	135	0.50	680	
IM-10-22	2.7	± 10%	4411-10K	40	7.9	120	0.65	600	
IM-10-22	3.3	± 10%	4412-11K	40	7.9	105	1.00	480	
IM-10-22	3.9	± 10%	4412-12K	40	7.9	100	1.20	440	
IM-10-22	4.7	± 10%	4412-13K	40	7.9	90	1.80	360	

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	IND. (μH)	TOLERANCE	PREVIOUS PART NO.	Q MIN.	TEST FREQUENCY (MHz)	SELF-RESONANT FREQ. MIN. (MHz)	DCR @ + 25°C MAX. (Ohms)	RATED DC CURRENT (mA)	
IM-10-22	5.6	± 10%	4422-1K	35	7.9	55	0.13	885	IRON CORE
IM-10-22	6.8	± 10%	4422-2K	35	7.9	50	0.20	710	
IM-10-22	8.2	± 10%	4422-3K	35	7.9	44	0.22	680	
IM-10-22	10	± 10%	4422-4K	35	7.9	42	0.26	625	
IM-10-22	12	± 10%	4422-5K	45	2.5	34	0.45	465	
IM-10-22	15	± 10%	4422-6K	45	2.5	32	0.52	442	
IM-10-22	18	± 10%	4422-7K	50	2.5	28	0.70	380	
IM-10-22	22	± 10%	4422-8K	60	2.5	24	1.00	326	
IM-10-22	27	± 10%	4422-9K	60	2.5	22	1.30	275	
IM-10-22	33	± 10%	4422-10K	60	2.5	20	1.50	258	
IM-10-22	39	± 10%	4422-11K	70	2.5	18	2.00	224	
IM-10-22	1100	± 5%	1312-20J	60	0.25	2.8	21.0	78	IRON CORE
IM-10-22	1200	± 5%	1312-21J	60	0.25	2.7	22.0	76	
IM-10-22	1300	± 5%	1312-22J	60	0.25	2.6	23.0	75	
IM-10-22	1500	± 5%	1312-23J	65	0.25	2.4	25.0	72	
IM-10-22	1600	± 5%	1312-24J	65	0.25	2.3	26.0	70	
IM-10-22	1800	± 5%	1312-25J	65	0.25	2.2	28.0	68	
IM-10-22	2000	± 5%	1312-26J	65	0.25	2.1	29.0	67	
IM-10-22	2200	± 5%	1312-27J	70	0.25	2.0	30.0	66	
IM-10-22	2400	± 5%	1312-28J	70	0.25	1.9	31.0	64	
IM-10-22	2700	± 5%	1312-29J	70	0.25	1.8	33.0	62	
IM-10-22	3000	± 5%	1312-30J	70	0.25	1.7	35.0	61	
IM-10-22	3300	± 5%	1312-31J	70	0.25	1.6	38.0	58	
IM-10-22	3600	± 5%	1312-32J	70	0.25	1.5	40.0	57	
IM-10-28	1.2	± 10%	4414-1K	60	7.9	170	0.075	2400	PHENOLIC CORE
IM-10-28	1.5	± 10%	4414-2K	60	7.9	160	0.090	2150	
IM-10-28	1.8	± 10%	4414-3K	60	7.9	140	0.135	1750	
IM-10-28	2.2	± 10%	4414-4K	60	7.9	125	0.160	1600	
IM-10-28	2.7	± 10%	4414-5K	60	7.9	115	0.220	1350	
IM-10-28	3.3	± 10%	4414-6K	60	7.9	100	0.305	1150	
IM-10-28	3.9	± 10%	4414-7K	60	7.9	95	0.450	955	
IM-10-28	4.7	± 10%	4414-8K	60	7.9	90	0.560	860	
IM-10-28	5.6	± 10%	4414-9K	60	7.9	80	0.745	745	
IM-10-28	6.8	± 10%	4414-10K	60	7.9	75	1.05	635	
IM-10-28	8.2	± 10%	4414-11K	60	7.9	68	1.40	550	
IM-10-28	10	± 10%	4414-12K	60	7.9	60	1.90	460	
IM-10-28	12	± 10%	4414-13K	40	2.5	53	2.65	395	
IM-10-28	15	± 10%	4414-14K	40	2.5	50	3.25	355	
IM-10-28	18	± 10%	4414-15K	40	2.5	45	4.15	315	
IM-10-28	22	± 10%	4424-1K	50	2.5	24	0.295	725	IRON CORE
IM-10-28	27	± 10%	4424-2K	45	2.5	22	0.350	660	
IM-10-28	33	± 10%	4424-3K	60	2.5	19	0.550	525	
IM-10-28	39	± 10%	4424-4K	55	2.5	18	0.650	485	
IM-10-28	47	± 10%	4424-5K	65	2.5	16	1.00	390	
IM-10-28	56	± 10%	4424-6K	65	2.5	14	1.15	360	
IM-10-28	68	± 10%	4424-7K	75	2.5	13	1.85	285	
IM-10-28	82	± 10%	4424-8K	75	2.5	12	2.10	265	
IM-10-28	100	± 10%	4424-9K	75	2.5	12	2.50	245	
IM-10-28	120	± 10%	4424-10K	95	0.79	10	4.10	195	
IM-10-31	180	± 10%	31A181K	80	0.79	6.0	5.5	148	IRON CORE
IM-10-31	220	± 10%	31A221K	80	0.79	5.5	5.9	145	
IM-10-31	270	± 10%	31A271K	80	0.79	5.1	6.6	138	
IM-10-31	330	± 10%	31A331K	75	0.79	4.2	7.8	122	
IM-10-31	390	± 10%	31A391K	75	0.79	3.9	8.7	118	
IM-10-37	470	± 10%	37A471K	80	0.79	3.7	9.0	125	IRON CORE
IM-10-37	560	± 10%	37A561K	80	0.79	3.5	10.0	118	
IM-10-37	680	± 10%	37A681K	75	0.79	3.2	11.2	112	
IM-10-37	820	± 10%	37A821K	75	0.79	3.0	13.0	105	
IM-10-37	1000	± 10%	37A102K	70	0.79	2.7	14.5	95	
IM-10-46	1500	± 10%	46A152K	85	0.25	2.2	22.0	84	IRON CORE
IM-10-46	2200	± 10%	46A222K	85	0.25	1.8	27.0	76	
IM-10-46	2700	± 10%	46A272K	85	0.25	1.6	32.0	69	
IM-10-46	5100	± 10%	46A512K	70	0.25	1.0	66.0	48	
IM-10-46	10000	± 10%	46A103K	70	0.25	0.8	70.0	47	

MARKING

— Color coded, see packaging

ORDERING INFORMATION

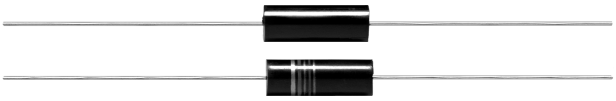
IM-10-28	**22μH**	**± 10%**
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

IM-10RFCL-12

Vishay Dale

Inductors

Commercial, Molded



FEATURES

- Inductance range is 1μH to 10,000μH.
- Proven reliability molded inductors.

STANDARD ELECTRICAL SPECIFICATIONS

MODEL*	IND. (μH)	TOL.	Q MIN.	TEST FREQ. (MHz)	SRF MIN. (MHz)	DCR MAX. (Ohms)	RATED DC CURRENT (mA)	
IM-10RFCL-12	1.0	± 10%	130	15	136	0.03	4000	
IM-10RFCL-12	1.2	± 10%	130	15	124	0.03	4000	
IM-10RFCL-12	1.5	± 10%	130	10	112	0.03	4000	
IM-10RFCL-12	1.8	± 10%	130	10	100	0.03	4000	
IM-10RFCL-12	2.2	± 10%	130	10	92	0.04	3500	
IM-10RFCL-12	2.7	± 10%	100	10	82	0.04	3500	
IM-10RFCL-12	3.3	± 10%	100	7.9	72	0.04	3500	
IM-10RFCL-12	3.9	± 10%	80	7.9	68	0.05	3100	
IM-10RFCL-12	4.7	± 10%	75	7.9	64	0.05	3100	
IM-10RFCL-12	5.6	± 10%	65	7.9	58	0.06	3000	
IM-10RFCL-12	6.8	± 10%	65	7.9	52	0.06	3000	
IM-10RFCL-12	8.2	± 10%	65	7.9	46	0.11	2400	
IM-10RFCL-12	10	± 10%	75	5	40	0.15	1800	
IM-10RFCL-12	12	± 10%	75	5	36	0.23	1600	
IM-10RFCL-12	15	± 10%	75	5	32	0.3	1300	
IM-10RFCL-12	18	± 10%	75	5	29	0.4	1150	
IM-10RFCL-12	22	± 10%	75	2.5	26	0.5	1000	
IM-10RFCL-12	27	± 5%	70	2.5	24	0.6	900	
IM-10RFCL-12	33	± 5%	70	2.5	22	0.7	850	
IM-10RFCL-12	39	± 5%	70	2.5	21	1.1	720	
IM-10RFCL-12	47	± 5%	75	2.5	20	1.3	620	
IM-10RFCL-12	56	± 5%	80	2.5	18	1.8	540	
IM-10RFCL-12	68	± 5%	100	2.5	16	2.4	450	
IM-10RFCL-12	82	± 5%	100	2.5	14	2.8	425	
IM-10RFCL-12	100	± 5%	100	1.5	13	3.2	400	
IM-10RFCL-12	120	± 5%	100	1.5	12	4.8	360	
IM-10RFCL-12	150	± 5%	100	1	11	6.4	280	
IM-10RFCL-12	180	± 5%	95	1	10	9.5	240	
IM-10RFCL-12	220	± 5%	95	1	9	12	200	
IM-10RFCL-12	270	± 5%	70	1	7	13	195	
IM-10RFCL-12	330	± 5%	65	0.79	6	14	190	
IM-10RFCL-12	390	± 5%	65	0.79	5	15.5	180	
IM-10RFCL-12	470	± 5%	60	0.79	4	17	170	
IM-10RFCL-12	560	± 5%	75	0.50	3	18.5	165	
IM-10RFCL-12	680	± 5%	75	0.50	2.5	20	155	
IM-10RFCL-12	820	± 5%	75	0.50	2.0	22	150	
IM-10RFCL-12	1000	± 5%	75	0.50	1.9	24	145	
IM-10RFCL-12	1200	± 5%	75	0.50	1.7	27	137	
IM-10RFCL-12	1500	± 5%	75	0.40	1.5	29	130	
IM-10RFCL-12	1800	± 5%	65	0.40	1.4	32	125	
IM-10RFCL-12	2200	± 5%	65	0.25	1.2	35	120	
IM-10RFCL-12	2700	± 5%	65	0.25	1.0	40	112	
IM-10RFCL-12	3300	± 5%	65	0.25	0.95	45	105	
IM-10RFCL-12	3900	± 5%	65	0.25	0.80	49	100	
IM-10RFCL-12	4700	± 5%	65	0.25	0.75	53	95	
IM-10RFCL-12	5600	± 5%	65	0.25	0.70	60	90	
IM-10RFCL-12	6800	± 5%	65	0.25	0.60	67	85	
IM-10RFCL-12	8200	± 5%	65	0.25	0.50	75	82	
IM-10RFCL-12	10000	± 5%	65	0.15	0.45	80	80	

IRON CORE

*Model electricals and tolerances shown.

ELECTRICAL SPECIFICATIONS

Inductance Tolerance: ± 10% on Q-Meter for 1μH to 22μH. ± 5% 1000 cps bridge for 27μH to 10,000μH.

NOTE: L and Q are not always tested at the same frequency. Inductance values tested on Q-Meter are tested at standard test frequencies.

Dielectric Strength: 700VRMS at sea level.

Operating Temperature: - 55°C to + 125°C.

Self-Resonant Frequency: Minimum SRF measured with full length leads on Grid-Dip Meter.

Q: Measured on Q-Meter.

Rating: 1/2 watt dissipation for L Models.

MECHANICAL SPECIFICATIONS

Terminal Strength: Meets 5 pound pull test when tested per MIL-PRF-15305 (latest revision).

DENSITY SPECIFICATIONS

Weight: 4.1 grams maximum.

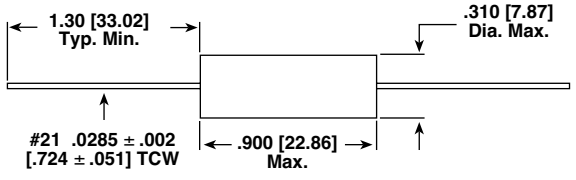
ENVIRONMENTAL SPECIFICATIONS

Moisture Resistance: Meets requirements of MIL-PRF-15305.

Shock Resistance: Meets requirements of MIL-PRF-15305.

Vibration: High frequency, 10 Hz to 2000 Hz @ 20 G ± 10% maximum for 12 logarithmic swings, each of 20 minute duration repeated for each of three mutually perpendicular planes.

DIMENSIONS in inches [millimeters]



MARKING

— Color coded

ORDERING INFORMATION

IM-10RFCL-12	1.0μH	± 10%
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

Inductors

Commercial, Subminiature, Molded, Shielded

FEATURES

- Classification is Grade 1, Class A.
- Ultra-reliable molded shielded inductor.
- Inductance range is 0.10μH to 10000μH.
- 0.136" [3.45mm] diameter by 0.335" [8.51mm] length.
- Molded epoxy envelope.
- Subminiature size for high density circuits and high inductance-to-size ratio.
- Utmost reliability, electrical performance and minimum coupling in high density packaging.

ELECTRICAL SPECIFICATIONS

Inductance Tolerance: ± 10% on Q-Meter at specified frequency.

Dielectric Strength: 700VRMS at sea level.

Operating Temperature: - 55°C to + 105°C.

Self-Resonant Frequency: Measured per MIL-PRF-15305.

Q: Measured on a Q-Meter at specified frequency.

Rating: Maximum based on 1/3 watt dissipation.

MECHANICAL SPECIFICATIONS

Terminal Strength: Meets five pound pull test; three 360° rotations in alternate directions per MIL-PRF-15305 (latest revision).

DENSITY SPECIFICATIONS

Weight: 0.50 gram maximum.

Shielding: Less than 3% coupling with two units mounted side by side at 1000 cycles.

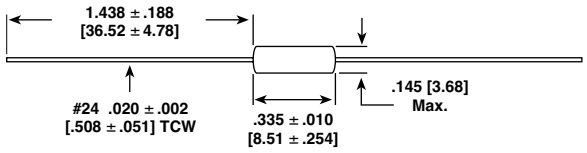
ENVIRONMENTAL SPECIFICATIONS

Moisture: Meets requirements of MIL-PRF-15305.

Vibration: High frequency, 10Hz to 2000Hz @ 20 g ± 10% maximum for 12 logarithmic swings each of 20 minute duration repeated for each of three mutually perpendicular planes.

Shock: 100g, 6ms.

DIMENSIONS in inches [millimeters]



STANDARD ELECTRICAL SPECIFICATIONS

MODEL	IND. (μH)	TOL.	Q MIN.	TEST FREQ. MIN. (MHz)	SELF-RESONANT FREQ. MIN. (MHz)	DCR MAX. (Ohms)	RATED DC CURRENT (mA)	INCREMENTAL* CURRENT (mA)	
IMS-2SWWD-30	0.10	± 10%	42	25	480	0.087	1038	> 1650	PHENOLIC
IMS-2SWWD-30	0.12	± 10%	42	25	460	0.090	1021	> 1630	
IMS-2SWWD-30	0.15	± 10%	42	25	400	0.098	978	> 1550	
IMS-2SWWD-30	0.18	± 10%	42	25	360	0.117	895	> 1420	
IMS-2SWWD-30	0.22	± 10%	42	25	340	0.141	815	> 1330	
IMS-2SWWD-30	0.27	± 10%	42	25	320	0.157	773	> 1230	
IMS-2SWWD-30	0.33	± 10%	42	25	295	0.178	726	> 1140	
IMS-2SWWD-30	0.39	± 10%	42	25	275	0.208	671	> 1060	
IMS-2SWWD-30	0.47	± 10%	41	25	250	0.257	604	> 960	
IMS-2SWWD-30	0.56	± 10%	39	25	238	0.283	576	> 915	
IMS-2SWWD-30	0.68	± 10%	36	25	224	0.337	527	> 840	
IMS-2SWWD-30	0.82	± 10%	35	25	205	0.470	447	> 720	

***Incremental Current:** The DC current required to cause a 5% reduction in the nominal inductance value.

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	IND. (μH)	TOL.	□Q□□ MIN.	TEST FREQ. MIN. (MHz)	SELF-RESONANT FREQ. MIN. (MHz)	DCR MAX. (Ohms)	RATED DC CURRENT (mA)	□□INCREMENTAL* CURRENT (mA)	
IMS-2SWWD-30	1.0	± 10%	38	25	135	0.170	678	> 1180	IRON
IMS-2SWWD-30	1.2	± 10%	38	7.9	124	0.177	664	> 1150	
IMS-2SWWD-30	1.5	± 10%	38	7.9	114	0.212	607	> 1050	
IMS-2SWWD-30	1.8	± 10%	38	7.9	105	0.242	568	> 990	
IMS-2SWWD-30	2.2	± 10%	38	7.9	95	0.263	545	> 950	
IMS-2SWWD-30	2.7	± 10%	38	7.9	85	0.300	510	> 880	
IMS-2SWWD-30	3.3	± 10%	38	7.9	78	0.345	476	> 820	
IMS-2SWWD-30	3.9	± 10%	42	7.9	74	0.411	436	> 755	
IMS-2SWWD-30	4.7	± 10%	42	7.9	68	0.562	373	> 650	
IMS-2SWWD-30	5.6	± 10%	42	7.9	62	0.742	324	> 565	
IMS-2SWWD-30	6.8	± 10%	45	7.9	55	1.0	280	> 485	
IMS-2SWWD-30	8.2	± 10%	47	7.9	51	1.20	255	> 440	
IMS-2SWWD-30	10	± 10%	51	7.9	45	1.84	206	> 335	
IMS-2SWWD-30	12	± 10%	51	2.5	41	2.60	173	> 300	
IMS-2SWWD-30	15	± 10%	35	2.5	48	0.635	314	200	FERRITE
IMS-2SWWD-30	18	± 10%	35	2.5	44	0.728	293	175	
IMS-2SWWD-30	22	± 10%	35	2.5	37	0.825	275	160	
IMS-2SWWD-30	27	± 10%	35	2.5	32	0.950	256	155	
IMS-2SWWD-30	33	± 10%	36	2.5	30	1.26	223	150	
IMS-2SWWD-30	39	± 10%	36	2.5	27	1.42	210	145	
IMS-2SWWD-30	47	± 10%	36	2.5	23	1.72	191	140	
IMS-2SWWD-30	56	± 10%	38	2.5	21	2.03	175	130	
IMS-2SWWD-30	68	± 10%	38	2.5	18.5	2.29	165	120	
IMS-2SWWD-30	82	± 10%	36	2.5	17	2.55	157	115	
IMS-2SWWD-30	100	± 10%	36	2.5	15.5	2.92	146	100	
IMS-2SWWD-30	120	± 10%	43	0.79	14.5	3.30	154	80	
IMS-2SWWD-30	150	± 10%	43	0.79	13.0	4.30	147	68	
IMS-2SWWD-30	180	± 10%	43	0.79	11.5	5.40	120	64	
IMS-2SWWD-30	220	± 10%	45	0.79	10.0	6.65	108	60	
IMS-2SWWD-30	270	± 10%	47	0.79	9.5	7.6	101	58	
IMS-2SWWD-30	330	± 10%	47	0.79	8.5	8.5	96	56	
IMS-2SWWD-30	390	± 10%	47	0.79	8.0	10.0	88	54	
IMS-2SWWD-30	470	± 10%	47	0.79	7.2	13.5	76	52	
IMS-2SWWD-30	560	± 10%	51	0.79	6.4	14.5	73	50	
IMS-2SWWD-30	680	± 10%	51	0.79	5.8	6.0	70	48	
IMS-2SWWD-30	820	± 10%	48	0.79	5.3	19.0	64	47	
IMS-2SWWD-30	1000	± 10%	48	0.79	4.8	21.5	60	45	
IMS-2SWWD-30	1200	± 10%	45	0.25	2.9	23	52	40	
IMS-2SWWD-30	1500	± 10%	45	0.25	2.8	30	46	35	
IMS-2SWWD-30	1800	± 10%	45	0.25	2.6	33	44	32	

***Incremental Current:** The DC current required to cause a 5% reduction in the nominal inductance value.

MARKING

— Color coded per MIL-PRF-15305 (latest revision)

ORDERING INFORMATION

IMS-2SWWD-30	**1μH**	**± 10%**
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

Inductors

Subminiature, Shielded

FEATURES

- Classification is Grade 2, Class B.
- Inductance range is 0.10µH to 1000µH.
- High inductance-to-size ratio.
- 0.133" [3.38mm] diameter by 0.335" [8.51mm] length.
- Subminiature shielded inductor.
- Solves special problems in density circuit application.

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	IND. (µH)	TOL.	Q MIN.	TEST FREQ. (MHz)	SRF MIN. (MHz)	DCR MAX. (Ohms)	RATED DC CURRENT (mA)	INCR.* CURRENT (mA)	
IMS-2WWD-40	0.10	± 10%	42	25	> 400	0.112	1720	> 1720	PHENOLIC
IMS-2WWD-40	0.12	± 10%	42	25	> 400	0.126	1630	> 1630	
IMS-2WWD-40	0.15	± 10%	42	25	> 400	0.138	1550	> 1550	
IMS-2WWD-40	0.18	± 10%	42	25	366	0.165	1420	> 1420	
IMS-2WWD-40	0.22	± 10%	42	25	331	0.198	1330	> 1330	
IMS-2WWD-40	0.27	± 10%	42	25	298	0.220	1230	> 1230	
IMS-2WWD-40	0.33	± 10%	42	25	288	0.258	1140	> 1140	
IMS-2WWD-40	0.39	± 10%	42	25	271	0.292	1060	> 1060	
IMS-2WWD-40	0.47	± 10%	41	25	247	0.360	960	> 960	
IMS-2WWD-40	0.56	± 10%	39	25	236	0.397	915	> 915	
IMS-2WWD-40	0.68	± 10%	36	25	216	0.472	840	> 840	
IMS-2WWD-40	0.82	± 10%	35	25	200	0.638	720	> 720	
IMS-2WWD-40	1.0	± 10%	42	25	136	0.208	1260	> 1260	IRON
IMS-2WWD-40	1.2	± 10%	38	7.9	120	0.225	1210	> 1210	
IMS-2WWD-40	1.5	± 10%	38	7.9	111	0.265	1120	> 1120	
IMS-2WWD-40	1.8	± 10%	38	7.9	103	0.285	1080	> 1080	
IMS-2WWD-40	2.2	± 10%	36	7.9	94	0.330	1000	> 1000	
IMS-2WWD-40	2.7	± 10%	38	7.9	85	0.381	935	> 935	
IMS-2WWD-40	3.3	± 10%	38	7.9	78	0.432	875	> 875	
IMS-2WWD-40	3.9	± 10%	40	7.9	73	0.576	755	> 755	
IMS-2WWD-40	4.7	± 10%	42	7.9	66	0.787	650	> 650	
IMS-2WWD-40	5.6	± 10%	42	7.9	62	1.04	565	> 565	
IMS-2WWD-40	6.8	± 10%	45	7.9	54	1.40	485	> 485	
IMS-2WWD-40	8.2	± 10%	47	7.9	50	1.68	440	> 440	
IMS-2WWD-40	10	± 10%	51	7.9	44	2.58	355	> 355	
IMS-2WWD-40	12	± 10%	51	2.5	39	3.65	300	> 300	
IMS-2WWD-40	15	± 10%	45	2.5	44	.862	620	200	FERRITE
IMS-2WWD-40	18	± 10%	43	2.5	40	1.02	570	175	
IMS-2WWD-40	22	± 10%	42	2.5	36	1.12	545	160	
IMS-2WWD-40	27	± 10%	37	2.5	33	1.28	510	155	
IMS-2WWD-40	33	± 10%	46	2.5	30	1.70	440	150	
IMS-2WWD-40	39	± 10%	38	2.5	26	1.99	405	145	
IMS-2WWD-40	47	± 10%	42	2.5	23	2.41	370	140	
IMS-2WWD-40	56	± 10%	41	2.5	22	2.85	340	130	
IMS-2WWD-40	68	± 10%	46	2.5	18	3.21	320	120	
IMS-2WWD-40	82	± 10%	46	2.5	17	3.57	305	115	
IMS-2WWD-40	100	± 10%	43	2.5	15	4.10	280	100	
IMS-2WWD-40	120	± 10%	50	0.79	13	5.97	235	80	
IMS-2WWD-40	150	± 10%	49	0.79	12	7.05	215	68	
IMS-2WWD-40	180	± 10%	56	0.79	11	8.12	200	64	
IMS-2WWD-40	220	± 10%	53	0.79	10	14.8	150	60	
IMS-2WWD-40	270	± 10%	57	0.79	9	16.8	140	58	
IMS-2WWD-40	330	± 10%	57	0.79	8.5	18.6	130	56	
IMS-2WWD-40	390	± 10%	57	0.79	8	21.1	120	54	
IMS-2WWD-40	470	± 10%	50	0.79	7	32.2	100	52	
IMS-2WWD-40	560	± 10%	50	0.79	6	36.4	95	50	
IMS-2WWD-40	680	± 10%	56	0.79	5.5	41.1	90	48	
IMS-2WWD-40	820	± 10%	49	0.79	5	45.0	85	47	
IMS-2WWD-40	1000	± 10%	49	0.79	4.5	52.0	80	45	

***Incremental Current:** The DC current required to cause a 5% reduction in the nominal inductance value.

ELECTRICAL SPECIFICATIONS

Inductance Tolerance: ± 10% Q-Meter.

Dielectric Strength: 700VRMS at sea level.

Operating Temperature: - 55°C to + 125°C.

Self-Resonant Frequency: Minimum SRF measured with full length leads on Grid-Dip Meter.

Rating: Maximum current based on 1/3 watt dissipation.

MECHANICAL SPECIFICATIONS

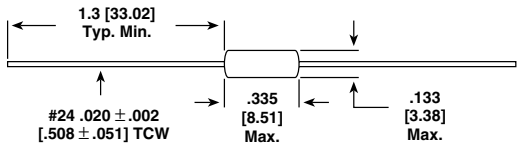
Terminal Strength: Meets 5 pound pull test.

DENSITY SPECIFICATIONS

Weight: 0.50 gram maximum.

Shielding: Less than 3% coupling with two units mounted side by side at 1000 cycles.

DIMENSIONS in inches [millimeters]



MARKING

— Color coded

ORDERING INFORMATION

IMS-2WWD-40	0.10µH	± 10%
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

Inductors

Military, MIL-PRF-15305 Qualified, Type LT and Commercial, Molded, Shielded, Miniature

FEATURES

- Flame retardant coating.
- Electromagnetic shield.
- Small package for a shielded inductor.
- Epoxy molded construction provides superior moisture protection.
- Precision performance, excellent reliability, sturdy construction.

STANDARD ELECTRICAL SPECIFICATIONS

IND. (μH)	TOL.	MILITARY STANDARD	MILITARY TYPE	Q MIN.	TEST FREQ. L & Q (MHz)	SELF-* RESONANT FREQ. MIN. (MHz)	DCR MAX. (Ohms)	RATED** DC CURRENT (mA)	INCREMENTAL*** CURRENT	
		MS21426	LT10K	(Not QPL'd)						
0.10	± 10%	-1	518	54	25.0	490.0	0.10	670	—	Iron Core
0.12	± 10%	-2	519	52	25.0	430.0	0.11	635	—	
0.15	± 10%	-3	520	50	25.0	415.0	0.12	610	—	
0.18	± 10%	-4	521	49	25.0	375.0	0.13	585	—	
0.22	± 10%	-5	522	47	25.0	330.0	0.15	545	—	
0.27	± 10%	-6	523	46	25.0	300.0	0.16	530	—	
0.33	± 10%	-7	524	44	25.0	260.0	0.18	495	—	
0.39	± 10%	-8	525	42	25.0	230.0	0.19	485	—	
0.47	± 10%	-9	526	41	25.0	220.0	0.21	460	—	
0.56	± 10%	-10	527	41	25.0	210.0	0.23	440	—	
0.68	± 10%	-11	528	39	25.0	180.0	0.24	430	—	
0.82	± 10%	-12	529	38	25.0	165.0	0.27	405	—	
1.0	± 10%	-13	530	37	25.0	150.0	0.30	385	—	
		MS21426	LT10K							
1.2	± 10%	-14	531	40	7.9	130.0	0.73	247	—	Iron Core
1.5	± 10%	-15	532	41	7.9	115.0	0.86	228	—	
1.8	± 10%	-16	533	43	7.9	105.0	0.95	217	—	
2.2	± 10%	-17	534	45	7.9	95.0	1.1	202	—	
2.7	± 10%	-18	535	48	7.9	90.0	1.2	193	—	
3.3	± 10%	-19	536	49	7.9	80.0	1.3	185	—	
3.9	± 10%	-20	537	50	7.9	75.0	1.5	173	—	
4.7	± 10%	-21	538	53	7.9	70.0	2.4	136	—	
5.6	± 10%	-22	539	54	7.9	60.0	2.9	124	—	
6.8	± 10%	-23	540	55	7.9	55.0	3.2	118	—	
8.2	± 10%	-24	541	55	7.9	53.0	3.6	111	—	
10.0	± 10%	-25	542	57	7.9	50.0	4.0	106	—	
12.0	± 10%	-26	543	36	2.5	35.0	3.0	122	—	
15.0	± 10%	-27	544	38	2.5	30.0	3.4	115	—	
18.0	± 10%	-28	545	40	2.5	26.0	3.8	108	—	
22.0	± 10%	-29	546	40	2.5	24.0	4.9	96	—	
27.0	± 10%	-30	547	40	2.5	21.0	5.8	88	—	
33.0	± 10%	-31	548	41	2.5	20.0	6.5	83	—	
39.0	± 10%	-32	549	42	2.5	19.0	7.9	75	—	
47.0	± 10%	-33	550	44	2.5	16.0	9.3	69	—	
56.0	± 10%	-34	551	44	2.5	15.0	11.0	64	—	
68.0	± 10%	-35	552	45	2.5	13.0	12.0	61	—	
82.0	± 10%	-36	553	45	2.5	11.0	13.0	59	—	
100.0	± 10%	-37	554	40	2.5	10.5	16.8	51	—	
		MS21427	LT10K	(Not QPL'd)						
120.0	± 10%	-1	555	31	0.79	13.0	5.8	88	27	Ferrite Core
150.0	± 10%	-2	556	33	0.79	12.0	7.9	75	24	
180.0	± 10%	-3	557	33	0.79	11.0	9.4	69	22	
220.0	± 10%	-4	558	35	0.79	10.0	11.0	64	20	
270.0	± 10%	-5	559	37	0.79	9.0	12.0	61	18	
330.0	± 10%	-6	560	40	0.79	8.0	16.0	53	16	
390.0	± 10%	-7	561	38	0.79	7.8	21.0	46	14	
470.0	± 10%	-8	562	36	0.79	7.5	24.0	43	13	
560.0	± 10%	-9	563	36	0.79	7.0	28.0	40	12	

*Measured with full length lead. ****Rated DC Current:** Based on the maximum temperature rise not to exceed 15°C at + 90°C ambient.
*****Incremental Current:** The minimum typical current at which the inductance will be decreased by 5% from its initial zero DC value.

ELECTRICAL SPECIFICATIONS

Inductance Tolerance: ± 10% standard. ± 5% available.
Insulation Resistance: 1000 Megohm minimum per MIL-STD-202, Method 302, Test Condition B.
Dielectric Withstanding Voltage: 200 VAC per MIL-STD-202, Method 301 (sea level).
Percent Coupling: 3% maximum per MIL-PRF-15305.
Operating Temperature Range: - 55°C to + 105°C.

Inductors, Military, MIL-PRF-15305 Qualified, Type LT and Commercial, Molded, Shielded, Miniature

MECHANICAL SPECIFICATIONS

Terminal Strength: 3 pounds pull per MIL-STD-202, Method 211, Test Condition A except 180° rotation for a total of 540°C.
Weight: IMS-2 = 0.30 grams maximum.

MATERIAL SPECIFICATIONS

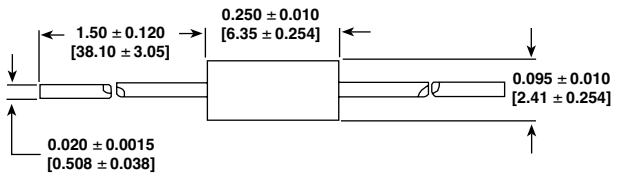
Encapsulant: Epoxy.
Standard Terminal: #24 AWG tinned copper.

TEST EQUIPMENT*

- H/P 4342A Q-Meter.
- Measurements Corporation Megacycle Meter, Model 59.
- Wheatstone Bridge.

*Test procedures per MIL-PRF-15305.

DIMENSIONS in inches [millimeters]



INDUCTANCE RANGE AND MILITARY STANDARD

INDUCTANCE RANGE		CLASSIFICATION		MATERIAL		MILITARY STANDARD
FROM	TO	GRADE	CLASS	CORE	SHIELD	
0.10μH	100μH	1	A	Powdered Iron	Powdered Iron	MS21426
120μH	560μH	1	A	Ferrite	Ferrite	MS21427

ENVIRONMENTAL PERFORMANCE

TEST	CONDITIONS	SPECIFICATIONS
Barometric Pressure	Test Condition C	MIL-STD-202, Method 105
Thermal Shock	Test Condition A-1	MIL-STD-202, Method 107
Flammability	—	MIL-STD-202, Method 111
Overload	—	MIL-PRF-15305
Low Temperature Storage	—	MIL-PRF-15305
Resistance to Soldering Heat	Test Condition A	MIL-STD-202, Method 210
Resistance to Solvents	—	MIL-STD-202, Method 215

ORDERING INFORMATION

IMS-2	**10μH**	**± 10%**
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

ORDERING INFORMATION - MILITARY PART NUMBER

MS21426	**- 14**		**LT**	**10**	**K**	**531**
MILITARY STANDARD	INDUCTANCE VALUE	OR	TYPE	GRADE AND CLASS	FAMILY	ID NUMBER

NOTE: Listing of military standard does not imply qualification. Contact factory for latest government QPL information.

Inductors

Military, MIL-PRF-15305 Qualified, Type LT
and Commercial, Molded, Shielded

FEATURES

- Wide inductance range in small package.
- Flame retardant coating.
- Electromagnetic shield-finest shield available.
- Epoxy molded construction provides superior moisture protection.
- Precision performance, excellent reliability, sturdy construction.

INDUCTANCE RANGE AND MILITARY STANDARD

INDUCTANCE RANGE		CLASSIFICATION		MATERIAL		MILITARY STANDARD
FROM	TO	GRADE	CLASS	CORE	SHIELD	
.10μH	.82μH	1	A	Phenolic	Powd. Iron	MS75087
1.0μH	12.0μH	1	A	Powd. Iron	Powd. Iron	MS75088
15.0μH	100,000μH	1	A	Ferrite	Ferrite	MS75089*

*Not QPL'd.

ELECTRICAL SPECIFICATIONS

Inductance Tolerance: ± 10% standard.
± 5% available.

Insulation Resistance: 1000 Megohm minimum per MIL-STD-202, Method 302, Test Condition B.

Dielectric Withstanding Voltage: 1000 VAC per MIL-STD-202, Method 301 (sea level).

Percent Coupling: 3% maximum per MIL-PRF-15305.

Operating Temperature Range: - 55°C to + 105°C.

MECHANICAL SPECIFICATIONS

Terminal Strength: 5 pounds pull per MIL-STD-202, Method 211, Test Condition A.

Weight: IMS-5 = 0.85 grams maximum.

MATERIAL SPECIFICATIONS

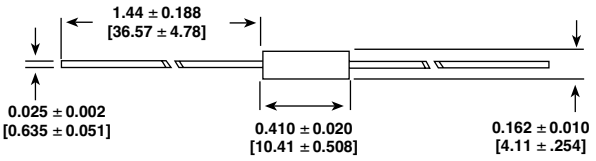
Encapsulant: Epoxy.

Standard Terminal: #22 AWG tinned copper.

ENVIRONMENTAL PERFORMANCE

TEST	CONDITIONS	SPECIFICATIONS
Barometric Pressure	Test Condition C	MIL-STD-202, Method 105
Thermal Shock	Test Condition A-1	MIL-STD-202, Method 107
Flammability	—	MIL-STD-202, Method 111
Overload	—	MIL-PRF-15305
Low Temperature Storage	—	MIL-PRF-15305
Resistance to Soldering Heat	Test Condition A	MIL-STD-202, Method 210
Resistance to Solvents	—	MIL-STD-202, Method 215

DIMENSIONS in inches [millimeters]



STANDARD ELECTRICAL SPECIFICATIONS

IND. (μH)	TOL.	MILITARY STANDARD	MILITARY TYPE	Q MIN.	TEST FREQ. L & Q (MHz)	SELF-RESONANT * FREQ. MIN. (MHz)	DCR @ 25°C MAX. (Ohms)	RATED DC ** CURRENT (mA)	INCREMENTAL*** CURRENT (mA)
		MS75087	LT10K						
0.10	± 10%	-1	191	50	25.0	250.0	0.025	1790	—
0.12	± 10%	-2	192	51	25.0	250.0	0.034	1530	—
0.15	± 10%	-3	193	51	25.0	250.0	0.037	1470	—
0.18	± 10%	-4	194	50	25.0	250.0	0.047	1300	—
0.22	± 10%	-5	195	49	25.0	250.0	0.067	1100	—
0.27	± 10%	-6	196	47	25.0	250.0	0.11	855	—
0.33	± 10%	-7	197	46	25.0	250.0	0.13	780	—
0.39	± 10%	-8	198	44	25.0	250.0	0.18	670	—
0.47	± 10%	-9	199	44	25.0	235.0	0.25	565	—
0.56	± 10%	-10	200	43	25.0	210.0	0.33	490	—
0.68	± 10%	-11	201	42	25.0	190.0	0.45	420	—
0.82	± 10%	-12	202	40	25.0	180.0	0.59	370	—
		MS75088	LT10K						
1.0	± 10%	-1	203	44	25.0	140.0	0.07	1070	—
1.2	± 10%	-2	204	44	7.9	130.0	0.10	895	—

*Measured with full length lead. ****Rated DC Current:** Based on maximum temperature rise not to exceed 15°C at + 90°C ambient.
*****Incremental Current:** The minimum typical current at which the inductance will be decreased by 5% from its initial zero DC value.

NOTE: Listing of Military Standard does not imply qualification. Contact factory for latest government QPL information.

STANDARD ELECTRICAL SPECIFICATIONS

IND. (μH)	TOL.	MILITARY STANDARD	MILITARY TYPE	Q MIN.	TEST FREQ. L & Q (MHz)	SELF-RESONANT * FREQ. MIN. (MHz)	DCR @ 25°C MAX. (Ohms)	RATED DC ** CURRENT (mA)	INCREMENTAL*** CURRENT (mA)
1.5	± 10%	-3	205	44	7.9	115.0	0.12	815	—
1.8	± 10%	-4	206	44	7.9	105.0	0.14	775	—
2.2	± 10%	-5	207	44	7.9	100.0	0.19	650	—
2.7	± 10%	-6	208	44	7.9	92.0	0.28	535	—
3.3	± 10%	-7	209	44	7.9	85.0	0.35	480	—
3.9	± 10%	-8	210	44	7.9	75.0	0.40	450	—
4.7	± 10%	-9	211	44	7.9	70.0	0.55	380	—
5.6	± 10%	-10	212	44	7.9	65.0	0.72	335	—
6.8	± 10%	-11	213	50	7.9	55.0	1.02	280	—
8.2	± 10%	-12	214	50	7.9	50.0	1.32	250	—
10.0	± 10%	-13	215	50	7.9	46.0	1.62	220	—
12.0	± 10%	-14	216	55	2.5	44.0	2.0	200	—
		MS75089 (Not QPL'd)	LT10K						
15.0	± 10%	-1	217	45	2.5	49.0	0.80	315	250.0
18.0	± 10%	-2	218	45	2.5	45.0	0.89	300	235.0
22.0	± 10%	-3	219	45	2.5	41.0	0.96	290	220.0
27.0	± 10%	-4	220	45	2.5	38.0	1.19	260	200.0
33.0	± 10%	-5	221	45	2.5	34.0	1.37	240	190.0
39.0	± 10%	-6	222	50	2.5	29.0	1.93	205	180.0
47.0	± 10%	-7	223	50	2.5	27.0	2.11	195	175.0
56.0	± 10%	-8	224	50	2.5	25.0	2.23	190	160.0
68.0	± 10%	-9	225	50	2.5	21.0	2.70	170	150.0
82.0	± 10%	-10	226	50	2.5	10.5	2.44	180	140.0
100.0	± 10%	-11	227	50	2.5	10.0	3.12	160	120.0
120.0	± 10%	-12	228	55	0.79	9.7	3.6	150	95.0
150.0	± 10%	-13	229	55	0.79	8.5	4.1	140	90.0
180.0	± 10%	-14	230	55	0.79	8.0	4.4	135	85.0
220.0	± 10%	-15	231	55	0.79	7.5	5.0	125	80.0
270.0	± 10%	-16	232	55	0.79	7.0	5.8	115	70.0
330.0	± 10%	-17	233	55	0.79	6.5	6.4	110	65.0
390.0	± 10%	-18	234	60	0.79	6.2	7.4	105	60.0
470.0	± 10%	-19	235	60	0.79	5.7	9.5	92	58.0
560.0	± 10%	-20	236	60	0.79	4.7	10.5	90	55.0
680.0	± 10%	-21	237	60	0.79	4.5	11.8	80	50.0
820.0	± 10%	-22	238	60	0.79	4.2	13.0	80	45.0
		MS75089 (Not QPL'd)	LT10K						
1000.0	± 10%	-23	239	60	0.79	3.8	17.5	70	40.0
1200.0	± 10%	-24	240	45	0.25	1.5	22.1	60	35.0
1500.0	± 10%	-25	241	45	0.25	1.2	26.5	55	33.0
1800.0	± 10%	-26	242	45	0.25	1.0	29.9	50	30.0
2200.0	± 10%	-27	243	45	0.25	0.97	33.8	50	27.0
2700.0	± 10%	-28	244	45	0.25	0.92	47.3	40	25.0
3300.0	± 10%	-29	245	45	0.25	0.84	53.0	40	22.0
3900.0	± 10%	-30	246	45	0.25	0.80	73.8	35	20.0
4700.0	± 10%	-31	247	45	0.25	0.74	81.6	31	19.0
5600.0	± 10%	-32	248	44	0.25	0.73	98.9	28	17.0
6800.0	± 10%	-33	249	40	0.25	0.66	111.0	27	16.0
8200.0	± 10%	-34	250	40	0.25	0.54	119.0	26	15.0
10000.0	± 10%	-35	251	40	0.25	0.47	137.0	24	14.0
12000.0	± 10%	-36	252	30	0.079	0.33	143.0	23	13.0
15000.0	± 10%	-37	253	30	0.079	0.29	157.0	22	12.0
18000.0	± 10%	-38	254	30	0.079	0.28	175.0	21	10.0
22000.0	± 10%	-39	255	27	0.079	0.25	274.0	17	9.0
27000.0	± 10%	-40	256	27	0.079	0.21	308.0	16	8.0
33000.0	± 10%	-41	257	27	0.079	0.19	343.0	15	7.5
39000.0	± 10%	-42	258	27	0.079	0.17	376.0	15	6.0
47000.0	± 10%	-43	259	23	0.079	0.16	473.0	13	5.5
56000.0	± 10%	-44	260	23	0.079	0.14	512.0	13	5.0
68000.0	± 10%	-45	261	23	0.079	0.13	580.0	12	4.0
82000.0	± 10%	-46	262	21	0.079	0.12	618.0	11	3.5
100000.0	± 10%	-47	263	18	0.079	0.11	678.0	11	3.0

*Measured with full length lead. ****Rated DC Current:** Based on maximum temperature rise not to exceed 15°C at + 90°C ambient.
*****Incremental Current:** The minimum typical current at which the inductance will be decreased by 5% from its initial zero DC value.

NOTE: Listing of Military Standard does not imply qualification. Contact factory for latest government QPL information.

ORDERING INFORMATION

IMS-5	10μH	± 10%
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

ORDERING INFORMATION - MILITARY PART NUMBER

MS75088	-13	OR	LT	10	K	215
MILITARY STANDARD	INDUCTANCE VALUE		TYPE	GRADE AND CLASS	FAMILY	ID NUMBER

IMS-5WD-40

Vishay Dale

Inductors

Miniature, Shielded

FEATURES

- Miniature shielded inductor.
- High inductance-to-size ratio.
- Inductance range is 0.10μH to 180,000μH.
- Encapsulated non-flammable shielded unit.
- 0.164" [4.17mm] diameter by 0.450" [11.43mm] long envelope.
- Offers extremely high inductance for density packaging.

ELECTRICAL SPECIFICATIONS

Inductance Tolerance: ± 10% on Q-Meter for 0.10μH to 22μH.
± 5% on 1KC Bridge for 27μH to 1000μH.
± 10% on 1KC Bridge for 1200μH to 56,000μH.
± 20% on 1KC Bridge measured at point on leads 1/4" [6.35mm] from body for 68,000μH to 180,000μH.

Dielectric Strength: 700V RMS at sea level.

Operating Temperature: - 55°C to + 125°C.

Self-Resonant Frequency: Minimum SRF measured with full length leads on Grid-Dip Meter.

Q: Measured on Q-Meter.

Maximum Current: Based on temperature rise not to exceed 40°C at + 85°C ambient.

MECHANICAL SPECIFICATIONS

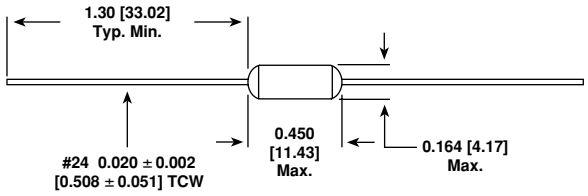
Terminal Strength: Meets 5 pound pull test.

DENSITY SPECIFICATIONS

Weight: 0.75 gram maximum.

Shielding: Less than 3% coupling with two units mounted side by side at 1000 cycles.

DIMENSIONS in inches [millimeters]



STANDARD ELECTRICAL SPECIFICATIONS

MODEL	IND. (μH)	TOL.	Q MIN.	TEST FREQ. Q (MHz)	SELF-RESONANT FREQ. MIN. (MHz)	DCR MAX. (Ohms)	RATED DC CURRENT (mA)	INCREMENTAL* CURRENT (mA)	
IMS-5WD-40	0.10	± 10%	55	25	400	0.020	4000	4000	PHENOLIC
IMS-5WD-40	0.12	± 10%	55	25	400	0.029	3350	3350	
IMS-5WD-40	0.15	± 10%	55	25	400	0.032	3000	3000	
IMS-5WD-40	0.18	± 10%	50	25	366	0.040	2850	2850	
IMS-5WD-40	0.22	± 10%	56	25	331	0.045	2700	2700	
IMS-5WD-40	0.27	± 10%	50	25	298	0.08	2000	2000	
IMS-5WD-40	0.33	± 10%	48	25	270	0.09	1900	1900	
IMS-5WD-40	0.39	± 10%	48	25	248	0.16	1420	1420	
IMS-5WD-40	0.47	± 10%	48	25	226	0.17	1400	1400	
IMS-5WD-40	0.56	± 10%	45	25	206	0.36	960	960	
IMS-5WD-40	0.68	± 10%	45	25	188	0.37	940	940	
IMS-5WD-40	0.82	± 10%	41	25	171	0.46	870	870	

***Incremental Current:** The DC current required to cause a 5% reduction in the nominal inductance value.

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	IND. (μH)	TOL.	Q MIN.	TEST FREQ. (MHz)	SELF-RESONANT FREQ. MIN. (MHz)	DCR MAX. (Ohms)	RATED DC CURRENT (mA)	INCREMENTAL* CURRENT (mA)	
IMS-5WD-40	1.0	± 10%	42	7.9	131	0.062	2300	2300	IRON
IMS-5WD-40	1.2	± 10%	43	7.9	120	0.067	2200	2200	
IMS-5WD-40	1.5	± 10%	41	7.9	108	0.16	1420	1420	
IMS-5WD-40	1.8	± 10%	42	7.9	99	0.17	1370	1370	
IMS-5WD-40	2.2	± 10%	42	7.9	90	0.19	1300	1300	
IMS-5WD-40	2.7	± 10%	41	7.9	86	0.20	1270	1270	
IMS-5WD-40	3.3	± 10%	40	7.9	73	0.31	1030	1030	
IMS-5WD-40	3.9	± 10%	40	7.9	68	0.33	1000	1000	
IMS-5WD-40	4.7	± 10%	40	7.9	61	0.58	750	750	
IMS-5WD-40	5.6	± 10%	40	7.9	56	0.64	710	710	
IMS-5WD-40	6.8	± 10%	40	7.9	51	0.68	680	680	
IMS-5WD-40	8.2	± 10%	45	2.5	46	1.3	500	500	
IMS-5WD-40	10	± 10%	46	2.5	42	1.4	480	480	
IMS-5WD-40	12	± 10%	47	2.5	38	1.5	460	460	
IMS-5WD-40	15	± 10%	47	2.5	34	1.7	440	440	
IMS-5WD-40	18	± 10%	45	2.5	43	0.88	610	235	FERRITE
IMS-5WD-40	22	± 10%	47	2.5	38	0.95	590	220	
IMS-5WD-40	27	± 10%	42	2.5	35	1.15	530	200	
IMS-5WD-40	33	± 10%	43	2.5	32	1.2	520	193	
IMS-5WD-40	39	± 10%	45	2.5	30	1.6	450	183	
IMS-5WD-40	47	± 10%	46	2.5	26	1.8	420	177	
IMS-5WD-40	56	± 10%	40	2.5	24	2.2	390	170	
IMS-5WD-40	68	± 10%	40	2.5	22	2.3	375	165	
IMS-5WD-40	82	± 10%	42	0.79	14	2.4	360	160	
IMS-5WD-40	100	± 10%	63	0.79	12	2.6	345	157	
IMS-5WD-40	120	± 10%	62	0.79	11	2.9	330	145	
IMS-5WD-40	150	± 10%	63	0.79	10	3.3	315	126	
IMS-5WD-40	180	± 10%	60	0.79	9.2	3.6	300	110	
IMS-5WD-40	220	± 10%	57	0.79	8.8	4.1	280	105	
IMS-5WD-40	270	± 10%	52	0.79	8.0	4.8	260	91	
IMS-5WD-40	330	± 10%	50	0.79	7.2	5.6	240	87	
IMS-5WD-40	390	± 10%	43	0.79	6.8	6.2	230	72	
IMS-5WD-40	470	± 10%	66	0.79	6.4	10.0	180	67	
IMS-5WD-40	560	± 10%	64	0.79	6.0	11.5	170	65	
IMS-5WD-40	680	± 10%	71	0.79	5.2	12.0	160	60	
IMS-5WD-40	820	± 10%	67	0.79	4.8	13.8	150	55	
IMS-5WD-40	1000	± 10%	62	0.25	4.5	16.0	140	52	
IMS-5WD-40	1200	± 10%	52	0.25	1.2	18.2	135	50	
IMS-5WD-40	1500	± 10%	51	0.25	1.2	23.7	118	48	
IMS-5WD-40	1800	± 10%	51	0.25	1.1	30.2	105	42	
IMS-5WD-40	2200	± 10%	50	0.25	1.0	33.7	99	37	
IMS-5WD-40	2700	± 10%	51	0.25	0.94	43.1	87	33	
IMS-5WD-40	3300	± 10%	52	0.25	0.84	48.7	82	30	
IMS-5WD-40	3900	± 10%	48	0.25	0.77	62.7	72	29	
IMS-5WD-40	4700	± 10%	48	0.25	0.67	70.5	68	28	
IMS-5WD-40	5600	± 10%	48	0.25	0.65	104	56	24	

***Incremental Current:** The DC current required to cause a 5% reduction in the nominal inductance value.

MARKING

— Model
— Inductance value
— Tolerance
— Date code

ORDERING INFORMATION

IMS-5WD-40	0.10μH	± 10%
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

Inductors

Epoxy Conformal Coated
Uniform Roll Coated

FEATURES

- Flame-retardant coating.
- Color band identification.
- Excellent environmental characteristics.
- Uniform coating is excellent for automatic insertion.
- Comparable in quality to molded chokes at a lower price.
- Epoxy coating is more durable than lacquer coated models, yet is priced comparably.

ELECTRICAL SPECIFICATIONS

Inductance Tolerance: ± 1%, ± 3%, ± 5%, ± 10%, ± 20%. Other tolerances available on request.

Insulation Resistance: 1000 Megohm minimum per MIL-STD-202, Method 302, Test Condition B.

Dielectric Strength: 1000 VAC per MIL-STD-202, Method 301.

MATERIAL SPECIFICATIONS

Coating: Epoxy-uniform roll coated.

Lead: Tinned copper.

MECHANICAL SPECIFICATIONS

Terminal Strength: 5 pounds pull per MIL-STD-202, Method 211, Test Condition A.

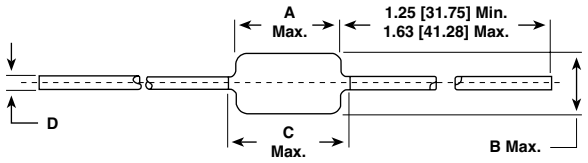
Weight: IR-2 = 0.30 gram maximum.
IR-4 = 0.65 gram maximum.

TEST EQUIPMENT*

- H/P 4342A Q-Meter.
- Measurements Corporation Megacycle Meter, Model 59.
- Wheatstone bridge.

*Test procedures per MIL-PRF-15305.

DIMENSIONS in inches [millimeters]



MODEL	A (Max.)	B (Max.)	C (Max.)	D
IR-2	0.260 [6.60]	0.120 [3.05]	0.330 [8.38]	0.0200 ± 0.0015 [0.508 ± 0.038]
IR-4	0.385 [9.78]	0.180 [4.57]	0.440 [11.18]	0.025 ± 0.002 [0.635 ± 0.051]

ENVIRONMENTAL PERFORMANCE

TEST	CONDITIONS	SPECIFICATIONS
Barometric Pressure	Test Condition C	MIL-STD-202, Method 105
Thermal Shock	Test Condition A-1	MIL-STD-202, Method 107
Flammability	—	MIL-STD-202, Method 111
Overload	—	MIL-PRF-15305
Low Temperature Storage	—	MIL-PRF-15305
Resistance to Soldering Heat	Test Condition A	MIL-STD-202, Method 210
Resistance to Solvents	—	MIL-STD-202, Method 215

MAXIMUM TEMPERATURE RISE

		OPERATING TEMPERATURE RANGE
IR-2		
	0.1μH to 1.0μH = + 35°C @ + 90°C ambient.	- 55°C to + 125°C
	1.2μH to 27μH = + 15°C @ + 90°C ambient.	- 55°C to + 105°C
	33μH to 1000μH = + 15°C @ + 90°C ambient.	- 55°C to + 105°C
IR-4		
	0.15μH to 4.7μH = + 35°C @ + 90°C ambient.	- 55°C to + 125°C
	5.6μH to 33μH = + 15°C @ + 90°C ambient.	- 55°C to + 105°C
	36μH to 240μH = + 15°C @ + 90°C ambient.	- 55°C to + 105°C
	270μH to 1800μH = + 35°C @ + 90°C ambient.	- 55°C to + 125°C

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	IND. (μH)	TOL.	Q MIN.	TEST FREQ. L & Q (MHz)	SELF-RESONANT* FREQ. MIN. (MHz)	DCR MAX. (Ohms)	RATED** DC CURRENT (mA)	
IR-2	0.10	± 10%	40	25.0	680.0	0.08	1350	PHENOLIC CORE
IR-2	0.12	± 10%	40	25.0	640.0	0.09	1270	
IR-2	0.15	± 10%	38	25.0	600.0	0.10	1200	
IR-2	0.18	± 10%	35	25.0	550.0	0.12	1105	
IR-2	0.22	± 10%	33	25.0	510.0	0.14	1025	
IR-2	0.27	± 10%	33	25.0	430.0	0.16	960	
IR-2	0.33	± 10%	30	25.0	410.0	0.22	815	
IR-2	0.39	± 10%	30	25.0	365.0	0.30	700	
IR-2	0.47	± 10%	30	25.0	330.0	0.35	650	
IR-2	0.56	± 10%	30	25.0	300.0	0.50	545	
IR-2	0.68	± 10%	28	25.0	275.0	0.60	495	
IR-2	0.82	± 10%	28	25.0	250.0	0.85	415	
IR-2	01.0	± 10%	25	25.0	230.0	1.0	385	
IR-2	1.2	± 10%	25	7.9	150.0	0.18	590	IRON CORE
IR-2	1.5	± 10%	28	7.9	140.0	0.22	535	
IR-2	1.8	± 10%	30	7.9	125.0	0.30	455	
IR-2	2.2	± 10%	30	7.9	115.0	0.40	395	
IR-2	2.7	± 10%	37	7.9	100.0	0.55	355	
IR-2	3.3	± 10%	45	7.9	90.0	0.85	270	
IR-2	3.9	± 10%	45	7.9	80.0	1.0	250	
IR-2	4.7	± 10%	45	7.9	75.0	1.2	230	
IR-2	5.6	± 10%	50	7.9	65.0	1.8	185	
IR-2	6.8	± 10%	50	7.9	60.0	2.0	175	
IR-2	8.2	± 10%	55	7.9	55.0	2.7	155	
IR-2	10.0	± 10%	55	7.9	50.0	3.7	130	
IR-2	12.0	± 10%	45	2.5	40.0	2.7	155	
IR-2	15.0	± 10%	40	2.5	35.0	2.8	150	
IR-2	18.0	± 10%	50	2.5	30.0	3.1	145	
IR-2	22.0	± 10%	50	2.5	25.0	3.3	140	
IR-2	27.0	± 10%	50	2.5	20.0	3.5	135	
IR-2	33.0	± 10%	45	2.5	24.0	3.4	130	FERRITE CORE
IR-2	39.0	± 10%	45	2.5	22.0	3.6	125	
IR-2	47.0	± 10%	45	2.5	20.0	4.5	110	
IR-2	56.0	± 10%	45	2.5	18.0	5.7	100	
IR-2	68.0	± 10%	50	2.5	15.0	6.7	92	
IR-2	82.0	± 10%	50	2.5	14.0	7.3	88	
IR-2	100.0	± 10%	50	2.5	13.0	8.0	84	
IR-2	120.0	± 10%	30	0.79	12.0	13.0	66	
IR-2	150.0	± 10%	30	0.79	11.0	15.0	61	
IR-2	180.0	± 10%	30	0.79	10.0	17.0	57	
IR-2	220.0	± 10%	30	0.79	9.0	21.0	52	
IR-2	270.0	± 10%	30	0.79	8.0	25.0	47	
IR-2	330.0	± 10%	30	0.79	7.0	28.0	45	
IR-2	390.0	± 10%	30	0.79	6.5	35.0	40	
IR-2	470.0	± 10%	30	0.79	6.0	42.0	36	
IR-2	560.0	± 10%	30	0.79	5.0	46.0	35	
IR-2	680.0	± 10%	30	0.79	4.0	60.0	30	
IR-2	820.0	± 10%	30	0.79	3.8	65.0	29	
IR-2	1000.0	± 10%	30	0.79	3.4	72.0	28	
IR-4	0.15	± 20%	50	25.0	525.0	0.03	2450	PHENOLIC CORE
IR-4	0.22	± 20%	50	25.0	450.0	0.055	1810	
IR-4	0.33	± 20%	45	25.0	360.0	0.09	1400	
IR-4	0.47	± 20%	45	25.0	310.0	0.12	1225	
IR-4	0.56	± 10%	50	25.0	280.0	0.135	1150	
IR-4	0.68	± 10%	50	25.0	250.0	0.15	1100	
IR-4	0.82	± 10%	50	25.0	220.0	0.22	900	
IR-4	1.0	± 10%	50	25.0	200.0	0.29	785	
IR-4	1.2	± 10%	33	7.9	180.0	0.42	650	
IR-4	1.5	± 10%	33	7.9	160.0	0.50	600	
IR-4	1.8	± 10%	33	7.9	150.0	0.65	525	
IR-4	2.2	± 10%	33	7.9	135.0	0.95	435	
IR-4	2.7	± 10%	33	7.9	120.0	1.20	385	
IR-4	3.3	± 10%	33	7.9	110.0	2.0	300	
IR-4	3.9	± 10%	33	7.9	100.0	2.30	280	
IR-4	4.7	± 10%	33	7.9	90.00	2.60	260	

*Measured with full length lead. **Rated DC Current based on maximum temperature rise as shown in table.

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	IND. (μH)	TOL.	Q MIN.	TEST FREQ. L & Q (MHz)	SELF-RESONANT* FREQ. MIN. (MHz)	DCR MAX. (Ohms)	RATED** DC CURRENT (mA)	
IR-4	5.6	± 10%	45	7.9	60.0	32	495	IRON CORE
IR-4	6.8	± 10%	50	7.9	55.0	0.50	395	
IR-4	8.2	± 10%	50	7.9	50.0	0.60	360	
IR-4	10.0	± 10%	55	7.9	45.0	0.90	290	
IR-4	12.0	± 10%	65	2.5	42.0	1.10	265	
IR-4	15.0	± 10%	65	2.5	40.0	1.40	240	
IR-4	18.0	± 10%	75	2.5	34.0	2.25	185	
IR-4	22.0	± 10%	75	2.5	30.0	2.50	175	
IR-4	27.0	± 10%	60	2.5	25.0	2.60	170	
IR-4	33.0	± 10%	65	2.5	19.0	3.0	165	
IR-4	36.0	± 5%	60	2.5	15.5	2.50	180	
IR-4	39.0	± 5%	60	2.5	14.5	2.60	176	
IR-4	43.0	± 5%	60	2.5	13.7	2.70	172	
IR-4	47.0	± 5%	55	2.5	13.0	2.75	170	
IR-4	51.0	± 5%	55	2.5	12.7	2.85	167	
IR-4	56.0	± 5%	55	2.5	12.0	3.0	164	
IR-4	62.0	± 5%	55	2.5	11.5	3.15	160	
IR-4	68.0	± 5%	55	2.5	11.0	3.30	156	
IR-4	75.0	± 5%	55	2.5	10.5	3.70	147	
IR-4	82.0	± 5%	50	2.5	10.3	3.90	143	
IR-4	91.0	± 5%	50	2.5	10.0	4.30	136	
IR-4	100.0	± 5%	50	2.5	9.5	4.50	133	
IR-4	110.0	± 5%	60	0.79	8.9	4.90	128	
IR-4	120.0	± 5%	65	0.79	8.7	5.20	124	
IR-4	130.0	± 5%	65	0.79	8.5	5.45	121	
IR-4	150.0	± 5%	65	0.79	8.0	6.05	114	
IR-4	160.0	± 5%	65	0.79	7.5	6.40	111	
IR-4	180.0	± 5%	65	0.79	7.0	6.75	108	
IR-4	200.0	± 5%	65	0.79	6.5	7.10	106	
IR-4	220.0	± 5%	65	0.79	6.2	7.45	103	
IR-4	240.0	± 5%	65	0.79	5.9	7.80	101	
IR-4	270.0	± 5%	65	0.79	5.7	11.0	129	
IR-4	300.0	± 5%	65	0.79	5.4	11.5	125	
IR-4	330.0	± 5%	65	0.79	5.1	12.0	123	
IR-4	360.0	± 5%	65	0.79	4.8	15.5	108	
IR-4	390.0	± 5%	65	0.79	4.5	16.3	105	
IR-4	430.0	± 5%	65	0.79	4.2	17.1	102	
IR-4	470.0	± 5%	65	0.79	3.9	17.9	100	
IR-4	510.0	± 5%	65	0.79	3.7	18.8	98	
IR-4	560.0	± 5%	65	0.79	3.5	24.7	85	
IR-4	620.0	± 5%	65	0.79	3.3	25.9	83	
IR-4	680.0	± 5%	55	0.79	3.1	27.2	81	
IR-4	750.0	± 5%	55	0.79	2.9	28.6	79	
IR-4	820.0	± 5%	55	0.79	2.7	30.0	77	
IR-4	910.0	± 5%	55	0.79	2.5	31.5	76	
IR-4	1000.0	± 5%	55	0.79	2.3	33.1	74	
IR-4	1100.0	± 5%	30	0.25	2.1	43.5	64	
IR-4	1200.0	± 5%	30	0.25	2.0	45.7	63	
IR-4	1300.0	± 5%	30	0.25	1.9	49.0	61	
IR-4	1500.0	± 5%	30	0.25	1.8	52.5	59	
IR-4	1600.0	± 5%	30	0.25	1.7	54.0	58	
IR-4	1800.0	± 5%	30	0.25	1.6	56.7	56	

*Measured with full length lead. **Rated DC Current based on maximum temperature rise as shown in table.

ORDERING INFORMATION

IR-2	**10μH**	**± 10%**
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

Inductors

Epoxy Conformal Coated
Uniform Roll Coated

FEATURES

- Flame-retardant coating and color band identification.
- Uniform coating is excellent for automatic insertion.
- Available in bulk, ammo and reel pack per EIA RS-296.
- Superior electrical specifications high Q and self resonant frequency, low DC resistance, high rated DC current.

ELECTRICAL SPECIFICATIONS

Inductance Tolerance: ± 5%, ± 10%, ± 20%.
Other tolerances available on request.

Insulation Resistance: 1000 Megohm minimum per MIL-STD-202, Method 302, Test Condition B.

Operating Temperature Range: - 55°C to + 105°C.

MATERIAL SPECIFICATIONS

Coating: Epoxy-uniform roll coated.

Lead: Tinned copper.

Core: Ferrite.

MECHANICAL SPECIFICATIONS

Terminal Strength: 5 pounds pull per MIL-STD-202, Method 211, Test Condition A.

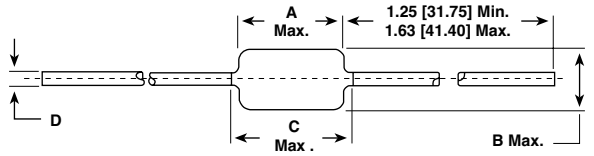
Weight: IRF-1 = 0.3 gram maximum.
IRF-3 = 0.6 gram maximum.

TEST EQUIPMENT*

- H/P 4342A Q-Meter.
- Measurements Corporation Megacycle Meter, Model 59.
- Wheatstone bridge.

*Test procedures per MIL-PRF-15305.

DIMENSIONS in inches [millimeters]



MODEL	A (Max.)	B (Max.)	C (Max.)	D
IRF-1	0.260 [6.60]	0.120 [3.05]	0.330 [8.38]	0.0200 ± 0.0015 [0.508 ± 0.038]
IRF-3	0.385 [9.78]	0.165 [4.19]	0.410 [10.41]	0.025 ± 0.002 [0.635 ± 0.051]

ENVIRONMENTAL PERFORMANCE

TEST	CONDITIONS	SPECIFICATIONS
Flammability	—	MIL-STD-202, Method 111
Overload	—	MIL-PRF-15305
Resistance to Soldering Heat	Test Condition A	MIL-STD-202, Method 210
Resistance to Solvents	—	MIL-STD-202, Method 215

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	INDUCTANCE (μH)	TOLERANCE	Q MINIMUM	TEST FREQUENCY L & Q (MHz)	SELF-RESONANT* FREQ. MIN. (MHz)	DCR MAXIMUM (Ohms)	RATED DC** CURRENT (mA)
IRF-1	0.10	± 20%	40	25.0	400.0	0.06	1350
IRF-1	0.12	± 20%	40	25.0	400.0	0.06	1270
IRF-1	0.15	± 20%	40	25.0	400.0	0.07	1200
IRF-1	0.18	± 20%	40	25.0	400.0	0.075	1155
IRF-1	0.22	± 20%	40	25.0	380.0	0.075	1150
IRF-1	0.27	± 20%	40	25.0	360.0	0.08	1110
IRF-1	0.33	± 20%	40	25.0	350.0	0.08	1110
IRF-1	0.39	± 20%	40	25.0	320.0	0.09	1000
IRF-1	0.47	± 20%	40	25.0	300.0	0.10	1000
IRF-1	0.56	± 20%	40	25.0	280.0	0.11	950
IRF-1	0.68	± 20%	40	25.0	250.0	0.12	900
IRF-1	0.82	± 20%	40	25.0	200.0	0.12	900
IRF-1	1.0	± 10%	50	25.0	180.0	0.15	815
IRF-1	1.2	± 10%	50	7.9	165.0	0.18	740
IRF-1	1.5	± 10%	50	7.9	150.0	0.20	700
IRF-1	1.8	± 10%	50	7.9	125.0	0.23	655
IRF-1	2.2	± 10%	50	7.9	115.0	0.25	630
IRF-1	2.7	± 10%	50	7.9	100.0	0.28	595
IRF-1	3.3	± 10%	50	7.9	90.0	0.30	575
IRF-1	3.9	± 10%	50	7.9	80.0	0.32	555
IRF-1	4.7	± 10%	50	7.9	75.0	0.35	530
IRF-1	5.6	± 10%	50	7.9	65.0	0.40	500
IRF-1	6.8	± 10%	50	7.9	60.0	0.45	470
IRF-1	8.2	± 10%	50	7.9	55.0	0.55	425
IRF-1	10.0	± 10%	50	7.9	50.0	0.72	370

*Measured with full length lead. **Rated DC current based on a temperature rise of 15°C at + 90°C ambient.

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	INDUCTANCE (μH)	TOLERANCE	Q MINIMUM	TEST FREQUENCY L & Q (MHz)	SELF-RESONANT* FREQ. MIN. (MHz)	DCR MAXIMUM (Ohms)	RATED DC** CURRENT (mA)
IRF-1	12.0	± 10%	50	2.5	40.0	0.80	350
IRF-1	15.0	± 10%	50	2.5	35.0	0.88	335
IRF-1	18.0	± 10%	50	2.5	30.0	1.0	315
IRF-1	22.0	± 10%	50	2.5	25.0	1.2	285
IRF-1	27.0	± 10%	50	2.5	20.0	1.35	270
IRF-1	33.0	± 10%	50	2.5	24.0	1.5	255
IRF-1	39.0	± 10%	50	2.5	22.0	1.7	240
IRF-1	47.0	± 10%	60	2.5	20.0	2.3	205
IRF-1	56.0	± 10%	60	2.5	18.0	2.6	195
IRF-1	68.0	± 10%	60	2.5	15.0	2.9	185
IRF-1	82.0	± 10%	60	2.5	14.0	3.2	175
IRF-1	100.0	± 10%	60	2.5	13.0	3.5	165
IRF-1	120.0	± 10%	60	0.79	5.40	3.8	160
IRF-1	150.0	± 10%	60	0.79	4.75	4.4	150
IRF-1	180.0	± 10%	60	0.79	4.35	5.0	140
IRF-1	220.0	± 10%	60	0.79	4.0	5.7	130
IRF-1	270.0	± 10%	60	0.79	3.70	6.5	120
IRF-1	330.0	± 10%	60	0.79	3.40	9.5	100
IRF-1	390.0	± 10%	60	0.79	2.80	10.5	95
IRF-1	470.0	± 10%	60	0.79	2.55	11.6	90
IRF-1	560.0	± 10%	60	0.79	2.35	13.0	85
IRF-1	680.0	± 10%	60	0.79	2.0	18.0	75
IRF-1	820.0	± 10%	60	0.79	1.85	23.0	65
IRF-1	1000.0	± 10%	60	0.79	1.40	26.0	60
IRF-3	0.22	± 20%	55	25.0	380.0	0.10	1400
IRF-3	0.27	± 20%	55	25.0	340.0	0.11	1320
IRF-3	0.33	± 20%	55	25.0	300.0	0.12	1280
IRF-3	0.39	± 20%	55	25.0	280.0	0.13	1200
IRF-3	0.47	± 20%	55	25.0	250.0	0.14	1150
IRF-3	0.56	± 20%	55	25.0	230.0	0.15	1100
IRF-3	0.68	± 20%	55	25.0	210.0	0.16	1030
IRF-3	0.82	± 20%	55	25.0	172.0	0.17	980
IRF-3	1.0	± 10%	55	25.0	157.0	0.19	920
IRF-3	1.2	± 10%	50	7.9	144.0	0.21	880
IRF-3	1.5	± 10%	50	7.9	131.0	0.23	830
IRF-3	1.8	± 10%	55	7.9	121.0	0.25	790
IRF-3	2.2	± 10%	55	7.9	110.0	0.28	750
IRF-3	2.7	± 10%	60	7.9	100.0	0.30	720
IRF-3	3.3	± 10%	65	7.9	94.0	0.34	670
IRF-3	3.9	± 10%	65	7.9	86.0	0.37	640
IRF-3	4.7	± 10%	70	7.9	80.0	0.39	620
IRF-3	5.6	± 10%	70	7.9	74.0	0.43	590
IRF-3	6.8	± 10%	75	7.9	68.0	0.48	550
IRF-3	8.2	± 10%	80	7.9	53.0	0.52	530
IRF-3	10.0	± 10%	85	7.9	45.0	0.58	500
IRF-3	12.0	± 10%	75	2.5	42.0	0.63	480
IRF-3	15.0	± 10%	70	2.5	40.0	0.72	460
IRF-3	18.0	± 10%	65	2.5	34.0	0.77	430
IRF-3	22.0	± 10%	60	2.5	30.0	0.84	410
IRF-3	27.0	± 10%	55	2.5	25.0	0.94	390
IRF-3	33.0	± 10%	55	2.5	19.0	1.03	370
IRF-3	39.0	± 10%	50	2.5	14.5	1.12	350
IRF-3	47.0	± 10%	45	2.5	13.0	1.22	340
IRF-3	56.0	± 10%	40	2.5	12.0	1.34	320
IRF-3	68.0	± 10%	40	2.5	11.0	1.47	305
IRF-3	82.0	± 10%	35	2.5	10.3	1.62	290
IRF-3	100.0	± 10%	30	2.5	9.5	1.8	275
IRF-3	120.0	± 10%	70	0.79	3.8	3.7	185
IRF-3	150.0	± 10%	70	0.79	3.5	4.2	175
IRF-3	180.0	± 10%	70	0.79	3.3	4.6	165
IRF-3	220.0	± 10%	70	0.79	3.0	5.1	155
IRF-3	270.0	± 10%	70	0.79	2.8	5.8	145
IRF-3	330.0	± 10%	70	0.79	2.6	6.4	137
IRF-3	390.0	± 10%	65	0.79	2.4	7.0	133
IRF-3	470.0	± 10%	65	0.79	2.25	7.7	126
IRF-3	560.0	± 10%	65	0.79	2.1	8.5	120
IRF-3	680.0	± 10%	65	0.79	1.95	9.4	113
IRF-3	820.0	± 10%	65	0.79	1.85	10.5	105
IRF-3	1000.0	± 10%	65	0.79	1.4	14.0	100

*Measured with full length lead. **Rated DC current based on a temperature rise of 15°C at + 90°C ambient.

ORDERING INFORMATION

IRF-1	10	± 10%
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

Inductors

Epoxy Conformal Coated, Axial Leaded

STANDARD ELECTRICAL SPECIFICATIONS

IND. (μH)	TOL.	Q MIN.	TEST FREQ. L & Q (MHz)	SELF-RES. FREQ. MIN. (MHz)	DCR MAX. (Ohms)	RATED DC CURRENT (mA)
0.10	± 5%, ± 10%	30	25.2	280	0.085	1400
0.12	± 5%, ± 10%	30	25.2	280	0.085	1350
0.15	± 5%, ± 10%	30	25.2	280	0.095	1270
0.18	± 5%, ± 10%	30	25.2	280	0.12	1200
0.22	± 5%, ± 10%	40	25.2	280	0.15	1150
0.27	± 5%, ± 10%	40	25.2	260	0.15	1110
0.33	± 5%, ± 10%	40	25.2	260	0.15	1110
0.39	± 5%, ± 10%	40	25.2	220	0.17	1000
0.47	± 5%, ± 10%	40	25.2	200	0.17	1000
0.56	± 5%, ± 10%	40	25.2	180	0.17	950
0.68	± 5%, ± 10%	40	25.2	160	0.18	900
0.82	± 5%, ± 10%	40	25.2	140	0.18	900
1.0	± 5%, ± 10%	40	25.2	135	0.18	815
1.2	± 5%, ± 10%	40	7.96	135	0.18	740
1.5	± 5%, ± 10%	40	7.96	130	0.20	700
1.8	± 5%, ± 10%	40	7.96	125	0.23	655
2.2	± 5%, ± 10%	40	7.96	80	0.25	630
2.7	± 5%, ± 10%	40	7.96	80	0.28	595
3.3	± 5%, ± 10%	40	7.96	70	0.30	575
3.9	± 5%, ± 10%	40	7.96	65	0.32	555
4.7	± 5%, ± 10%	40	7.96	45	0.35	530
5.6	± 5%, ± 10%	40	7.96	40	0.40	500
6.8	± 5%, ± 10%	40	7.96	30	0.45	470
8.2	± 5%, ± 10%	40	7.96	28	0.56	425
10	± 5%, ± 10%	40	7.96	22	0.72	370
12	± 5%, ± 10%	40	2.52	20	0.80	350
15	± 5%, ± 10%	40	2.52	16	0.88	335
18	± 5%, ± 10%	40	2.52	15	1.0	315
22	± 5%, ± 10%	40	2.52	13	1.2	285
27	± 5%, ± 10%	40	2.52	11	1.35	270
33	± 5%, ± 10%	40	2.52	10	1.50	255
39	± 5%, ± 10%	40	2.52	9.5	1.70	240
47	± 5%, ± 10%	50	2.52	8.5	2.30	205
56	± 5%, ± 10%	50	2.52	7.5	2.60	195
68	± 5%, ± 10%	50	2.52	6.5	2.90	185
82	± 5%, ± 10%	50	2.52	6.0	3.20	175
100	± 5%, ± 10%	50	2.52	5.5	3.70	165
120	± 5%, ± 10%	60	0.796	5.4	3.80	160
150	± 5%, ± 10%	60	0.796	4.75	4.90	150
180	± 5%, ± 10%	60	0.796	4.35	5.0	140
220	± 5%, ± 10%	60	0.796	4.0	6.50	130
270	± 5%, ± 10%	60	0.796	3.7	7.5	120
330	± 5%, ± 10%	60	0.796	3.4	9.5	100
390	± 5%, ± 10%	60	0.796	2.8	10.5	95
470	± 5%, ± 10%	60	0.796	2.56	17.5	90
560	± 5%, ± 10%	60	0.796	2.35	18.5	85
680	± 5%, ± 10%	60	0.796	2.0	20.0	75
820	± 5%, ± 10%	60	0.796	1.60	23.7	65
1000	± 5%, ± 10%	50	0.796	1.15	30.0	60

FEATURES

- High performance ferrite core is used in this epoxy conformally coated choke which allows for inductance values to 1000μH.
- Axial lead type, small lightweight design.
- Special magnetic core structure contributes to high Q and self-resonant frequencies.
- Treated with epoxy resin coating for humidity resistance to ensure long life.
- Heat resistant adhesives.

ELECTRICAL SPECIFICATIONS

Inductance Range: 0.1μH to 1000μH.

Inductance Tolerance: ± 10% from 0.1μH to 1000μH standard, ± 5% optional.

Operating Temperature Range: - 20°C to + 105°C.

Dielectric Strength: 250V RMS.

MECHANICAL SPECIFICATIONS

Terminal Strength: Pull = 5 pounds. Twist = 360°C x 3.

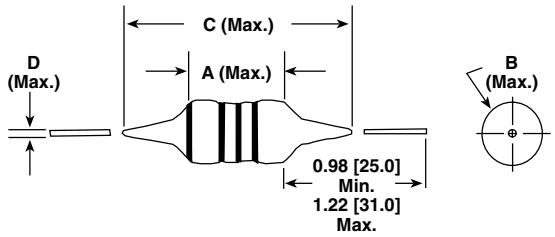
Protection: Epoxy uniform roll coated.

Leads: Tinned copper.

ENVIRONMENTAL SPECIFICATIONS

Maximum Temperature Rise: + 20°C.

DIMENSIONS in inches [millimeters]



MODEL	A (Max.)	B (Max.)	C (Max.)	D (Max.)
IRF-24	0.157 [4.0]	0.118 [3.0]	0.394 [10.0]	0.020 [0.5]

ORDERING INFORMATION

IRF-24	6.8μH	±10%
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

Inductors

Epoxy Conformal Coated, Axial Leaded

STANDARD ELECTRICAL SPECIFICATIONS

IND. (μH)	TOL.	Q MIN.	TEST FREQ. L & Q (MHz)	SELF-RES. FREQ. MIN. (MHz)	DCR MAX. (Ω)	RATED DC CURRENT (mA)
0.10	± 5%, ± 10%	25	25.2	320	0.15	1750
0.12	± 5%, ± 10%	25	25.2	320	0.16	1650
0.15	± 5%, ± 10%	25	25.2	320	0.17	1560
0.18	± 5%, ± 10%	25	25.2	320	0.19	1480
0.22	± 5%, ± 10%	25	25.2	300	0.21	1400
0.27	± 5%, ± 10%	25	25.2	300	0.24	1320
0.33	± 5%, ± 10%	25	25.2	300	0.28	1280
0.39	± 5%, ± 10%	25	25.2	280	0.32	1200
0.47	± 5%, ± 10%	25	25.2	250	0.36	1150
0.56	± 5%, ± 10%	25	25.2	230	0.41	1100
0.68	± 5%, ± 10%	25	25.2	210	0.47	1030
0.82	± 5%, ± 10%	45	25.2	172	0.24	980
1.0	± 5%, ± 10%	45	25.2	140	0.24	920
1.2	± 5%, ± 10%	50	7.96	140	0.27	880
1.5	± 5%, ± 10%	50	7.96	131	0.30	830
1.8	± 5%, ± 10%	55	7.96	121	0.32	790
2.2	± 5%, ± 10%	55	7.96	110	0.35	750
2.7	± 5%, ± 10%	60	7.96	100	0.35	720
3.3	± 5%, ± 10%	65	7.96	94	0.35	670
3.9	± 5%, ± 10%	65	7.96	86	0.37	640
4.7	± 5%, ± 10%	70	7.96	80	0.39	620
5.6	± 5%, ± 10%	70	7.96	74	0.43	590
6.8	± 5%, ± 10%	75	7.96	68	0.48	550
8.2	± 5%, ± 10%	70	7.96	53	0.52	530
10	± 5%, ± 10%	70	2.52	45	0.58	500
12	± 5%, ± 10%	70	2.52	34	0.63	480
15	± 5%, ± 10%	70	2.52	20	0.72	460
18	± 5%, ± 10%	65	2.52	14	0.77	430
22	± 5%, ± 10%	40	2.52	9.9	0.84	410
27	± 5%, ± 10%	55	2.52	7.6	0.94	390
33	± 5%, + 10%	55	2.52	6.3	1.03	370
39	± 5%, ± 10%	50	2.52	6.3	1.12	350
47	± 5%, ± 10%	45	2.52	6.3	1.22	340
56	± 5%, ± 10%	40	2.52	6.2	1.34	320
68	± 5%, ± 10%	40	2.52	5.7	1.47	306
82	± 5%, ± 10%	35	2.52	5.3	1.62	290
100	± 5%, ± 10%	30	2.52	4.8	1.80	275
120	± 5%, ± 10%	70	0.796	3.8	3.7	185
150	± 5%, ± 10%	70	0.796	3.5	4.2	175
180	± 5%, ± 10%	70	0.796	3.3	4.6	165
220	± 5%, ± 10%	70	0.796	3.0	5.1	155
270	± 5%, ± 10%	65	0.796	2.8	5.8	146
330	± 5%, ± 10%	65	0.796	2.6	6.4	137
390	± 5%, ± 10%	65	0.796	2.4	7.0	133
470	± 5%, ± 10%	60	0.796	2.25	7.7	126
560	± 5%, ± 10%	60	0.796	2.10	8.5	120
680	± 5%, ± 10%	55	0.796	1.95	9.4	113
820	± 5%, ± 10%	55	0.796	1.85	12.0	100
1000	± 5%, ± 10%	50	0.796	1.40	17.4	100

FEATURES

- High performance ferrite core is used in this epoxy conformally coated choke which allows for inductance values to 1000μH.
- Axial lead type, small lightweight design.
- Special magnetic core structure contributes to high Q and self-resonant frequencies.
- Treated with epoxy resin coating for humidity resistance to ensure long life.
- Heat resistant adhesives and special structural design for effective open circuit measurement.

ELECTRICAL SPECIFICATIONS

Inductance Range: 0.1μH to 1000μH.
Inductance Tolerance: ± 10% from 0.1μH to 1000μH standard, ± 5% optional.
Operating Temperature Range: - 20°C to + 105°C.
Dielectric Strength: 250V RMS.

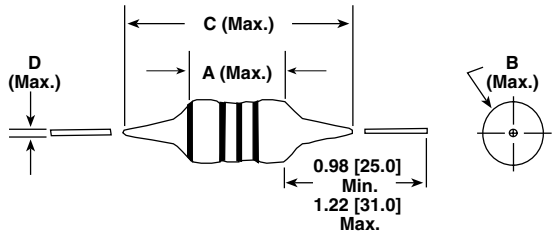
MECHANICAL SPECIFICATIONS

Terminal Strength: Pull = 5 pounds. Twist = 360°C x 3.
Protection: Epoxy uniform roll coated.
Leads: Tinned copper.

ENVIRONMENTAL SPECIFICATIONS

Maximum Temperature Rise: + 20°C.

DIMENSIONS in inches [millimeters]



MODEL	A (Max.)	B (Max.)	C (Max.)	D (Max.)
IRF-36	0.236 [6.0]	0.157 [4.0]	0.551 [14.0]	0.026 [0.65]

ORDERING INFORMATION

IRF-36	4.7μH	± 10%
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

For technical questions, contact Magnetics@vishay.com
Document Number 34057
Revision 07-Dec-01

Inductors

Epoxy Conformal Coated, Axial Leaded

FEATURES

- Axial lead type, small lightweight design.
- Special magnetic core structure contributes to high Q and self-resonant frequencies.
- Treated with epoxy resin coating for humidity resistance to ensure long life.
- Heat resistant adhesives and special structural design for effective open circuit measurement.

STANDARD ELECTRICAL SPECIFICATIONS

IND. @ 1KHz (μH)	TOL.	Q MIN.	TEST FREQ. Q (MHz)	DCR MAX. (Ω)	SRF MIN. (MHz)	RATED DC CURRENT (mA)
1000	± 5%, ± 10%	80	2.52	8	1.7	200
1200	± 5%, ± 10%	80	2.52	9	1.5	180
1500	± 5%, ± 10%	80	2.52	10	1.4	160
1800	± 5%, ± 10%	80	2.52	11	1.3	150
2200	± 5%, ± 10%	80	2.52	14	1.2	120
2700	± 5%, ± 10%	80	2.52	18	1.0	110
3300	± 5%, ± 10%	80	2.52	22	0.9	105
3900	± 5%, ± 10%	80	2.52	26	0.8	100
4700	± 5%, ± 10%	80	2.52	30	0.7	95
5600	± 5%, ± 10%	60	2.52	34	0.7	80
6800	± 5%, ± 10%	60	2.52	48	0.5	75
8200	± 5%, ± 10%	60	2.52	62	0.5	70
10,000	± 5%, ± 10%	60	2.52	74	0.5	65
12,000	± 5%, ± 10%	50	2.52	88	0.4	60
15,000	± 5%, ± 10%	50	2.52	102	0.4	55
18,000	± 5%, ± 10%	40	0.0796	150	0.3	50
22,000	± 5%, ± 10%	40	0.0796	180	0.3	45
27,000	± 5%, ± 10%	40	0.0796	210	0.3	40
30,000	± 5%, ± 10%	40	0.0796	240	0.3	35
33,000	± 5%, ± 10%	40	0.0796	250	0.2	30
39,000	± 5%, ± 10%	40	0.0796	270	0.2	25

ELECTRICAL SPECIFICATIONS

Inductance Range: 1000μH to 39,000μH.
Inductance Tolerance: ± 10% standard, ± 5% optional.
Operating Temperature Range: - 20°C to + 105°C.
Dielectric Strength: 250VRMS.

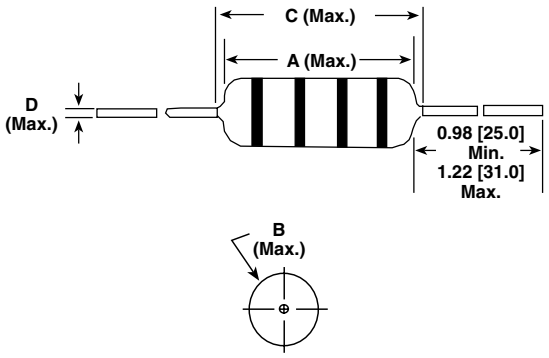
MECHANICAL SPECIFICATIONS

Terminal Strength: Pull = 5 pounds. Twist = 360°C x 3.
Protection: Epoxy uniform roll coated.
Leads: Tinned copper.

ENVIRONMENTAL SPECIFICATIONS

Maximum Temperature Rise: + 20°C.

DIMENSIONS in inches [millimeters]



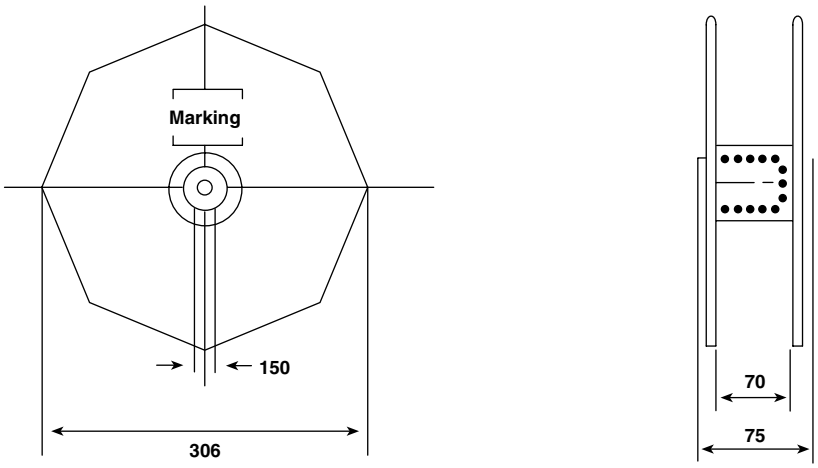
MODEL	A (Max.)	B (Max.)	C (Max.)	D (Max.)
IRF-46	0.236 [6.0]	0.197 [5.0]	0.551 [14.0]	0.026 [0.65]

ORDERING INFORMATION

IRF-46	15,000μH	±10%
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

Packaging Specifications

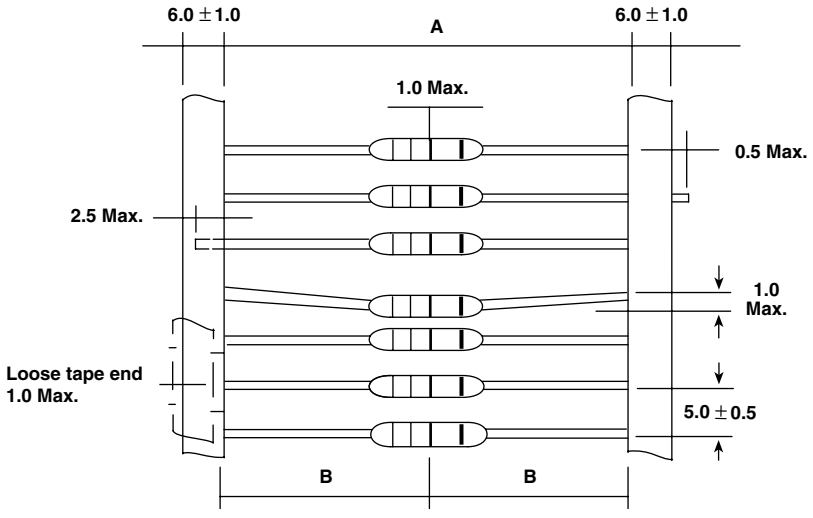
REEL DIMENSIONS in millimeters



MARKING:
1. Product name
2. Quantity

PACKAGING UNIT (per reel):
5,000 pieces per reel.

TAPE DIMENSIONS in millimeters

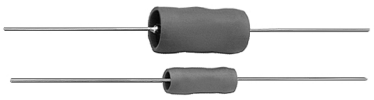


TAPE DIMENSION	A	B
FOR INNER TAPE WIDTH OF 52mm	52 ± 1	26 ± 1

NOTES:
1. Color code in uniform direction is not specified.
2. Array of components is complete, none are missing.

Filter Inductors

High Current



FEATURES

- Printed circuit mounting (axial leads).
- Protected by polyolefin tubing.
- High saturation bobbin used allowing high inductance with low DC resistance.
- Pre-tinned leads.
- High resistivity core offers very high parallel resistance, resulting in maximum coil performance.
- 20 sleeveless models available at reduced cost.

STANDARD ELECTRICAL SPECIFICATIONS

MODEL IHD-1					MODEL IHD-3				
IND. @ 1kHz (μH)	TOL.	DCR MAX. (Ohms)	RATED CURRENT (Max. Amps)	INCRE-MENTAL CURRENT (Amps Approx.)	IND. @ 1kHz (μH)	TOL.	DCR MAX. (Ohms)	RATED CURRENT (Max. Amps)	INCRE-MENTAL CURRENT (Amps Approx.)
1.0	± 15%	0.009	5.3	7.0	3.9	± 15%	0.007	4.0	8.2
1.2	± 15%	0.010	5.0	6.4	4.7	± 15%	0.008	4.0	7.5
1.5	± 15%	0.011	4.8	5.7	5.6	± 15%	0.011	4.0	6.9
1.8	± 15%	0.012	4.6	5.2	6.8	± 15%	0.011	4.0	6.3
2.2	± 15%	0.013	4.4	4.7	8.2	± 15%	0.013	4.0	5.7
2.7	± 15%	0.014	4.2	4.3	10.0	± 15%	0.016	4.0	5.2
3.3	± 15%	0.016	4.0	3.9	12.0	± 15%	0.018	4.0	4.7
3.9	± 15%	0.017	3.8	3.6	15.0	± 15%	0.020	4.0	4.3
4.7	± 15%	0.022	3.4	3.3	18.0	± 15%	0.022	4.0	3.9
5.6	± 15%	0.024	3.2	3.0	22.0	± 15%	0.024	4.0	3.5
6.8	± 15%	0.026	3.1	2.7	27.0	± 15%	0.025	4.0	3.2
8.2	± 15%	0.028	3.0	2.5	33.0	± 15%	0.028	4.0	2.9
10	± 15%	0.033	2.8	2.3	39.0	± 15%	0.031	4.0	2.7
12	± 15%	0.037	2.6	2.1	47.0	± 15%	0.034	4.0	2.5
15	± 15%	0.040	2.5	1.9	56.0	± 15%	0.043	3.2	2.3
18	± 15%	0.044	2.4	1.7	68.0	± 15%	0.059	2.5	2.1
22	± 15%	0.050	2.2	1.5	82.0	± 15%	0.066	2.0	1.9
27	± 15%	0.070	1.9	1.4	100.0	± 15%	0.084	1.6	1.7
33	± 15%	0.075	1.8	1.3	120.0	± 15%	0.113	1.6	1.6
39	± 15%	0.084	1.7	1.2	150.0	± 15%	0.129	1.6	1.4
47	± 15%	0.104	1.6	1.1	180.0	± 15%	0.150	1.6	1.3
56	± 15%	0.130	1.4	0.97	220.0	± 15%	0.162	1.6	1.2
68	± 15%	0.145	1.3	0.88	270.0	± 15%	0.226	1.6	1.1
82	± 15%	0.152	1.3	0.80	330.0	± 15%	0.257	1.6	0.95
100	± 15%	0.208	1.1	0.73	390.0	± 15%	0.288	1.6	0.88
120	± 15%	0.283	0.94	0.66	470.0	± 15%	0.393	1.2	0.80
150	± 15%	0.330	0.87	0.60	560.0	± 15%	0.504	1.0	0.74
180	± 15%	0.362	0.83	0.54	680.0	± 15%	0.570	1.0	0.67
220	± 15%	0.505	0.70	0.49	820.0	± 15%	0.643	0.80	0.61
270	± 15%	0.557	0.67	0.45	1000.0	± 15%	0.844	0.80	0.56
330	± 15%	0.650	0.62	0.40	1200.0	± 15%	0.977	0.60	0.51
390	± 15%	0.770	0.57	0.37	1500.0	± 15%	1.18	0.60	0.46
470	± 15%	1.03	0.49	0.34	1800.0	± 15%	1.50	0.60	0.42
560	± 15%	1.14	0.47	0.31	2200.0	± 15%	1.76	0.50	0.38
680	± 15%	1.50	0.41	0.28	2700.0	± 15%	2.13	0.40	0.34
820	± 15%	1.98	0.36	0.26	3300.0	± 15%	2.53	0.40	0.31
1000	± 15%	2.30	0.33	0.23	3900.0	± 15%	2.84	0.40	0.29
1200	± 15%	2.55	0.31	0.21	4700.0	± 15%	3.79	0.40	0.26
1500	± 15%	3.0	0.29	0.19	5600.0	± 15%	4.24	0.32	0.24
1800	± 15%	4.0	0.25	0.18	6800.0	± 15%	5.75	0.25	0.22
2200	± 15%	4.40	0.24	0.16	8200.0	± 15%	6.44	0.25	0.20
2700	± 15%	5.80	0.21	0.14	10000.0	± 15%	7.30	0.25	0.18
3300	± 15%	6.56	0.20	0.13	12000.0	± 15%	9.34	0.20	0.17
3900	± 15%	8.63	0.17	0.12	15000.0	± 15%	10.7	0.20	0.15
4700	± 15%	10.1	0.16	0.11	18000.0	± 15%	14.8	0.16	0.14
5600	± 15%	11.2	0.15	0.10	22000.0	± 15%	18.0	0.13	0.12
6800	± 15%	15.0	0.13	0.09	27000.0	± 15%	22.7	0.13	0.11
8200	± 15%	20.8	0.11	0.08	33000.0	± 15%	25.7	0.13	0.10
10000	± 15%	23.4	0.10	0.08	39000.0	± 15%	29.7	0.10	0.09
12000	± 15%	26.0	0.10	0.07	47000.0	± 15%	33.7	0.10	0.09
15000	± 15%	36.0	0.08	0.06	56000.0	± 15%	38.0	0.10	0.08
18000	± 15%	40.0	0.08	0.06	68000.0	± 15%	52.8	0.08	0.07
					82000.0	± 15%	67.3	0.07	0.07
					100000.0	± 15%	76.0	0.07	0.06

ELECTRICAL SPECIFICATIONS

Inductance: Measured at 1V with no DC current.

Incremental Current: The typical current at which the inductance will be decreased by 5% from its initial zero DC value.

Dielectric Rating: 2500VRMS between winding and outer circumference to within 0.250" [6.35mm] of the insulating sleeve edge.

Operating Temperature:
- 55°C to + 125°C (no load).
- 55°C to + 85°C (at full rated current).

Current Rating: Maximum continuous. Operating current (DC or RMS) based on a 40°C temperature rise.

MECHANICAL SPECIFICATIONS

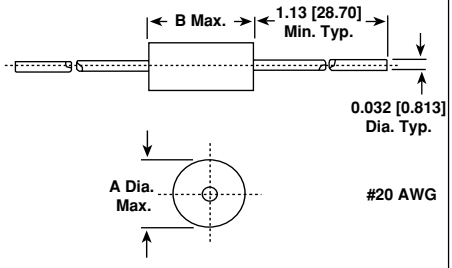
Wire: Solid soft copper.

Terminals: 20 AWG tinned copper leads.

Coating: Polyolefin tubing - flame retardant UL type VW-1 per MIL-I-23053/5, Class 3 requirements.

Core Material: Ferrite.

DIMENSIONS in inches [millimeters]



MODEL	A (Max.)	B (Max.)
IHD-1	0.270 [6.85]	0.700 [17.78]
IHD-3	0.460 [11.68]	0.900 [22.86]

MARKING

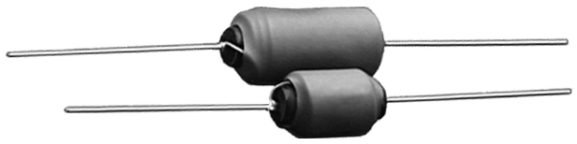
— Vishay Dale
— Model
— Value
— Date code

ORDERING INFORMATION

IHD-1	3.9μH	±15%
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

Filter Inductors

High Current



FEATURES

- Printed circuit mounting (axial leads).
- Pre-tinned leads.
- Low cost construction.
- Protected by polyolefin tubing - flame retardant UL type VW-1 per MIL-I-23053/5, Class 3 requirements.

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	IND. @ 1kHz (μH)	TOL.	DCR MAX. (Ohms)	RATED CURRENT (Max. Amps)
IHA-101	50	± 10%	0.12	2.5
IHA-102	100	± 10%	0.16	2.1
IHA-103	250	± 10%	0.28	1.8
IHA-104	500	± 10%	0.42	1.6
IHA-105	1000	± 10%	0.60	1.4
IHA-201	27	± 10%	0.060	3.7
IHA-202	50	± 10%	0.085	3.1
IHA-203	100	± 10%	0.12	2.7
IHA-204	250	± 10%	0.20	2.4
IHA-205	500	± 10%	0.32	2.3
IHA-301	5	± 10%	0.015	6.8
IHA-302	10	± 10%	0.021	6.1
IHA-303	27	± 10%	0.040	4.8
IHA-304	50	± 10%	0.050	4.3
IHA-305	100	± 10%	0.070	4.2
IHA-501	5	± 10%	0.010	9.3
IHA-502	10	± 10%	0.015	8.3
IHA-503	27	± 10%	0.030	6.5
IHA-504	50	± 10%	0.040	6.1
IHA-505	100	± 10%	0.060	5.9

ELECTRICAL SPECIFICATIONS

Inductance: Measured at 1V with no DC current.

Current Rating: Maximum continuous operating current (DC or RMS) based on 50°C temperature rise.

Dielectric Rating: 2500VRMS, 60Hz, applied for one minute between winding and outer circumference to within 0.250" [6.35mm] of the insulation sleeve edge.

Operating Temperature: - 55°C to + 125°C (no load).
- 55°C to + 75°C (at full rated current).

MECHANICAL SPECIFICATIONS

Winding: Layered solenoid type.

Wire: Solid soft copper.

Terminals: Tinned copper leads.

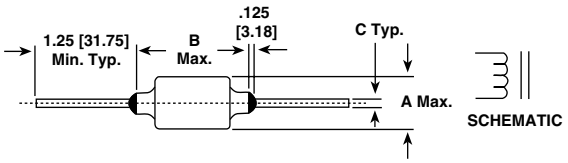
Encapsulant: Polyolefin tubing.

Core Material: Ferrite.

APPLICATIONS

Noise filtering for switching regulators, power amplifiers, power supplies and SCR and Triac control circuits.

DIMENSIONS in inches [millimeters]



MODEL	A (Max.)	B (Max.)	C ±0.002 [0.050]
IHA-101	0.475 [12.07]	0.800 [20.32]	0.032 [0.813]
IHA-102	0.475 [12.07]	0.800 [20.32]	0.032 [0.813]
IHA-103	0.475 [12.07]	1.05 [26.67]	0.032 [0.813]
IHA-104	0.550 [13.97]	1.05 [26.67]	0.032 [0.813]
IHA-105	0.550 [13.97]	1.175 [29.85]	0.032 [0.813]
IHA-201	0.500 [12.70]	0.800 [20.32]	0.032 [0.813]
IHA-202	0.500 [12.70]	0.800 [20.32]	0.032 [0.813]
IHA-203	0.500 [12.70]	0.920 [23.37]	0.032 [0.813]
IHA-204	0.600 [15.24]	0.920 [23.37]	0.032 [0.813]
IHA-205	0.750 [19.05]	1.05 [26.67]	0.032 [0.813]
IHA-301	0.475 [12.07]	0.800 [20.32]	0.032 [0.813]
IHA-302	0.475 [12.07]	0.920 [23.37]	0.032 [0.813]
IHA-303	0.550 [13.97]	0.800 [20.32]	0.032 [0.813]
IHA-304	0.550 [13.97]	0.920 [23.37]	0.032 [0.813]
IHA-305	0.550 [13.97]	1.175 [29.85]	0.032 [0.813]
IHA-501	0.475 [12.07]	1.05 [26.67]	0.040 [1.02]
IHA-502	0.475 [12.07]	1.05 [26.67]	0.040 [1.02]
IHA-503	0.700 [17.78]	1.05 [26.67]	0.040 [1.02]
IHA-504	0.700 [17.78]	1.05 [26.67]	0.040 [1.02]
IHA-505	0.700 [17.78]	1.30 [33.02]	0.040 [1.02]

MARKING

— Vishay Dale
— Model
— Date code

ORDERING INFORMATION

IHA-101	50μH	±10%
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

Filter Inductors

High Current

FEATURES

- Printed circuit mounting.
- Pre-tinned leads.
- Protected by polyolefin tubing - flame retardant UL type VW-1 per MIL-I-23053/5, Class 3 requirements.

APPLICATIONS

Noise filtering for switching regulators, power amplifiers, power supplies and SCR and Triac control circuits.

Current Rating: Maximum continuous operating current (DC or RMS) based on a 50°C temperature rise.

ELECTRICAL SPECIFICATIONS

Inductance: Measured at 1.0V with zero DC current.

Incremental Current: The typical current at which the inductance will be decreased by 5% from its initial zero DC value.

Operating Temperature: - 55°C to + 125°C (no load).
- 55°C to + 75°C (at full rated current).

MECHANICAL SPECIFICATIONS

Wire: Solid soft copper.

Terminals: Extensions of the winding.

Core Material: Ferrite.

Coating: Polyolefin tubing.

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	IND. @ 1 kHz (µH)	TOL.	DCR MAX. (Ohms)	RATED CURRENT (Max. Amps)	INCREMENTAL CURRENT (Amps)
IH-3	5	± 10%	0.015	10.0	25
IH-3	10	± 10%	0.018	9.0	19
IH-3	27	± 10%	0.035	7.0	12
IH-3	50	± 10%	0.050	5.6	8
IH-3	100	± 10%	0.065	5.2	6
IH-3	150	± 10%	0.075	5.0	5
IH-3	250	± 10%	0.090	5.0	4
IH-5	5	± 10%	0.012	14.0	25
IH-5	10	± 10%	0.015	12.0	19
IH-5	27	± 10%	0.025	9.0	13
IH-5	50	± 10%	0.030	8.0	10
IH-5	68	± 10%	0.035	7.5	9
IH-5	100	± 10%	0.050	7.5	7
IH-5	150	± 10%	0.060	7.0	5
IH-10	5	± 10%	0.010	19.0	25
IH-10	10	± 10%	0.012	16.0	19
IH-10	27	± 10%	0.018	12.5	12
IH-10	50	± 10%	0.025	11.0	10
IH-10	68	± 10%	0.027	10.0	8
IH-10	100	± 10%	0.030	10.0	7
IH-15	5	± 10%	0.008	24.0	25
IH-15	10	± 10%	0.010	20.0	19
IH-15	27	± 10%	0.015	16.0	14
IH-15	50	± 10%	0.020	15.0	10

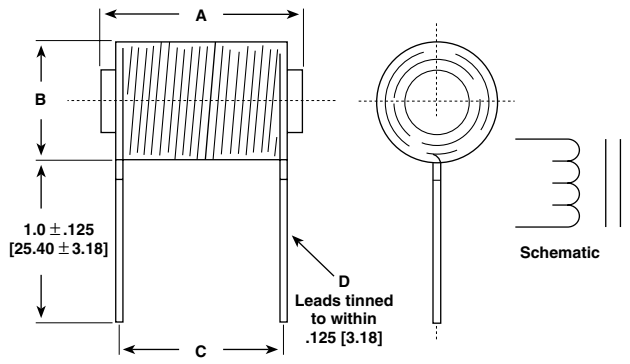
MARKING

— Vishay Dale
— Model
— Inductance value
— Date code

ORDERING INFORMATION

IH-5	10µH	±10%
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

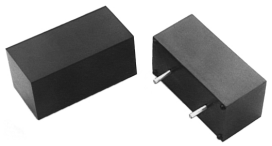
DIMENSIONS in inches [millimeters]



MODEL	IND. (µH)	A (Max.)	B (Max.)	C ±0.062 [1.57]	D ±0.005 [0.127]
IH-3	5	0.875 [22.23]	0.600 [15.24]	0.500 [12.70]	0.042 [1.067]
IH-3	10	1.125 [28.58]	0.625 [15.88]	0.687 [17.45]	0.042 [1.067]
IH-3	27	0.875 [22.23]	0.800 [20.32]	0.437 [11.10]	0.042 [1.067]
IH-3	50	0.875 [22.23]	0.800 [20.32]	0.750 [19.05]	0.042 [1.067]
IH-3	100	1.125 [28.58]	0.800 [20.32]	0.937 [23.80]	0.042 [1.067]
IH-3	150	1.375 [34.93]	0.800 [20.32]	1.062 [26.97]	0.042 [1.067]
IH-3	250	1.625 [41.28]	0.800 [20.32]	1.312 [33.32]	0.042 [1.067]
IH-5	5	0.875 [22.23]	0.625 [15.88]	0.750 [19.05]	0.053 [1.35]
IH-5	10	1.125 [28.58]	0.625 [15.88]	1.0 [25.40]	0.053 [1.35]
IH-5	27	0.875 [22.23]	0.840 [21.34]	0.562 [14.27]	0.053 [1.35]
IH-5	50	1.125 [28.58]	0.840 [21.34]	0.750 [19.05]	0.053 [1.35]
IH-5	68	1.125 [28.58]	0.860 [21.84]	0.875 [22.23]	0.053 [1.35]
IH-5	100	1.375 [34.93]	0.860 [21.84]	1.0 [25.40]	0.053 [1.35]
IH-5	150	1.625 [41.28]	0.860 [21.84]	1.250 [31.75]	0.053 [1.35]
IH-10	5	1.125 [28.58]	0.635 [16.13]	0.812 [20.62]	0.065 [1.65]
IH-10	10	1.375 [34.93]	0.635 [16.13]	1.218 [30.94]	0.065 [1.65]
IH-10	27	1.125 [28.58]	0.935 [23.75]	0.687 [17.45]	0.065 [1.65]
IH-10	50	1.375 [34.93]	0.935 [23.75]	0.937 [23.80]	0.065 [1.65]
IH-10	68	1.375 [34.93]	0.935 [23.75]	1.125 [28.58]	0.065 [1.65]
IH-10	100	1.625 [41.28]	0.935 [23.75]	1.312 [33.32]	0.065 [1.65]
IH-15	5	1.375 [34.93]	0.700 [17.78]	0.937 [23.80]	0.082 [2.08]
IH-15	10	1.687 [42.85]	0.700 [17.78]	1.50 [38.10]	0.082 [2.08]
IH-15	27	1.375 [34.93]	1.0 [25.40]	0.937 [23.80]	0.082 [2.08]
IH-15	50	1.625 [41.28]	1.0 [25.40]	1.125 [28.58]	0.082 [2.08]

Filter Inductors

High Current



FEATURES

- Totally encapsulated using a potted flame-resistant shell.
- Pre-tinned leads.
- Printed circuit mounting.

STANDARD ELECTRICAL SPECIFICATIONS

IND. @ 1kHz (μH)	TOLERANCE	DCR MAXIMUM (Ohms)	RATED CURRENT (Max. Amps)
1.0	± 10%	0.005	17.8
1.2	± 10%	0.005	17.0
1.5	± 10%	0.006	16.2
1.8	± 10%	0.006	15.6
2.2	± 10%	0.007	15.0
2.7	± 10%	0.008	14.5
3.3	± 10%	0.008	14.0
3.9	± 10%	0.009	13.5
4.7	± 10%	0.010	13.0
5.6	± 10%	0.011	12.75
6.8	± 10%	0.012	12.50
8.2	± 10%	0.013	11.25
10.0	± 10%	0.014	10.0
12.0	± 10%	0.016	9.25
15.0	± 10%	0.022	8.50
18.0	± 10%	0.024	7.50
22.0	± 10%	0.033	6.50
27.0	± 10%	0.037	6.0
33.0	± 10%	0.051	5.50
39.0	± 10%	0.056	5.0
47.0	± 10%	0.076	4.50
56.0	± 10%	0.084	4.25
68.0	± 10%	0.093	4.0
82.0	± 10%	0.103	3.65
100.0	± 10%	0.140	3.30
120.0	± 10%	0.175	3.0
150.0	± 10%	0.210	2.70
180.0	± 10%	0.241	2.45
220.0	± 10%	0.330	2.20
270.0	± 10%	0.420	1.95
330.0	± 10%	0.510	1.70
390.0	± 10%	0.561	1.65
470.0	± 10%	0.610	1.60
560.0	± 10%	0.687	1.45
680.0	± 10%	0.910	1.30
820.0	± 10%	1.03	1.15
1000.0	± 10%	1.40	1.0
1200.0	± 10%	1.57	0.92
1500.0	± 10%	2.20	0.84
1800.0	± 10%	2.42	0.77
2200.0	± 10%	3.30	0.69
2700.0	± 10%	3.72	0.62
3300.0	± 10%	5.10	0.55
3900.0	± 10%	5.58	0.50
4700.0	± 10%	7.70	0.45
5600.0	± 10%	8.32	0.41
6800.0	± 10%	11.70	0.36
8200.0	± 10%	12.80	0.35
10000.0	± 10%	14.20	0.33
12000.0	± 10%	15.70	0.30
15000.0	± 10%	21.90	0.26

ELECTRICAL SPECIFICATIONS

Inductance: Measured at 1V with no DC current.

Current Rating: Maximum continuous operating current based on 50°C temperature rise.

Dielectric Rating: 1500VRMS between windings and top of component.

Operating Temperature: - 55°C to + 125°C (no load).
- 55°C to + 75°C (at full rated current).

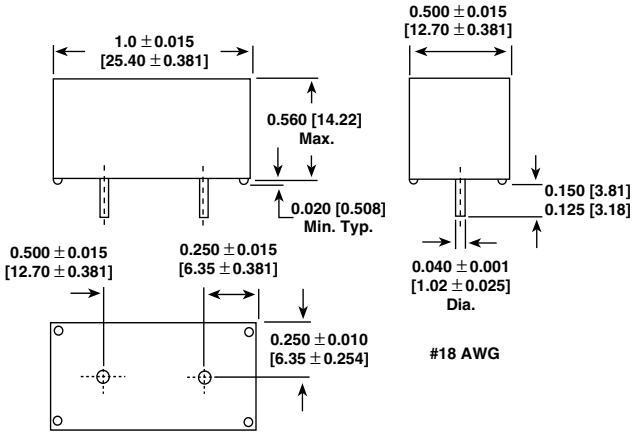
MECHANICAL SPECIFICATIONS

Terminals: 18 AWG tinned copper.

Encapsulant: Flame-resistant shell potted with epoxy.

Core Material: Ferrite.

DIMENSIONS in inches [millimeters]



MARKING

— Vishay Dale
— Model
— Value
— Date code

ORDERING INFORMATION

IHM-2	10μH	± 10%
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

Filter Inductors

High Current

FEATURES

- Printed circuit mounting.
- Wide range of inductance and current ratings.
- Pre-tinned leads.
- Optional polyolefin tubing and printing available at additional cost.

Operating Temperature: - 55°C to + 130°C (no load).
- 55°C to + 80°C (at full rated current).

ELECTRICAL SPECIFICATIONS

Inductance: Measured at 1V with no DC current.

Dielectric: 2500VRMS between winding and 0.250" [6.35mm] of insulating covering edge (with optional insulating covering).

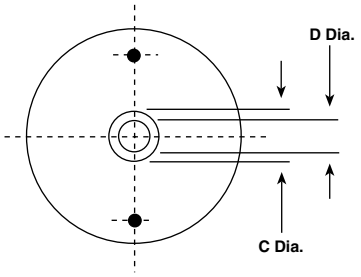
Current Rating: Maximum continuous operating current based on a + 50°C temperature rise.

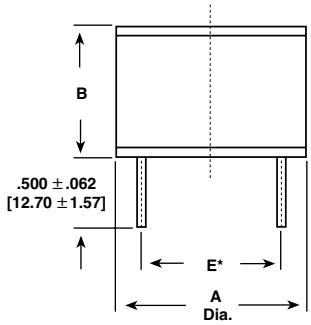
MECHANICAL SPECIFICATIONS

Terminals: Extensions of winding wire, solder coated to within 0.063" [1.60mm] of body.

Mounting: Center hole for mechanical mounting. Insulated bushings recommended for center hole mounting.

DIMENSIONS in inches [milimeters]





MODEL	A (Max.)	B (Max.)	C (Min.)	D (Min.)
IHB-1	0.660 [16.76]	0.840 [21.34]	0.162 [4.11]	0.115 [2.92]
IHB-2	0.825 [20.96]	0.840 [21.34]	0.162 [4.11]	0.115 [2.92]
IHB-3	1.10 [27.94]	0.840 [21.34]	0.162 [4.11]	0.115 [2.92]
IHB-4	1.60 [40.64]	1.03 [26.16]	0.250 [6.35]	0.175 [4.45]
IHB-5	1.60 [40.64]	1.45 [36.83]	0.250 [6.35]	0.175 [4.45]
IHB-6	2.0 [50.80]	1.50 [38.10]	0.330 [8.38]	0.240 [6.10]

*E varies between components. See individual model specifications for details. Tolerance of ± 0.035.

STANDARD ELECTRICAL SPECIFICATIONS

IND. @ 1kHz (µH)	TOL.	DCR MAX. (Ohms)	RATED CURRENT (Amps)	APPROX. LEAD "E" SPACING	IND. @ 1kHz (µH)	TOL.	DCR MAX. (Ohms)	RATED CURRENT (Amps)	APPROX. LEAD "E" SPACING	IND. @ 1kHz (µH)	TOL.	DCR MAX. (Ohms)	RATED CURRENT (Amps)	APPROX. LEAD "E" SPACING
MODEL IHB-1														
1.0	± 20%	0.003	9.0	0.550 [13.97]	8.2	± 20%	0.009	9.0	0.550 [13.97]	68.0	± 10%	0.077	2.8	0.500 [12.70]
1.2	± 20%	0.003	9.0	0.550 [13.97]	10.0	± 10%	0.010	9.0	0.550 [13.97]	82.0	± 10%	0.083	2.8	0.500 [12.70]
1.5	± 20%	0.004	9.0	0.550 [13.97]	12.0	± 10%	0.011	9.0	0.550 [13.97]	100.0	± 10%	0.095	2.8	0.500 [12.70]
1.8	± 20%	0.004	9.0	0.550 [13.97]	15.0	± 10%	0.015	7.2	0.500 [12.70]	120.0	± 10%	0.127	2.0	0.500 [12.70]
2.2	± 20%	0.005	9.0	0.550 [13.97]	18.0	± 10%	0.016	7.2	0.500 [12.70]	150.0	± 10%	0.181	1.6	0.500 [12.70]
2.7	± 20%	0.005	9.0	0.550 [13.97]	22.0	± 10%	0.020	5.5	0.500 [12.70]	180.0	± 10%	0.217	1.6	0.500 [12.70]
3.3	± 20%	0.005	9.0	0.550 [13.97]	27.0	± 10%	0.030	4.5	0.500 [12.70]	220.0	± 10%	0.240	1.6	0.500 [12.70]
3.9	± 20%	0.006	9.0	0.550 [13.97]	33.0	± 10%	0.040	4.0	0.475 [12.07]	270.0	± 10%	0.300	1.6	0.480 [12.19]
4.7	± 20%	0.007	9.0	0.550 [13.97]	39.0	± 10%	0.046	4.0	0.475 [12.07]	330.0	± 10%	0.336	1.3	0.480 [12.19]
5.6	± 20%	0.007	9.0	0.550 [13.97]	47.0	± 10%	0.062	2.8	0.470 [11.94]	390.0	± 10%	0.460	1.0	0.480 [12.19]
6.8	± 20%	0.008	9.0	0.550 [13.97]	56.0	± 10%	0.069	2.8	0.470 [11.94]	470.0	± 10%	0.636	0.8	0.475 [12.07]
										560.0	± 10%	0.696	0.8	0.475 [12.07]

STANDARD ELECTRICAL SPECIFICATIONS

IND. @ 1kHz (µH)	TOL.	DCR MAX. (Ohms)	RATED CURRENT (Amps)	APPROX. LEAD "E" SPACING	IND. @ 1kHz (µH)	TOL.	DCR MAX. (Ohms)	RATED CURRENT (Amps)	APPROX. LEAD "E" SPACING	IND. @ 1kHz (µH)	TOL.	DCR MAX. (Ohms)	RATED CURRENT (Amps)	APPROX. LEAD "E" SPACING
MODEL IHB-2														
1.0	± 20%	0.003	11.4	0.620 [15.75]	15.0	± 10%	0.013	9.0	0.620 [15.75]	220.0	± 10%	0.150	2.8	0.600 [15.24]
1.2	± 20%	0.003	11.4	0.620 [15.75]	18.0	± 10%	0.018	7.2	0.615 [15.62]	270.0	± 10%	0.213	2.0	0.600 [15.24]
1.5	± 20%	0.003	11.4	0.620 [15.75]	22.0	± 10%	0.019	7.2	0.615 [15.62]	330.0	± 10%	0.305	1.6	0.600 [15.24]
1.8	± 20%	0.003	11.4	0.620 [15.75]	27.0	± 10%	0.026	5.5	0.575 [14.61]	390.0	± 10%	0.320	1.6	0.600 [15.24]
2.2	± 20%	0.004	11.4	0.620 [15.75]	33.0	± 10%	0.029	5.5	0.575 [14.61]	470.0	± 10%	0.355	1.6	0.590 [14.99]
2.7	± 20%	0.005	11.4	0.620 [15.75]	39.0	± 10%	0.030	5.5	0.600 [15.24]	560.0	± 10%	0.388	1.6	0.590 [14.99]
3.3	± 20%	0.005	11.4	0.620 [15.75]	47.0	± 10%	0.035	5.5	0.600 [15.24]	680.0	± 10%	0.430	1.6	0.590 [14.99]
3.9	± 20%	0.005	11.4	0.620 [15.75]	56.0	± 10%	0.039	5.5	0.600 [15.24]	820.0	± 10%	0.590	1.3	0.590 [14.99]
4.7	± 20%	0.005	11.4	0.620 [15.75]	68.0	± 10%	0.053	4.8	0.600 [15.24]	1000.0	± 10%	0.818	1.0	0.590 [14.99]
5.6	± 20%	0.006	11.4	0.620 [15.75]	82.0	± 10%	0.060	4.8	0.600 [15.24]	1200.0	± 10%	1.14	0.8	0.590 [14.99]
6.8	± 20%	0.007	11.4	0.620 [15.75]	100.0	± 10%	0.080	4.0	0.600 [15.24]	1500.0	± 10%	1.26	0.8	0.590 [14.99]
8.2	± 20%	0.007	11.4	0.620 [15.75]	120.0	± 10%	0.090	4.0	0.600 [15.24]	1800.0	± 10%	1.39	0.8	0.590 [14.99]
10.0	± 10%	0.009	11.4	0.620 [15.75]	150.0	± 10%	0.098	4.0	0.600 [15.24]	2200.0	± 10%	1.54	0.8	0.590 [14.99]
12.0	± 10%	0.009	11.4	0.620 [15.75]	180.0	± 10%	0.110	4.0	0.600 [15.24]					
MODEL IHB-3														
1.0	± 20%	0.003	21.0	0.790 [20.07]	18.0	± 10%	0.010	13.5	0.750 [19.05]	330.0	± 10%	0.122	4.5	0.770 [19.56]
1.2	± 20%	0.003	21.0	0.790 [20.07]	22.0	± 10%	0.011	13.5	0.750 [19.05]	390.0	± 10%	0.169	4.0	0.740 [18.80]
1.5	± 20%	0.003	21.0	0.790 [20.07]	27.0	± 10%	0.012	13.5	0.800 [20.32]	470.0	± 10%	0.187	4.0	0.740 [18.80]
1.8	± 20%	0.003	21.0	0.790 [20.07]	33.0	± 10%	0.017	13.5	0.780 [19.81]	560.0	± 10%	0.205	4.0	0.740 [18.80]
2.2	± 20%	0.003	21.0	0.790 [20.07]	39.0	± 10%	0.022	11.4	0.780 [19.81]	680.0	± 10%	0.256	2.8	0.725 [18.42]
2.7	± 20%	0.003	21.0	0.790 [20.07]	47.0	± 10%	0.024	9.0	0.760 [19.30]	820.0	± 10%	0.288	2.8	0.725 [18.42]
3.3	± 20%	0.003	21.0	0.790 [20.07]	56.0	± 10%	0.026	9.0	0.760 [19.30]	1000.0	± 10%	0.426	2.0	0.715 [18.16]
3.9	± 20%	0.003	21.0	0.790 [20.07]	68.0	± 10%	0.029	9.0	0.760 [19.30]	1200.0	± 10%	0.462	2.0	0.760 [19.30]
4.7	± 20%	0.003	21.0	0.790 [20.07]	82.0	± 10%	0.032	9.0	0.760 [19.30]	1500.0	± 10%	0.518	2.0	0.760 [19.30]
5.6	± 20%	0.003	21.0	0.790 [20.07]	100.0	± 10%	0.034	9.0	0.760 [19.30]	1800.0	± 10%	0.705	1.6	0.740 [18.80]
6.8	± 20%	0.004	21.0	0.790 [20.07]	120.0	± 10%	0.046	7.2	0.740 [18.80]	2200.0	± 10%	1.02	1.3	0.720 [18.29]
8.2	± 20%	0.004	21.0	0.790 [20.07]	150.0	± 10%	0.064	5.5	0.720 [18.29]	2700.0	± 10%	1.14	1.3	0.720 [18.29]
10.0	± 10%	0.006	17.0	0.770 [19.56]	180.0	± 10%	0.072	5.5	0.720 [18.29]	3300.0	± 10%	1.27	1.3	0.720 [18.29]
12.0	± 10%	0.008	13.5	0.750 [19.05]	220.0	± 10%	0.080	5.5	0.790 [20.07]	3900.0	± 10%	1.67	1.0	0.700 [17.78]
15.0	± 10%	0.009	13.5	0.750 [19.05]	270.0	± 10%	0.110	4.5	0.770 [19.56]	4700.0	± 10%	1.86	1.0	0.730 [18.54]
MODEL IHB-4														
1.8	± 20%	0.002	27.0	1.10 [27.94]	39.0	± 10%	0.012	21.0	1.10 [27.94]	820.0	± 10%	0.154	7.2	1.13 [28.70]
2.2	± 20%	0.002	27.0	1.10 [27.94]	47.0	± 10%	0.018	14.4	1.10 [27.94]	1000.0	± 10%	0.216	5.5	1.10 [27.94]
2.7	± 20%	0.003	27.0	1.10 [27.94]	56.0	± 10%	0.019	14.4	1.11 [28.19]	1200.0	± 10%	0.232	5.5	1.10 [27.94]
3.3	± 20%	0.003	27.0	1.10 [27.94]	68.0	± 10%	0.021	14.4	1.11 [28.19]	1500.0	± 10%	0.324	4.5	1.14 [28.96]
3.9	± 20%	0.003	27.0	1.10 [27.94]	82.0	± 10%	0.023	14.4	1.11 [28.19]	1800.0	± 10%	0.360	4.5	1.14 [28.96]
4.7	± 20%	0.003	27.0	1.10 [27.94]	100.0	± 10%	0.025	14.4	1.11 [28.19]	2200.0	± 10%	0.494	4.0	1.11 [28.19]
5.6	± 20%	0.004	27.0	1.10 [27.94]	120.0	± 10%	0.028	14.4	1.11 [28.19]	2700.0	± 10%	0.555	4.0	1.11 [28.19]
6.8	± 20%	0.004	27.0	1.10 [27.94]	150.0	± 10%	0.040	11.4	1.10 [27.94]	3300.0	± 10%	0.773	2.8	1.09 [27.69]
8.2	± 20%	0.004	27.0	1.10 [27.94]	180.0	± 10%	0.045	11.4	1.10 [27.94]	3900.0	± 10%	0.845	2.8	1.09 [27.69]
10.0	± 10%	0.005	27.0	1.10 [27.94]	220.0	± 10%	0.050	11.4	1.10 [27.94]	4700.0	± 10%	1.14	2.0	1.07 [27.18]
12.0	± 10%	0.005	27.0	1.10 [27.94]	270.0	± 10%	0.056	11.4	1.10 [27.94]	5600.0	± 10%	1.60	2.0	1.05 [26.67]
15.0	± 10%	0.006	27.0	1.10 [27.94]	330.0	± 10%	0.074	11.4	1.16 [29.46]	6800.0	± 10%	1.76	1.6	1.05 [26.67]
18.0	± 10%	0.008	27.0	1.10 [27.94]	390.0	± 10%	0.082	9.0	1.13 [28.70]	8200.0	± 10%	1.95	1.6	1.09 [27.69]
22.0	± 10%	0.009	21.0	1.10 [27.94]	470.0	± 10%	0.114	7.2	1.13 [28.70]	10000.0	± 10%	2.76	1.3	1.07 [27.18]
27.0	± 10%	0.010	21.0	1.10 [27.94]	560.0	± 10%	0.125	7.2	1.13 [28.70]	12000.0	± 10%	3.04	1.3	1.07 [27.18]
33.0	± 10%	0.011	21.0	1.10 [27.94]	680.0	± 10%	0.139	7.2	1.13 [28.70]	15000.0	± 10%	3.39	1.3	1.07 [27.18]

STANDARD ELECTRICAL SPECIFICATIONS

IND. @ 1kHz (µH)	TOL.	DCR MAX. (Ohms)	RATED CURRENT (Amps)	APPROX. LEAD "E" SPACING	IND. @ 1kHz (µH)	TOL.	DCR MAX. (Ohms)	RATED CURRENT (Amps)	APPROX. LEAD "E" SPACING	IND. @ 1kHz (µH)	TOL.	DCR MAX. (Ohms)	RATED CURRENT (Amps)	APPROX. LEAD "E" SPACING
MODEL IHB-5														
1.8	± 20%	0.002	35.0	1.13 [28.70]	39.0	± 10%	0.010	27.0	1.10 [27.94]	820.0	± 10%	0.127	9.0	1.07 [27.18]
2.2	± 20%	0.002	35.0	1.13 [28.70]	47.0	± 10%	0.011	27.0	1.10 [27.94]	1000.0	± 10%	0.176	7.2	1.05 [26.67]
2.7	± 20%	0.002	35.0	1.13 [28.70]	56.0	± 10%	0.013	21.0	1.10 [27.94]	1200.0	± 10%	0.195	7.2	1.05 [26.67]
3.3	± 20%	0.002	35.0	1.13 [28.70]	68.0	± 10%	0.015	21.0	1.10 [27.94]	1500.0	± 10%	0.274	5.5	1.03 [26.16]
3.9	± 20%	0.003	35.0	1.13 [28.70]	82.0	± 10%	0.017	21.0	1.10 [27.94]	1800.0	± 10%	0.302	5.5	1.10 [27.94]
4.7	± 20%	0.003	35.0	1.13 [28.70]	100.0	± 10%	0.018	21.0	1.10 [27.94]	2200.0	± 10%	0.338	5.5	1.10 [27.94]
5.6	± 20%	0.003	35.0	1.13 [28.70]	120.0	± 10%	0.022	17.0	1.08 [27.43]	2700.0	± 10%	0.459	4.5	1.08 [27.43]
6.8	± 20%	0.003	35.0	1.13 [28.70]	150.0	± 10%	0.025	17.0	1.08 [27.43]	3300.0	± 10%	0.642	4.0	1.06 [26.92]
8.2	± 20%	0.003	35.0	1.13 [28.70]	180.0	± 10%	0.035	13.5	1.12 [28.45]	3900.0	± 10%	0.699	4.0	1.06 [26.92]
10.0	± 10%	0.004	35.0	1.13 [28.70]	220.0	± 10%	0.040	13.5	1.12 [28.45]	4700.0	± 10%	0.775	4.0	1.06 [26.92]
12.0	± 10%	0.004	35.0	1.13 [28.70]	270.0	± 10%	0.044	13.5	1.12 [28.45]	5600.0	± 10%	0.843	4.0	1.06 [26.92]
15.0	± 10%	0.005	35.0	1.13 [28.70]	330.0	± 10%	0.049	13.5	1.12 [28.45]	6800.0	± 10%	1.15	2.8	1.04 [26.42]
18.0	± 10%	0.007	27.0	1.10 [27.94]	390.0	± 10%	0.070	11.4	1.09 [27.69]	8200.0	± 10%	1.26	2.8	1.09 [27.69]
22.0	± 10%	0.007	27.0	1.10 [27.94]	470.0	± 10%	0.078	11.4	1.09 [27.69]	10000.0	± 10%	1.74	2.0	1.07 [27.18]
27.0	± 10%	0.008	27.0	1.10 [27.94]	560.0	± 10%	0.105	9.0	1.07 [27.18]	12000.0	± 10%	1.92	2.0	1.07 [27.18]
33.0	± 10%	0.009	27.0	1.10 [27.94]	680.0	± 10%	0.115	9.0	1.07 [27.18]	15000.0	± 10%	2.17	2.0	1.07 [27.18]
MODEL IHB-6														
4.7	± 20%	0.002	35.0	1.43 [36.32]	120.0	± 10%	0.015	27.0	1.45 [36.83]	3300.0	± 10%	0.498	4.5	1.32 [33.53]
5.6	± 20%	0.002	35.0	1.43 [36.32]	150.0	± 10%	0.023	21.0	1.41 [35.81]	3900.0	± 10%	0.548	4.5	1.32 [33.53]
6.8	± 20%	0.003	35.0	1.43 [36.32]	180.0	± 10%	0.025	21.0	1.41 [35.81]	4700.0	± 10%	0.608	4.5	1.32 [33.53]
8.2	± 20%	0.003	35.0	1.43 [36.32]	220.0	± 10%	0.028	21.0	1.41 [35.81]	5600.0	± 10%	0.671	4.5	1.38 [35.05]
10.0	± 10%	0.003	35.0	1.43 [36.32]	270.0	± 10%	0.030	21.0	1.41 [35.81]	6800.0	± 10%	0.750	4.5	1.38 [35.05]
12.0	± 10%	0.004	35.0	1.43 [36.32]	330.0	± 10%	0.040	17.0	1.38 [35.05]	8200.0	± 10%	1.03	4.0	1.35 [34.29]
15.0	± 10%	0.004	35.0	1.43 [36.32]	390.0	± 10%	0.055	13.5	1.35 [34.29]	10000.0	± 10%	1.16	4.0	1.35 [34.29]
18.0	± 10%	0.005	35.0	1.43 [36.32]	470.0	± 10%	0.061	13.5	1.35 [34.29]	12000.0	± 10%	1.54	2.8	1.33 [33.78]
22.0	± 10%	0.005	35.0	1.43 [36.32]	560.0	± 10%	0.068	13.5	1.35 [34.29]	15000.0	± 10%	1.75	2.8	1.33 [33.78]
27.0	± 10%	0.006	35.0	1.43 [36.32]	680.0	± 10%	0.094	11.4	1.33 [33.78]	18000.0	± 10%	1.94	2.8	1.38 [35.05]
33.0	± 10%	0.006	35.0	1.43 [36.32]	820.0	± 10%	0.104	11.4	1.33 [33.78]	22000.0	± 10%	2.74	2.0	1.36 [34.54]
39.0	± 10%	0.006	35.0	1.43 [36.32]	1000.0	± 10%	0.143	9.0	1.31 [33.27]	27000.0	± 10%	3.71	1.7	1.33 [33.78]
47.0	± 10%	0.008	35.0	1.53 [38.86]	1200.0	± 10%	0.156	9.0	1.40 [35.56]	33000.0	± 10%	4.16	1.7	1.33 [33.78]
56.0	± 10%	0.009	35.0	1.53 [38.86]	1500.0	± 10%	0.219	7.2	1.37 [34.80]	39000.0	± 10%	5.55	1.4	1.31 [33.27]
68.0	± 10%	0.009	35.0	1.53 [38.86]	1800.0	± 10%	0.241	7.2	1.37 [34.80]	47000.0	± 10%	6.19	1.4	1.34 [34.04]
82.0	± 10%	0.010	35.0	1.53 [38.86]	2200.0	± 10%	0.270	7.2	1.37 [34.80]					
100.0	± 10%	0.014	27.0	1.45 [36.83]	2700.0	± 10%	0.364	5.5	1.34 [34.04]					

MARKING

— Model

— Value

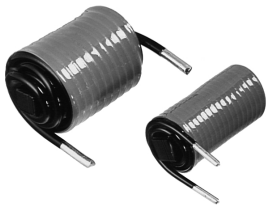
— Date code

ORDERING INFORMATION

IHB-1	**10µH**	**± 10%**
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

Filter Inductors

High Current



FEATURES

- Printed circuit mounting.
- Low cost construction.
- Designed for use with switching power supplies.
- Pre-tinned leads.
- Protected by polyolefin tubing-flame retardant UL type VW-1 per MIL-I-23053/5, class 3 requirements.

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	IND.* @ 1 kHz (μH)	TOL.	SELF-RESONANT FREQ. MIN. (MHz)	DCR MAX. (Ohms)	RATED CURRENT (Max. Amps)
IHV-15-500	500	± 10%	0.8	0.0500	15
IHV-20-200	200	± 10%	1.2	0.0210	20
IHV-28-60	60	± 10%	1.9	0.0085	28
IHV-30-150	150	± 10%	2.1	0.0130	30
IHV-40-39	39	± 10%	2.5	0.0048	40
IHV-45-92	92	± 10%	2.9	0.0075	45
IHV-50-50	50	± 10%	3.1	0.0045	50
IHV-60-24	24	± 10%	5.7	0.0025	60

*Will not change more than ± 10% at rated current.

ELECTRICAL SPECIFICATIONS

Inductance: Measured at 1V with no DC current.

Dielectric: 2500VRMS between winding and outer circumference to within 0.250" [6.35mm] of the insulation sleeve edge.

Operating Temperature: - 55°C to + 125°C (no load). - 55°C to + 75°C (at full rated current).

MECHANICAL SPECIFICATIONS

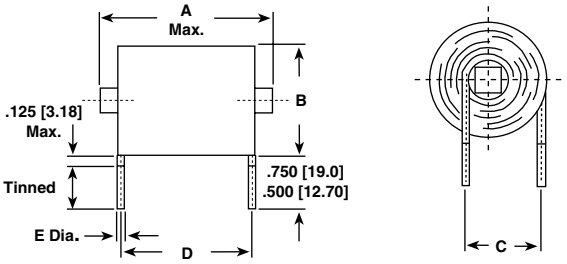
Terminals: Extensions of winding, solder coated.

Encapsulant: Polyolefin tubing.

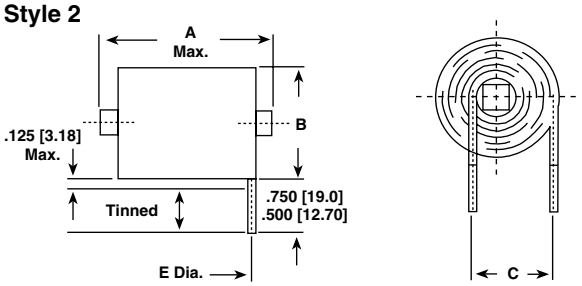
Core Material: Iron laminations.

DIMENSIONS in inches [millimeters]

Style 1



Style 2



MODEL	STYLE	A (Max.)	B ± 0.050 [1.27]	C ± 0.062 [1.57]	D ± 0.062 [1.57]	E (Dia.)	TYPICAL WEIGHT (Grams)
IHV-15-500	1	2.45 [62.23]	1.45 [36.83]	0.980 [24.89]	1.95 [49.53]	0.082 [2.08]	305
IHV-20-200	2	2.45 [62.23]	1.45 [36.83]	0.980 [24.89]	—	0.102 [2.59]	310
IHV-28-60	2	2.45 [62.23]	1.02 [25.91]	0.770 [19.56]	—	0.102 [2.59]	160
IHV-30-150	2	2.45 [62.23]	1.65 [41.91]	1.08 [27.43]	—	0.129 [3.28]	470
IHV-40-39	2	2.45 [62.23]	1.15 [29.21]	0.820 [20.83]	—	0.129 [3.28]	210
IHV-45-92	2	2.55 [64.77]	1.92 [48.77]	1.21 [30.73]	—	0.162 [4.11]	650
IHV-50-50	1	2.55 [64.77]	1.57 [39.88]	1.05 [26.67]	2.10 [53.34]	0.162 [4.11]	420
IHV-60-24	2	2.45 [62.23]	1.27 [32.26]	0.890 [22.61]	—	0.162 [4.11]	270

MARKING

— Vishay Dale
— Model
— Date code

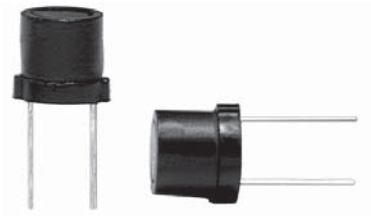
ORDERING INFORMATION

IHV-15	500μH	± 10%
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

For technical questions, contact Magnetics@vishay.com

Inductors

Subminiature, Shielded



FEATURES

- Classification is Grade 1, Class B
- Subminiature shielded
- Inductance range is 0.10 µH to 100000 µH
- Printed board mounting facilitated by 0.200" [5.08 mm] grid spacing
- Radial lead fixed inductor
- High Q values
- Unitized epoxy-molded construction
- Shielded construction to allow maximum density packaging

ELECTRICAL SPECIFICATIONS

Inductance Tolerance: ± 10 %

Dielectric Strength: 840 VRMS at sea level

Working Voltage: 300 VDC

Q and SRF Values: Minimum not less than 80 % of specified value

Maximum Current: Based on temperature rise not to exceed 35 °C at + 90 °C ambient

MECHANICAL SPECIFICATIONS

Operating Temperature: - 55 °C to + 125 °C

Terminal Pull: 3 pounds

DENSITY SPECIFICATIONS

Weight: 1.5 grams maximum

Shielding: 3 % coupling maximum when two units are tested side by side

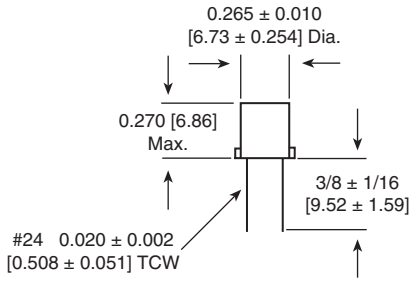
ENVIRONMENTAL SPECIFICATIONS

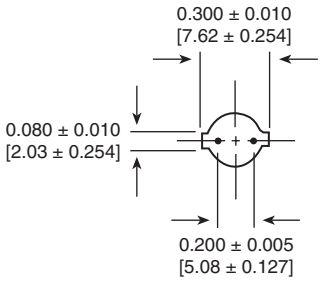
Moisture: Per MIL-STD-202, Method 106

Vibration: Low frequency, 10 Hz to 55 Hz at 0.06" [1.52 mm] maximum total excursion at rate of 1 linear sweep per minute for 2 hours repeated for each of three mutually perpendicular planes

Shock: 100 g, 6 ms, body mounted

DIMENSIONS in inches [millimeters]





STANDARD ELECTRICAL SPECIFICATIONS

MODEL	IND. (µH)	TOL.	Q NOM.	TEST FREQ. (MHz)	SELF-RESONANT FREQ. NOM. (MHz)	DCR MAX. (Ohms)	RATED DC CURRENT (mA)	INCREMENTAL* CURRENT (mA)
PC	0.10	± 10 %	70	25	> 250	0.030	2500	2500
PC	0.12	± 10 %	70	25	> 250	0.030	2500	2500
PC	0.15	± 10 %	70	25	> 250	0.030	2500	2500
PC	0.18	± 10 %	70	25	> 250	0.035	2400	2400
PC	0.22	± 10 %	70	25	> 250	0.038	2300	2300
PC	0.27	± 10 %	80	25	> 250	0.040	2200	2200
PC	0.33	± 10 %	80	25	> 250	0.040	2200	2200

*** Incremental Current:** The DC current required to cause a 5 % reduction in the nominal inductance value.

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	IND. (µH)	TOL.	Q NOM.	TEST FREQ. (MHz)	SELF-RESONANT FREQ. NOM. (MHz)	DCR MAX. (Ohms)	RATED DC CURRENT (mA)	INCREMENTAL* CURRENT (mA)
PC	0.39	± 10 %	80	25	250	0.045	2100	2100
PC	0.47	± 10 %	80	25	230	0.045	2100	2100
PC	0.56	± 10 %	80	25	220	0.050	2000	2000
PC	0.68	± 10 %	80	25	190	0.055	1900	1900
PC	0.82	± 10 %	85	25	180	0.060	1800	1800
PC	1.0	± 10 %	85	25	160	0.070	1700	1700
PC	1.2	± 10 %	90	7.9	170	0.085	1670	1670
PC	1.5	± 10 %	100	7.9	155	0.100	1540	1540
PC	1.8	± 10 %	115	7.9	135	0.110	1470	1470
PC	2.2	± 10 %	110	7.9	120	0.120	1410	1410
PC	2.7	± 10 %	110	7.9	104	0.125	1380	1380
PC	3.3	± 10 %	90	7.9	93	0.165	1200	1200
PC	3.9	± 10 %	90	7.9	87	0.180	1135	1135
PC	4.7	± 10 %	95	7.9	79	0.245	985	985
PC	5.6	± 10 %	95	7.9	72	0.265	950	950
PC	6.8	± 10 %	85	7.9	63	0.330	853	853
PC	8.2	± 10 %	95	7.9	60	0.460	720	720
PC	10	± 10 %	90	7.9	54	0.640	620	620
PC	12	± 10 %	120	2.5	37	0.800	545	545
PC	15	± 10 %	120	2.5	28.8	0.865	520	520
PC	18	± 10 %	115	2.5	23.8	0.940	504	504
PC	22	± 10 %	125	2.5	21.3	1.03	460	460
PC	27	± 10 %	115	2.5	20.6	1.18	418	418
PC	33	± 10 %	120	2.5	18.6	1.30	398	398
PC	39	± 10 %	120	2.5	17.7	1.41	385	385
PC	47	± 10 %	110	2.5	14.9	1.61	350	350
PC	56	± 10 %	115	2.5	13.9	2.08	330	333
PC	68	± 10 %	105	2.5	12.9	2.20	320	330
PC	82	± 10 %	105	2.5	11.7	2.42	300	320
PC	100	± 10 %	95	2.5	10.5	2.15	333	300
PC	120	± 10 %	95	0.79	5.6	2.38	316	190
PC	150	± 10 %	90	0.79	5.2	2.52	306	175
PC	180	± 10 %	95	0.79	4.9	2.88	288	150
PC	220	± 10 %	95	0.79	4.6	3.18	273	125
PC	270	± 10 %	100	0.79	4.2	3.50	260	120
PC	330	± 10 %	100	0.79	3.55	4.80	222	110
PC	390	± 10 %	100	0.79	3.45	5.44	209	105
PC	470	± 10 %	100	0.79	3.2	5.9	201	100
PC	560	± 10 %	95	0.79	2.9	6.3	194	90
PC	680	± 10 %	100	0.79	2.7	7.2	181	80
PC	820	± 10 %	90	0.79	2.5	8.0	172	70
PC	1000	± 10 %	100	0.79	2.35	12	141	65

*** Incremental Current:** The DC current required to cause a 5 % reduction in the nominal inductance value.

MARKING

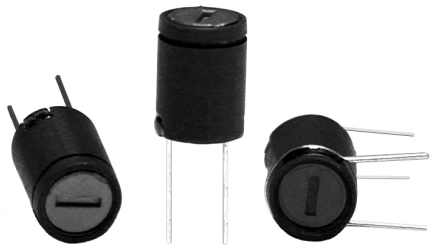
- Manufacturer data printed

ORDERING INFORMATION

PC	0.10 µH	± 10 %
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

Inductors

Variable, Subminiature, Shielded



FEATURES

- Classification is Grade 3, Class A.
- Subminiature shielded adjustable inductor.
- High Q values.
- Vertical or horizontal mounting.
- Inductance range is 0.10µH to 1000µH.
- 0.300" [7.62mm] diameter by 0.400" [10.16mm] length.
- Printed board mounting facilitated by 0.200" [5.08mm] grid spacing.
- Unit has shield construction to allow maximum density packaging.
- Accommodates close inductance adjustments in high density circuits that demand exceptional stability and high "Q" in the smallest size available.

ELECTRICAL SPECIFICATIONS

Adjustable Inductance Range: Tunable range; ± 5% for 0.10µH to 1µH. ± 10% for 1.2µH to 1000µH.

Dielectic Strength: 840VRMS at sea level.

Working Voltage: 300VDC.

Maximum Current: Based on temperature rise not to exceed 15°C at + 90°C ambient.

Incremental Current: The DC current required to cause a five percent reduction in the nominal inductance value.

Operating Temperature: - 55°C to + 105°C.

MECHANICAL SPECIFICATIONS

Tuning Tool: Use Number WVL-T or equal.

Torque: 0.40 to 6 inch-ounces.

Terminal Pull: 3 pounds.

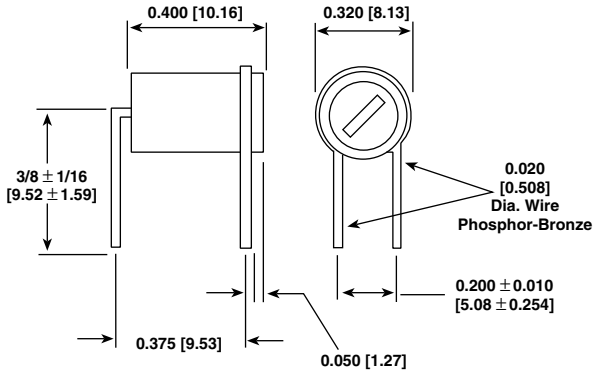
DENSITY SPECIFICATIONS

Weight: 1.5 grams maximum.

Shielding: 3% coupling maximum when two units are tested side by side.

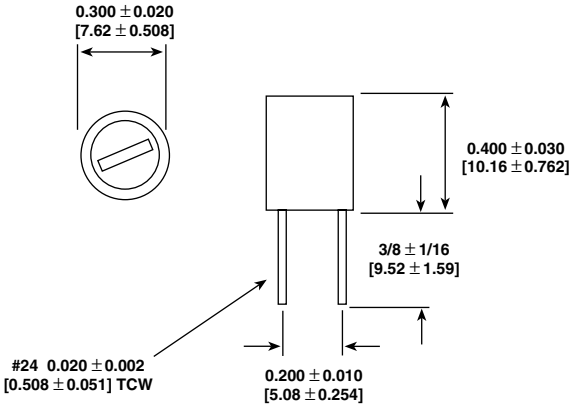
DIMENSIONS in inches [millimeters]

Horizontal Style



Horizontal Mounting Clip Part Number ACS-57
(One required per unit.)

Vertical Style



STANDARD ELECTRICAL SPECIFICATIONS

MODEL	INDUCTANCE NOM. (μH)	TUNABLE RANGE	Q MINIMUM	TEST FREQUENCY (MHz)	SELF-RESONANT FREQ. MIN. (MHz)	DCR MAXIMUM (Ohms)	RATED DC CURRENT (mA)	INCREMENTAL CURRENT (mA)
WVL	0.10	± 5%	56	25	200	0.030	1510	—
WVL	0.12	± 5%	56	25	200	0.030	1450	—
WVL	0.15	± 5%	56	25	200	0.030	1400	—
WVL	0.18	± 5%	56	25	200	0.035	1370	—
WVL	0.22	± 5%	56	25	200	0.038	1340	—
WVL	0.27	± 5%	64	25	200	0.040	1300	—
WVL	0.33	± 5%	64	25	200	0.040	1260	—
WVL	0.39	± 5%	64	25	200	0.045	1240	—
WVL	0.47	± 5%	64	25	184	0.045	1200	—
WVL	0.56	± 5%	64	25	176	0.050	1160	—
WVL	0.68	± 5%	64	25	150	0.055	1100	—
WVL	0.82	± 5%	68	25	144	0.060	1040	—
WVL	1.0	± 5%	68	25	128	0.070	986	—
WVL	1.2	± 10%	72	7.9	136	0.085	968	—
WVL	1.5	± 10%	80	7.9	124	0.100	893	—
WVL	1.8	± 10%	92	7.9	108	0.110	853	—
WVL	2.2	± 10%	88	7.9	96	0.120	817	—
WVL	2.7	± 10%	88	7.9	83	0.125	800	—
WVL	3.3	± 10%	77	7.9	74	0.165	696	—
WVL	3.9	± 10%	72	7.9	70	0.180	659	—
WVL	4.7	± 10%	76	7.9	63	0.245	571	—
WVL	5.6	± 10%	76	7.9	58	0.265	550	—
WVL	6.8	± 10%	68	7.9	50	0.330	493	—
WVL	8.2	± 10%	76	7.9	48	0.460	417	—
WVL	10	± 10%	72	7.9	43	0.640	359	—
WVL	12	± 10%	96	2.5	30	0.800	316	—
WVL	15	± 10%	96	2.5	23	0.865	301	—
WVL	18	± 10%	92	2.5	19	0.940	292	—
WVL	22	± 10%	100	2.5	17	1.03	267	—
WVL	27	± 10%	92	2.5	16	1.18	243	—
WVL	33	± 10%	96	2.5	15	1.30	231	—
WVL	39	± 10%	96	2.5	14	1.41	223	—
WVL	47	± 10%	88	2.5	12	1.61	203	—
WVL	56	± 10%	92	2.5	11	2.08	191	—
WVL	68	± 10%	84	2.5	10	2.20	185	—
WVL	82	± 10%	84	2.5	9	2.42	174	—
WVL	100	± 10%	76	2.5	8.4	2.15	333	333
WVL	120	± 10%	76	0.79	4.5	2.38	316	190
WVL	150	± 10%	72	0.79	4.0	2.52	306	175
WVL	180	± 10%	76	0.79	3.9	2.88	288	150
WVL	220	± 10%	76	0.79	3.7	3.18	273	125
WVL	270	± 10%	80	0.79	3.4	3.50	260	120
WVL	330	± 10%	80	0.79	2.8	4.80	222	110
WVL	390	± 10%	80	0.79	2.7	5.44	209	105
WVL	470	± 10%	80	0.79	2.6	5.90	201	100
WVL	560	± 10%	76	0.79	2.3	6.30	194	90
WVL	680	± 10%	80	0.79	2.2	7.20	181	80
WVL	820	± 10%	72	0.79	2.0	8	172	70
WVL	1000	± 10%	80	0.79	1.9	12	141	65

MARKING

— Manufacturer data printed

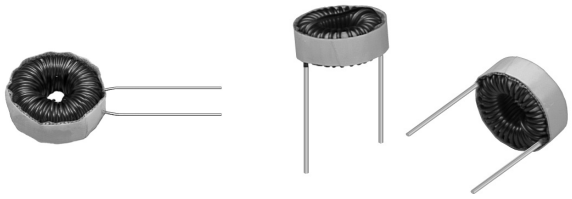
ORDERING INFORMATION

WVL	**0.10μH**	**± 5%**
MODEL	INDUCTANCE VALUE	TUNABLE RANGE

For horizontal mounting use mounting clip Number ACS-57 or order with prefix H (i.e. H WVL .10).

Inductors

Toroid, High Current



FEATURES

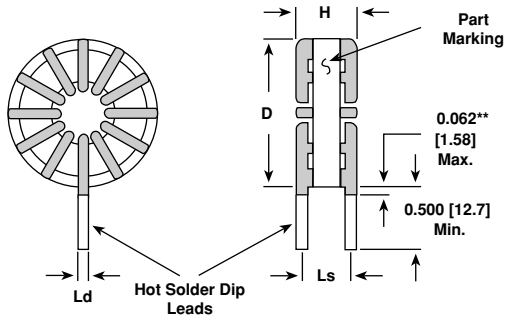
- Printed circuit mounting.
- Wide range of inductance and current ratings.
- Toroid design reduces EMI.
- Vertical or horizontal mounting to optimize P.C. Board layout.

APPLICATIONS

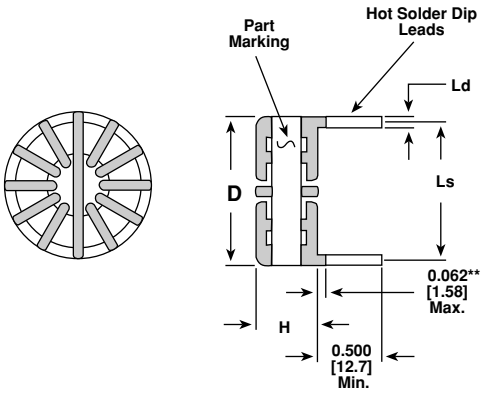
Switching power supplies, EMI/RFI filtering, output chokes.

DIMENSIONS in inches [millimeters]

Vertical Mount
(Mounting/Coating Code - 1U)



Horizontal Mount
(Mounting/Coating Code - 2U)



MODEL	DIAMETER (D) (Max.)	HEIGHT (H) (Max.)	NOMINAL LEAD SPACING (Ls)	NOMINAL LEAD DIAMETER (Ld)	MODEL	DIAMETER (D) (Max.)	HEIGHT (H) (Max.)	NOMINAL LEAD SPACING (Ls)	NOMINAL LEAD DIAMETER (Ld)
TJ3	0.65 [16.5]	0.30 [7.6]	0.26 ± 0.04 [6.60 ± 1.02]	See TJ3 Data	TJ3	0.66 [16.8]	0.32 [8.1]	0.58 ± 0.08 [14.7 ± 2.03]	See TJ3 Data
TJ4	0.88 [22.4]	0.40 [10.2]	0.31 ± 0.09 [7.87 ± 2.29]	See TJ4 Data	TJ4	0.88 [22.4]	0.40 [10.2]	0.78 ± 0.10 [19.8 ± 2.54]	See TJ4 Data
TJ5	1.00 [25.4]	0.45 [11.4]	0.37 ± 0.08 [9.40 ± 2.03]	See TJ5 Data	TJ5	1.00 [25.4]	0.45 [11.4]	0.90 ± 0.10 [22.9 ± 2.54]	See TJ5 Data
TJ6	1.38 [35.1]	0.83 [21.1]	0.73 ± 0.10 [18.5 ± 2.54]	See TJ6 Data	TJ6	1.38 [35.1]	0.83 [21.1]	1.22 ± 0.16 [31.0 ± 4.06]	See TJ6 Data
TJ7	1.65 [41.9]	0.75 [19.1]	0.62 ± 0.13 [15.8 ± 3.30]	See TJ7 Data	TJ7	1.65 [41.9]	0.75 [19.1]	1.48 ± 0.17 [37.6 ± 4.32]	See TJ7 Data
TJ8	1.92 [48.8]	1.00 [25.4]	0.82 ± 0.18 [20.8 ± 4.57]	See TJ8 Data	TJ8	1.94 [49.3]	1.00 [25.4]	1.76 ± 0.18 [44.7 ± 4.57]	See TJ8 Data
TJ9	2.66 [67.6]	1.42 [36.1]	1.25 ± 0.17 [31.8 ± 4.32]	See TJ9 Data	TJ9	2.72 [69.1]	1.42 [36.1]	2.49 ± 0.23 [63.2 ± 5.84]	See TJ9 Data

*On larger units and units with finer wire, additional mechanical mounting is recommended. **Leads stripped to within .062" [1.58mm] of the coil.

ENVIRONMENTAL PERFORMANCE

TEST	CONDITIONS	SPECIFICATIONS
Thermal Shock	Test Condition B1	MIL-STD-202, Method 107
Resistance to Soldering Heat	—	MIL-STD-202, Method 210
Solderability	—	MIL-STD-202, Method 208

ELECTRICAL SPECIFICATION RANGES

MODEL	INDUCTANCE RANGE[1] (μH)	DC RESISTANCE RANGE[2] (Ohms)	RATED CURRENT RANGE[3] (Amps)
TJ3	1.2 - 1500	0.006 - 1.476	10.0 - 0.5
TJ4	1.2 - 1500	0.006 - 0.952	10.7 - 0.9
TJ5	1.2 - 1500	0.006 - 0.539	10.1 - 1.3
TJ6	1.2 - 2700	0.004 - 0.499	16.0 - 2.0
TJ7	1.2 - 2700	0.005 - 0.359	16.0 - 2.7
TJ8	1.5 - 3900	0.005 - 0.304	18.5 - 3.2
TJ9	1.5 - 5600	0.004 - 0.224	20.0 - 5.0

1. Measured at 0.25 VRMS @ 10kHz.
2. DC Resistance measured @ + 25°C ± 5°C.
3. Maximum continuous operating current based on a calculated temperature rise of 40°C.

STANDARD ELECTRICAL SPECIFICATIONS in inches [millimeters]

						INDUCTANCE SHIFT WITH DC CURRENT*								
MODEL	IND. (μH)	TOL.	NOM. DCR (Ohms)	RATED CURRENT (Amps)	NOM. IND. @ 0 DC AMPS (μH)	10% CURRENT (Amps)	MIN. IND. (μH)	20% CURRENT (Amps)	MIN. IND. (μH)	30% CURRENT (Amps)	MIN. IND. (μH)	40% CURRENT (Amps)	MIN. IND. (μH)	LEAD DIAMETER "A"
TJ3-XX	1.2	± 20%	0.006	10.0	1.19	5.50	0.91	8.88	0.81	12.69	0.71	16.50	0.61	0.032 [0.813]
TJ3-XX	1.5	± 20%	0.006	9.5	1.62	4.71	1.24	7.62	1.10	10.88	0.96	14.14	0.82	0.032 [0.813]
TJ3-XX	2.2	± 15%	0.007	9.0	2.11	4.13	1.62	6.66	1.44	9.52	1.26	12.38	1.08	0.032 [0.813]
TJ3-XX	2.7	± 15%	0.008	8.4	2.67	3.67	2.04	5.92	1.82	8.46	1.59	11.00	1.36	0.032 [0.813]
TJ3-XX	3.3	± 15%	0.008	8.2	3.30	3.30	2.52	5.33	2.24	7.62	1.96	9.90	1.68	0.032 [0.813]
TJ3-XX	3.9	± 15%	0.009	7.9	3.99	3.00	3.05	4.85	2.72	6.92	2.38	9.00	2.04	0.032 [0.813]
TJ3-XX	4.7	± 15%	0.010	7.5	4.75	2.75	3.64	4.44	3.23	6.35	2.83	8.25	2.42	0.032 [0.813]
TJ3-XX	5.6	± 15%	0.011	7.3	5.58	2.54	4.27	4.10	3.79	5.86	3.32	7.62	2.84	0.032 [0.813]
TJ3-XX	6.8	± 15%	0.011	7.1	6.47	2.36	4.95	3.81	4.40	5.44	3.85	7.07	3.30	0.032 [0.813]
TJ3-XX	8.2	± 15%	0.013	6.6	8.45	2.06	6.46	3.33	5.74	4.76	5.03	6.19	4.31	0.032 [0.813]
TJ3-XX	10.0	± 15%	0.013	6.5	9.54	1.94	7.30	3.14	6.49	4.48	5.67	5.82	4.86	0.032 [0.813]
TJ3-XX	12.0	± 15%	0.015	6.1	11.91	1.74	9.11	2.81	8.10	4.01	7.09	5.21	6.08	0.032 [0.813]
TJ3-XX	15.0	± 15%	0.016	5.9	14.55	1.57	11.13	2.54	9.90	3.63	8.66	4.71	7.42	0.032 [0.813]
TJ3-XX	18.0	± 15%	0.017	5.6	17.46	1.43	13.35	2.32	11.87	3.31	10.39	4.30	8.90	0.032 [0.813]
TJ3-XX	22.0	± 15%	0.024	4.6	22.31	1.27	17.07	2.05	15.17	2.93	13.27	3.81	11.38	0.029 [0.737]
TJ3-XX	27.0	± 15%	0.026	4.4	27.75	1.14	21.23	1.84	18.87	2.63	16.51	3.41	14.15	0.029 [0.737]
TJ3-XX	33.0	± 15%	0.029	4.3	33.79	1.03	25.85	1.67	22.98	2.38	20.11	3.09	17.23	0.029 [0.737]
TJ3-XX	39.0	± 15%	0.038	3.7	38.15	0.97	29.18	1.57	25.94	2.24	22.70	2.91	19.46	0.025 [0.635]
TJ3-XX	47.0	± 15%	0.043	3.5	47.65	0.87	36.45	1.40	32.40	2.00	28.35	2.61	24.30	0.025 [0.635]
TJ3-XX	56.0	± 15%	0.057	3.1	55.47	0.80	42.44	1.30	37.72	1.86	33.01	2.41	28.29	0.023 [0.584]
TJ3-XX	68.0	± 15%	0.063	3.0	66.83	0.73	51.12	1.18	45.44	1.69	39.76	2.20	34.08	0.023 [0.584]
TJ3-XX	82.0	± 15%	0.087	2.6	82.50	0.66	63.11	1.07	56.10	1.52	49.09	1.98	42.08	0.020 [0.508]
TJ3-XX	100.0	± 15%	0.097	2.4	99.83	0.60	76.37	0.97	67.88	1.38	59.40	1.80	50.91	0.020 [0.508]
TJ3-XX	120.0	± 15%	0.107	2.3	118.80	0.55	90.88	0.89	80.78	1.27	70.69	1.65	60.59	0.020 [0.508]
TJ3-XX	150.0	± 15%	0.146	1.9	148.14	0.49	113.32	0.80	100.73	1.14	88.14	1.48	75.55	0.018 [0.457]
TJ3-XX	180.0	± 15%	0.164	1.8	180.71	0.45	138.24	0.72	122.88	1.03	107.52	1.34	92.16	0.018 [0.457]
TJ3-XX	220.0	± 15%	0.225	1.5	221.89	0.40	169.75	0.65	150.89	0.93	132.03	1.21	113.16	0.016 [0.406]
TJ3-XX	270.0	± 15%	0.250	1.4	267.30	0.37	204.48	0.59	181.76	0.85	159.04	1.10	136.32	0.016 [0.406]
TJ3-XX	330.0	± 15%	0.342	1.2	330.00	0.33	252.45	0.53	224.40	0.76	196.35	0.99	168.30	0.014 [0.356]
TJ3-XX	390.0	± 15%	0.378	1.1	392.07	0.30	299.94	0.49	266.61	0.70	233.28	0.91	199.96	0.014 [0.356]
TJ3-XX	470.0	± 15%	0.510	1.0	467.31	0.28	357.49	0.45	317.77	0.64	278.05	0.83	238.33	0.013 [0.330]
TJ3-XX	560.0	± 15%	0.565	0.9	557.70	0.25	426.64	0.41	379.24	0.59	331.83	0.76	284.43	0.013 [0.330]
TJ3-XX	680.0	± 15%	0.637	0.8	684.29	0.23	523.48	0.37	465.32	0.53	407.15	0.69	348.99	0.013 [0.330]
TJ3-XX	820.0	± 15%	0.849	0.7	823.81	0.21	630.22	0.34	560.19	0.48	490.17	0.63	420.14	0.011 [0.279]
TJ3-XX	1000.0	± 15%	0.951	0.7	999.11	0.19	764.32	0.31	679.39	0.44	594.47	0.57	509.55	0.011 [0.279]
TJ3-XX	1200.0	± 15%	1.298	0.6	1203.87	0.17	920.96	0.28	818.63	0.40	716.30	0.52	613.98	0.010 [0.254]
TJ3-XX	1500.0	± 15%	1.476	0.5	1497.18	0.15	1145.34	0.25	1018.08	0.36	890.82	0.46	763.56	0.010 [0.254]

*The DC current values listed are typical values that drop the nominal inductance by the percent listed.

STANDARD ELECTRICAL SPECIFICATIONS in inches [millimeters]

MODEL	IND. (μH)	TOL.	NOM. DCR (Ohms)	RATED CURRENT (Amps)	NOM. IND. @ 0 DC AMPS (μH)	INDUCTANCE SHIFT WITH DC CURRENT*								LEAD DIAMETER "A"
						10% CURRENT (Amps)	MIN. IND. (μH)	20% CURRENT (Amps)	MIN. IND. (μH)	30% CURRENT (Amps)	MIN. IND. (μH)	40% CURRENT (Amps)	MIN. IND. (μH)	
TJ4-XX	1.2	± 20%	0.006	10.7	1.09	8.75	0.83	14.14	0.74	20.20	0.65	26.26	0.55	0.032 [0.813]
TJ4-XX	1.5	± 20%	0.006	10.2	1.57	7.29	1.20	11.78	1.06	16.83	0.93	21.88	0.80	0.032 [0.813]
TJ4-XX	2.2	± 15%	0.007	9.7	2.13	6.25	1.63	10.10	1.45	14.43	1.27	18.75	1.09	0.032 [0.813]
TJ4-XX	2.7	± 15%	0.008	9.5	2.78	5.47	2.13	8.84	1.89	12.62	1.66	16.41	1.42	0.032 [0.813]
TJ4-XX	3.3	± 20%	0.009	8.8	3.52	4.86	2.70	7.85	2.40	11.22	2.10	14.59	1.80	0.032 [0.813]
TJ4-XX	4.7	± 20%	0.010	8.5	4.35	4.38	3.33	7.07	2.96	10.10	2.59	13.13	2.22	0.032 [0.813]
TJ4-XX	5.6	± 20%	0.010	8.3	5.26	3.98	4.03	6.43	3.58	9.18	3.13	11.93	2.68	0.032 [0.813]
TJ4-XX	6.8	± 20%	0.011	8.1	6.26	3.65	4.79	5.89	4.26	8.42	3.73	10.94	3.19	0.032 [0.813]
TJ4-XX	8.2	± 15%	0.013	7.8	8.53	3.13	6.52	5.05	5.80	7.21	5.07	9.38	4.35	0.032 [0.813]
TJ4-XX	10.0	± 15%	0.013	7.4	9.79	2.92	7.49	4.71	6.66	6.73	5.82	8.75	4.99	0.032 [0.813]
TJ4-XX	12.0	± 20%	0.015	7.1	12.57	2.57	9.62	4.16	8.55	5.94	7.48	7.72	6.41	0.032 [0.813]
TJ4-XX	15.0	± 20%	0.017	6.8	15.70	2.30	12.01	3.72	10.68	5.31	9.34	6.91	8.01	0.032 [0.813]
TJ4-XX	18.0	± 15%	0.017	6.7	17.40	2.19	13.31	3.53	11.83	5.05	10.35	6.56	8.87	0.032 [0.813]
TJ4-XX	22.0	± 15%	0.019	6.5	21.05	1.99	16.11	3.21	14.32	4.59	12.53	5.97	10.74	0.032 [0.813]
TJ4-XX	27.0	± 15%	0.021	6.1	27.19	1.75	20.80	2.83	18.49	4.04	16.18	5.25	13.87	0.032 [0.813]
TJ4-XX	33.0	± 15%	0.024	5.8	34.10	1.56	26.09	2.52	23.19	3.61	20.29	4.69	17.39	0.032 [0.813]
TJ4-XX	39.0	± 15%	0.025	5.7	39.15	1.46	29.95	2.36	26.62	3.37	23.29	4.38	19.97	0.032 [0.813]
TJ4-XX	47.0	± 15%	0.028	5.5	47.37	1.33	36.24	2.14	32.21	3.06	28.19	3.98	24.16	0.032 [0.813]
TJ4-XX	56.0	± 15%	0.031	5.2	56.38	1.22	43.13	1.96	38.34	2.81	33.54	3.65	28.75	0.032 [0.813]
TJ4-XX	68.0	± 15%	0.040	4.6	66.16	1.12	50.62	1.81	44.99	2.59	39.37	3.37	33.74	0.029 [0.737]
TJ4-XX	82.0	± 15%	0.045	4.4	80.43	1.02	61.53	1.64	54.69	2.35	47.86	3.05	41.02	0.029 [0.737]
TJ4-XX	100.0	± 15%	0.062	3.7	100.22	0.91	76.67	1.47	68.15	2.10	59.63	2.73	51.11	0.025 [0.635]
TJ4-XX	120.0	± 15%	0.070	3.5	122.19	0.83	93.48	1.33	83.09	1.91	72.70	2.48	62.32	0.025 [0.635]
TJ4-XX	150.0	± 15%	0.079	3.3	151.42	0.74	115.84	1.20	102.97	1.71	90.10	2.23	77.23	0.025 [0.635]
TJ4-XX	180.0	± 15%	0.105	2.9	178.18	0.68	136.30	1.10	121.16	1.58	106.01	2.05	90.87	0.023 [0.584]
TJ4-XX	220.0	± 15%	0.118	2.7	219.28	0.62	167.75	1.00	149.11	1.42	130.47	1.85	111.83	0.023 [0.584]
TJ4-XX	270.0	± 15%	0.162	2.3	271.48	0.55	207.68	0.89	184.61	1.28	161.53	1.66	138.46	0.020 [0.508]
TJ4-XX	330.0	± 15%	0.181	2.2	329.25	0.50	251.88	0.81	223.89	1.16	195.90	1.51	167.92	0.020 [0.508]
TJ4-XX	390.0	± 15%	0.243	1.9	392.59	0.46	300.33	0.74	266.96	1.06	233.59	1.38	200.22	0.018 [0.457]
TJ4-XX	470.0	± 15%	0.269	1.8	470.50	0.42	359.93	0.68	319.94	0.97	279.95	1.26	239.95	0.018 [0.457]
TJ4-XX	560.0	± 15%	0.297	1.7	555.45	0.39	424.92	0.63	377.71	0.89	330.49	1.16	283.28	0.018 [0.457]
TJ4-XX	680.0	± 15%	0.406	1.4	679.69	0.35	519.96	0.57	462.19	0.81	404.41	1.05	346.64	0.016 [0.406]
TJ4-XX	820.0	± 15%	0.452	1.3	816.45	0.32	624.59	0.52	555.19	0.74	485.79	0.96	416.39	0.016 [0.406]
TJ4-XX	1000.0	± 15%	0.617	1.1	1005.02	0.29	768.84	0.47	683.42	0.66	597.99	0.86	512.56	0.014 [0.356]
TJ4-XX	1200.0	± 15%	0.684	1.0	1198.69	0.26	916.99	0.43	815.11	0.61	713.22	0.79	611.33	0.014 [0.356]
TJ4-XX	1500.0	± 15%	0.952	0.9	1504.93	0.24	1151.27	0.38	1023.35	0.54	895.43	0.71	767.51	0.013 [0.330]
TJ5-XX	1.2	± 20%	0.006	10.1	1.15	10.63	0.88	17.18	0.78	24.54	0.68	31.90	0.59	0.032 [0.813]
TJ5-XX	1.5	± 25%	0.007	9.5	1.66	8.86	1.27	14.32	1.13	20.45	0.99	26.59	0.84	0.032 [0.813]
TJ5-XX	2.2	± 15%	0.008	9.0	2.25	7.60	1.72	12.27	1.53	17.53	1.34	22.79	1.15	0.032 [0.813]
TJ5-XX	2.7	± 25%	0.009	8.6	2.94	6.65	2.25	10.74	2.00	15.34	1.75	19.94	1.50	0.032 [0.813]
TJ5-XX	3.9	± 15%	0.010	8.2	3.73	5.91	2.85	9.54	2.53	13.63	2.22	17.72	1.90	0.032 [0.813]
TJ5-XX	4.7	± 15%	0.010	7.9	4.60	5.32	3.52	8.59	3.13	12.27	2.74	15.95	2.35	0.032 [0.813]
TJ5-XX	5.6	± 15%	0.011	7.7	5.57	4.83	4.26	7.81	3.78	11.16	3.31	14.50	2.84	0.032 [0.813]
TJ5-XX	6.8	± 15%	0.012	7.5	6.62	4.43	5.07	7.16	4.50	10.23	3.94	13.29	3.38	0.032 [0.813]
TJ5-XX	8.2	± 15%	0.013	7.3	7.77	4.09	5.95	6.61	5.29	9.44	4.63	12.27	3.96	0.032 [0.813]
TJ5-XX	10.0	± 15%	0.015	7.0	10.35	3.54	7.92	5.73	7.04	8.18	6.16	10.63	5.28	0.032 [0.813]
TJ5-XX	12.0	± 15%	0.016	6.9	11.78	3.32	9.01	5.37	8.01	7.67	7.01	9.97	6.01	0.032 [0.813]

*The DC current values listed are typical values that drop the nominal inductance by the percent listed.

STANDARD ELECTRICAL SPECIFICATIONS in inches [millimeters]

MODEL	IND. (μH)	TOL.	DCR MAX. (Ohms)	RATED CURRENT (Amps)	NOM. IND. @ 0 DC AMPS (μH)	INDUCTANCE SHIFT WITH DC CURRENT*								LEAD DIAMETER "A"
						10% CURRENT (Amps)	MIN. IND. (μH)	20% CURRENT (Amps)	MIN. IND. (μH)	30% CURRENT (Amps)	MIN. IND. (μH)	40% CURRENT (Amps)	MIN. IND. (μH)	
TJ5-XX	15.0	± 15%	0.017	6.6	14.90	2.95	11.40	4.77	10.13	6.82	8.87	8.86	7.60	0.032 [0.813]
TJ5-XX	18.0	± 15%	0.019	6.4	18.40	2.66	14.08	4.29	12.51	6.14	10.95	7.98	9.38	0.032 [0.813]
TJ5-XX	22.0	± 15%	0.021	6.2	22.26	2.42	17.03	3.90	15.14	5.58	13.25	7.25	11.35	0.032 [0.813]
TJ5-XX	27.0	± 15%	0.023	6.0	26.50	2.22	20.27	3.58	18.02	5.11	15.77	6.65	13.51	0.032 [0.813]
TJ5-XX	33.0	± 15%	0.025	5.7	33.53	1.97	25.65	3.18	22.80	4.54	19.95	5.91	17.10	0.032 [0.813]
TJ5-XX	39.0	± 15%	0.027	5.5	38.69	1.83	29.59	2.96	26.31	4.23	23.02	5.50	19.73	0.032 [0.813]
TJ5-XX	47.0	± 15%	0.029	5.3	47.10	1.66	36.03	2.68	32.03	3.83	28.03	4.99	24.02	0.032 [0.813]
TJ5-XX	56.0	± 15%	0.032	5.2	56.35	1.52	43.11	2.45	38.32	3.51	33.53	4.56	28.74	0.032 [0.813]
TJ5-XX	68.0	± 15%	0.035	5.1	66.42	1.40	50.81	2.26	45.17	3.23	39.52	4.20	33.88	0.032 [0.813]
TJ5-XX	82.0	± 15%	0.038	5.0	81.14	1.27	62.08	2.05	55.18	2.92	48.28	3.80	41.38	0.032 [0.813]
TJ5-XX	100.0	± 15%	0.042	4.9	97.34	1.16	74.46	1.87	66.19	2.67	57.91	3.47	49.64	0.032 [0.813]
TJ5-XX	120.0	± 15%	0.047	4.8	119.65	1.04	91.53	1.68	81.36	2.41	71.19	3.13	61.02	0.032 [0.813]
TJ5-XX	150.0	± 15%	0.054	4.7	149.45	0.93	114.33	1.51	101.63	2.15	88.93	2.80	76.22	0.032 [0.813]
TJ5-XX	180.0	± 15%	0.060	4.6	182.57	0.84	139.67	1.36	124.15	1.95	108.63	2.53	93.11	0.032 [0.813]
TJ5-XX	220.0	± 15%	0.067	4.2	219.01	0.77	167.54	1.24	148.92	1.78	130.31	2.31	111.69	0.032 [0.813]
TJ5-XX	270.0	± 15%	0.092	3.7	272.73	0.69	208.64	1.12	185.46	1.59	162.28	2.07	139.09	0.029 [0.737]
TJ5-XX	330.0	± 15%	0.104	3.5	332.35	0.63	254.25	1.01	226.00	1.44	197.75	1.88	169.50	0.029 [0.737]
TJ5-XX	390.0	± 15%	0.138	2.9	389.34	0.58	297.85	0.93	264.75	1.33	231.66	1.73	198.57	0.025 [0.635]
TJ5-XX	470.0	± 15%	0.154	2.8	469.25	0.53	358.97	0.85	319.09	1.21	279.20	1.58	239.32	0.025 [0.635]
TJ5-XX	560.0	± 15%	0.205	2.3	556.60	0.48	425.80	0.78	378.49	1.12	331.18	1.45	283.87	0.023 [0.584]
TJ5-XX	680.0	± 15%	0.232	2.2	684.66	0.44	523.77	0.70	465.57	1.01	407.38	1.31	349.18	0.023 [0.584]
TJ5-XX	820.0	± 15%	0.260	2.1	825.98	0.40	631.87	0.64	561.66	0.92	491.46	1.19	421.25	0.023 [0.584]
TJ5-XX	1000.0	± 15%	0.349	1.7	994.01	0.36	760.42	0.58	675.93	0.83	591.44	1.09	506.95	0.020 [0.508]
TJ5-XX	1200.0	± 15%	0.393	1.6	1207.22	0.33	923.53	0.53	820.91	0.76	718.30	0.98	615.68	0.020 [0.508]
TJ5-XX	1500.0	± 15%	0.539	1.3	1507.01	0.29	1152.86	0.47	1024.76	0.68	896.67	0.88	768.57	0.018 [0.457]
TJ6-XX	1.2	± 20%	0.004	16.0	1.12	22.38	0.85	36.15	0.76	51.65	0.66	67.14	0.57	0.045 [1.14]
TJ6-XX	2.2	± 20%	0.005	16.0	1.98	16.78	1.52	27.11	1.35	38.73	1.18	50.35	1.01	0.045 [1.14]
TJ6-XX	3.3	± 20%	0.006	16.0	3.10	13.43	2.37	21.69	2.11	30.99	1.84	40.28	1.58	0.045 [1.14]
TJ6-XX	4.7	± 15%	0.007	16.0	4.46	11.19	3.41	18.08	3.04	25.82	2.66	33.57	2.28	0.045 [1.14]
TJ6-XX	5.6	± 25%	0.007	16.0	6.08	9.59	4.65	15.49	4.13	22.13	3.62	28.77	3.10	0.045 [1.14]
TJ6-XX	8.2	± 15%	0.008	15.2	7.94	8.39	6.07	13.56	5.40	19.37	4.72	25.18	4.05	0.045 [1.14]
TJ6-XX	10.0	± 15%	0.009	14.5	10.04	7.46	7.68	12.05	6.83	17.22	5.98	22.38	5.12	0.045 [1.14]
TJ6-XX	12.0	± 15%	0.010	13.9	12.40	6.71	9.49	10.85	8.43	15.49	7.38	20.14	6.32	0.045 [1.14]
TJ6-XX	15.0	± 15%	0.011	13.3	15.00	6.10	11.48	9.86	10.20	14.09	8.93	18.31	7.65	0.045 [1.14]
TJ6-XX	18.0	± 15%	0.012	12.7	17.86	5.59	13.66	9.04	12.14	12.91	10.62	16.78	9.11	0.045 [1.14]
TJ6-XX	22.0	± 15%	0.012	12.5	20.96	5.16	16.03	8.34	14.25	11.92	12.47	15.49	10.69	0.045 [1.14]
TJ6-XX	27.0	± 15%	0.014	11.8	27.90	4.48	21.34	7.23	18.97	10.33	16.60	13.43	14.23	0.045 [1.14]
TJ6-XX	33.0	± 15%	0.015	11.5	31.74	4.20	24.28	6.78	21.59	9.68	18.89	12.59	16.19	0.045 [1.14]
TJ6-XX	39.0	± 15%	0.017	11.0	40.18	3.73	30.73	6.03	27.32	8.61	23.90	11.19	20.49	0.045 [1.14]
TJ6-XX	47.0	± 15%	0.017	10.7	44.76	3.53	34.24	5.71	30.44	8.15	26.63	10.60	22.83	0.045 [1.14]
TJ6-XX	56.0	± 15%	0.019	10.4	54.68	3.20	41.83	5.16	37.19	7.38	32.54	9.59	27.89	0.045 [1.14]
TJ6-XX	68.0	± 15%	0.021	10.0	65.60	2.92	50.18	4.72	44.61	6.74	39.03	8.76	33.45	0.045 [1.14]
TJ6-XX	82.0	± 15%	0.023	9.5	83.82	2.58	64.13	4.17	57.00	5.96	49.88	7.75	42.75	0.045 [1.14]
TJ6-XX	100.0	± 15%	0.025	9.2	97.22	2.40	74.37	3.87	66.11	5.53	57.84	7.19	49.58	0.045 [1.14]
TJ6-XX	120.0	± 15%	0.027	8.8	119.16	2.17	91.16	3.50	81.03	5.00	70.90	6.50	60.77	0.045 [1.14]
TJ6-XX	150.0	± 15%	0.031	8.6	151.90	1.92	116.20	3.10	103.29	4.43	90.38	5.75	77.47	0.045 [1.14]
TJ6-XX	180.0	± 15%	0.033	8.5	179.06	1.77	136.98	2.85	121.76	4.08	106.54	5.30	91.32	0.045 [1.14]

*The DC current values listed are typical values that drop the nominal inductance by the percent listed.

STANDARD ELECTRICAL SPECIFICATIONS in inches [millimeters]

MODEL	IND. (μH)	TOL.	DCR MAX. (Ohms)	RATED CURRENT (Amps)	NOM. IND. @ 0 DC AMPS (μH)	INDUCTANCE SHIFT WITH DC CURRENT*								LEAD DIAMETER "A"
						10% CURRENT (Amps)	MIN. IND. (μH)	20% CURRENT (Amps)	MIN. IND. (μH)	30% CURRENT (Amps)	MIN. IND. (μH)	40% CURRENT (Amps)	MIN. IND. (μH)	
TJ6-XX	220.0	± 15%	0.037	8.4	218.74	1.60	167.33	2.58	148.74	3.69	130.15	4.80	111.56	0.045 [1.14]
TJ6-XX	270.0	± 15%	0.058	7.4	273.92	1.43	209.55	2.31	186.26	3.30	162.98	4.29	139.70	0.040 [1.02]
TJ6-XX	330.0	± 15%	0.065	7.0	335.30	1.29	256.50	2.09	228.00	2.98	199.50	3.87	171.00	0.040 [1.02]
TJ6-XX	390.0	± 15%	0.070	6.7	388.86	1.20	297.48	1.94	264.43	2.77	231.37	3.60	198.32	0.040 [1.02]
TJ6-XX	470.0	± 15%	0.101	5.5	476.66	1.08	364.64	1.75	324.13	2.50	283.61	3.25	243.09	0.036 [0.914]
TJ6-XX	560.0	± 15%	0.110	5.3	556.64	1.00	425.83	1.62	378.51	2.31	331.20	3.01	283.88	0.036 [0.914]
TJ6-XX	680.0	± 15%	0.129	4.4	679.02	0.91	519.45	1.47	461.74	2.09	404.02	2.72	346.30	0.032 [0.813]
TJ6-XX	820.0	± 15%	0.143	4.2	813.56	0.83	622.38	1.34	553.22	1.91	484.07	2.49	414.92	0.032 [0.813]
TJ6-XX	1000.0	± 15%	0.160	4.0	1004.40	0.75	768.37	1.21	682.99	1.72	597.62	2.24	512.24	0.032 [0.813]
TJ6-XX	1200.0	± 15%	0.209	3.3	1190.90	0.69	911.04	1.11	809.81	1.58	708.58	2.06	607.36	0.029 [0.737]
TJ6-XX	1500.0	± 15%	0.238	3.1	1500.40	0.61	1147.81	0.99	1020.27	1.41	892.74	1.83	765.20	0.029 [0.737]
TJ6-XX	1800.0	± 15%	0.323	2.6	1785.60	0.56	1365.98	0.90	1214.21	1.29	1062.43	1.68	910.66	0.025 [0.635]
TJ6-XX	2200.0	± 15%	0.363	2.5	2193.44	0.50	1677.98	0.82	1491.54	1.16	1305.09	1.51	1118.65	0.025 [0.635]
TJ6-XX	2700.0	± 15%	0.499	2.0	2716.10	0.45	2077.81	0.73	1846.95	1.05	1616.08	1.36	1385.21	0.023 [0.584]
TJ7-XX	1.2	± 20%	0.005	16.0	1.30	21.41	0.99	34.59	0.88	49.42	0.77	64.24	0.66	0.045 [1.14]
TJ7-XX	2.2	± 20%	0.006	16.0	2.03	17.13	1.55	27.67	1.38	39.53	1.20	51.39	1.03	0.045 [1.14]
TJ7-XX	2.7	± 20%	0.007	16.0	2.92	14.28	2.23	23.06	1.98	32.95	1.74	42.83	1.49	0.045 [1.14]
TJ7-XX	3.9	± 15%	0.008	16.0	3.97	12.24	3.04	19.77	2.70	28.24	2.36	36.71	2.02	0.045 [1.14]
TJ7-XX	5.6	± 20%	0.009	16.0	5.18	10.71	3.97	17.30	3.53	24.71	3.08	32.12	2.64	0.045 [1.14]
TJ7-XX	6.8	± 15%	0.010	16.0	6.56	9.52	5.02	15.37	4.46	21.96	3.90	28.55	3.35	0.045 [1.14]
TJ7-XX	8.2	± 15%	0.010	15.5	8.10	8.57	6.20	13.84	5.51	19.77	4.82	25.70	4.13	0.045 [1.14]
TJ7-XX	10.0	± 15%	0.011	14.9	9.80	7.79	7.50	12.58	6.66	17.97	5.83	23.36	5.00	0.045 [1.14]
TJ7-XX	12.0	± 15%	0.012	14.4	11.66	7.14	8.92	11.53	7.93	16.47	6.94	21.41	5.95	0.045 [1.14]
TJ7-XX	15.0	± 20%	0.013	13.5	15.88	6.12	12.15	9.88	10.80	14.12	9.45	18.36	8.10	0.045 [1.14]
TJ7-XX	18.0	± 15%	0.014	13.0	18.23	5.71	13.94	9.22	12.39	13.18	10.84	17.13	9.29	0.045 [1.14]
TJ7-XX	22.0	± 20%	0.015	12.8	20.74	5.35	15.86	8.65	14.10	12.35	12.34	16.06	10.58	0.045 [1.14]
TJ7-XX	27.0	± 15%	0.016	12.2	26.24	4.76	20.08	7.69	17.85	10.98	15.62	14.28	13.38	0.045 [1.14]
TJ7-XX	33.0	± 15%	0.018	11.6	32.40	4.28	24.79	6.92	22.03	9.88	19.28	12.85	16.52	0.045 [1.14]
TJ7-XX	39.0	± 15%	0.019	11.2	39.20	3.89	29.99	6.29	26.66	8.99	23.33	11.68	19.99	0.045 [1.14]
TJ7-XX	47.0	± 15%	0.020	10.8	46.66	3.57	35.69	5.77	31.73	8.24	27.76	10.71	23.79	0.045 [1.14]
TJ7-XX	56.0	± 15%	0.022	10.5	54.76	3.29	41.89	5.32	37.23	7.60	32.58	9.88	27.93	0.045 [1.14]
TJ7-XX	68.0	± 15%	0.024	10.0	68.12	2.95	52.11	4.77	46.32	6.82	40.53	8.86	34.74	0.045 [1.14]
TJ7-XX	82.0	± 15%	0.026	9.6	82.94	2.68	63.45	4.32	56.40	6.18	49.35	8.03	42.30	0.045 [1.14]
TJ7-XX	100.0	± 15%	0.027	9.2	99.23	2.45	75.91	3.95	67.47	5.65	59.04	7.34	50.60	0.045 [1.14]
TJ7-XX	120.0	± 15%	0.030	8.9	116.96	2.25	89.48	3.64	79.54	5.20	69.59	6.76	59.65	0.045 [1.14]
TJ7-XX	150.0	± 15%	0.033	8.6	149.77	1.99	114.57	3.22	101.84	4.60	89.11	5.98	76.38	0.045 [1.14]
TJ7-XX	180.0	± 15%	0.036	8.5	178.93	1.82	136.88	2.94	121.67	4.21	106.46	5.47	91.25	0.045 [1.14]
TJ7-XX	220.0	± 15%	0.040	8.4	219.02	1.65	167.55	2.66	148.94	3.80	130.32	4.94	111.70	0.045 [1.14]
TJ7-XX	270.0	± 15%	0.046	8.3	272.48	1.48	208.45	2.39	185.29	3.41	162.13	4.43	138.97	0.045 [1.14]
TJ7-XX	330.0	± 15%	0.051	8.2	331.78	1.34	253.81	2.16	225.61	3.09	197.41	4.02	169.21	0.045 [1.14]
TJ7-XX	390.0	± 15%	0.053	7.9	385.64	1.24	295.02	2.01	262.24	2.86	229.46	3.72	196.68	0.045 [1.14]
TJ7-XX	470.0	± 15%	0.060	7.5	467.86	1.13	357.91	1.82	318.14	2.60	278.37	3.38	238.61	0.045 [1.14]
TJ7-XX	560.0	± 15%	0.066	7.2	558.01	1.03	426.88	1.67	379.45	2.38	332.02	3.10	284.58	0.045 [1.14]
TJ7-XX	680.0	± 15%	0.090	5.9	685.58	0.93	524.47	1.50	466.20	2.15	407.92	2.79	349.65	0.040 [1.02]
TJ7-XX	820.0	± 15%	0.101	5.6	826.28	0.85	632.10	1.37	561.87	1.96	491.64	2.54	421.40	0.040 [1.02]
TJ7-XX	1000.0	± 15%	0.136	4.7	998.00	0.77	763.47	1.25	678.64	1.78	593.81	2.32	508.98	0.036 [0.914]
TJ7-XX	1200.0	± 15%	0.152	4.4	1205.60	0.70	922.29	1.13	819.81	1.62	717.33	2.11	614.86	0.036 [0.914]
TJ7-XX	1500.0	± 15%	0.174	4.2	1498.18	0.63	1146.10	1.02	1018.76	1.45	891.41	1.89	764.07	0.036 [0.914]

*The DC current values listed are typical values that drop the nominal inductance by the percent listed.

STANDARD ELECTRICAL SPECIFICATIONS in inches [millimeters]

MODEL	IND. (μH)	TOL.	DCR MAX. (Ohms)	RATED CURRENT (Amps	NOM. IND. @ 0 DC AMPS (μH)	INDUCTANCE SHIFT WITH DC CURRENT*								LEAD DIAMETER "A"
						10% CURRENT (Amps)	MIN. IND. (μH)	20% CURRENT (Amps)	MIN. IND. (μH)	30% CURRENT (Amps)	MIN. IND. (μH)	40% CURRENT (Amps)	MIN. IND. (μH)	
TJ7-XX	1800.0	± 15%	0.233	3.5	1798.28	0.57	1375.68	0.93	1222.83	1.33	1069.98	1.72	917.12	0.032 [0.813]
TJ7-XX	2200.0	± 15%	0.263	3.3	2205.23	0.52	1687.00	0.84	1499.55	1.20	1312.11	1.56	1124.66	0.032 [0.813]
TJ7-XX	2700.0	± 15%	0.359	2.7	2712.61	0.47	2075.15	0.76	1844.57	1.08	1614.00	1.40	1383.43	0.029 [0.737]
TJ8-XX	1.5	± 20%	0.005	18.5	1.60	26.12	1.22	42.20	1.09	60.28	0.95	78.36	0.82	0.051 [1.30]
TJ8-XX	2.7	± 20%	0.006	18.5	2.50	20.90	1.91	33.76	1.70	48.22	1.49	62.69	1.28	0.051 [1.30]
TJ8-XX	3.9	± 20%	0.007	18.5	3.60	17.41	2.75	28.13	2.45	40.19	2.14	52.24	1.84	0.051 [1.30]
TJ8-XX	4.7	± 15%	0.008	18.5	4.90	14.93	3.75	24.11	3.33	34.45	2.92	44.78	2.50	0.051 [1.30]
TJ8-XX	6.8	± 20%	0.009	18.5	6.40	13.06	4.90	21.10	4.35	30.14	3.81	39.18	3.26	0.051 [1.30]
TJ8-XX	8.2	± 15%	0.010	18.5	8.10	11.61	6.20	18.75	5.51	26.79	4.82	34.83	4.13	0.051 [1.30]
TJ8-XX	10.0	± 15%	0.011	18.5	10.00	10.45	7.65	16.88	6.80	24.11	5.95	31.35	5.10	0.051 [1.30]
TJ8-XX	12.0	± 15%	0.012	18.0	12.10	9.50	9.26	15.34	8.23	21.92	7.20	28.50	6.17	0.051 [1.30]
TJ8-XX	15.0	± 20%	0.013	17.3	14.40	8.71	11.02	14.07	9.79	20.09	8.57	26.12	7.34	0.051 [1.30]
TJ8-XX	18.0	± 20%	0.014	16.6	16.90	8.04	12.93	12.98	11.49	18.55	10.06	24.11	8.62	0.051 [1.30]
TJ8-XX	22.0	± 15%	0.015	15.5	22.50	6.97	17.21	11.25	15.30	16.07	13.39	20.90	11.48	0.051 [1.30]
TJ8-XX	27.0	± 15%	0.016	15.0	25.60	6.53	19.58	10.55	17.41	15.07	15.23	19.59	13.06	0.051 [1.30]
TJ8-XX	33.0	± 15%	0.017	14.1	32.40	5.80	24.79	9.38	22.03	13.40	19.28	17.41	16.52	0.051 [1.30]
TJ8-XX	39.0	± 15%	0.019	13.4	40.00	5.22	30.60	8.44	27.20	12.06	23.80	15.67	20.40	0.051 [1.30]
TJ8-XX	47.0	± 15%	0.021	12.8	48.40	4.75	37.03	7.67	32.91	10.96	28.80	14.25	24.68	0.051 [1.30]
TJ8-XX	56.0	± 15%	0.022	12.2	57.60	4.35	44.06	7.03	39.17	10.05	34.27	13.06	29.38	0.051 [1.30]
TJ8-XX	68.0	± 15%	0.024	11.7	67.60	4.02	51.71	6.49	45.97	9.27	40.22	12.06	34.48	0.051 [1.30]
TJ8-XX	82.0	± 15%	0.025	11.1	84.10	3.60	64.34	5.82	57.19	8.31	50.04	10.81	42.89	0.051 [1.30]
TJ8-XX	100.0	± 15%	0.027	10.6	102.40	3.27	78.34	5.27	69.63	7.53	60.93	9.80	52.22	0.051 [1.30]
TJ8-XX	120.0	± 15%	0.029	10.1	122.50	2.99	93.71	4.82	83.30	6.89	72.89	8.96	62.48	0.051 [1.30]
TJ8-XX	150.0	± 15%	0.032	9.6	152.10	2.68	116.36	4.33	103.43	6.18	90.50	8.04	77.57	0.051 [1.30]
TJ8-XX	180.0	± 15%	0.034	9.2	176.40	2.49	134.95	4.02	119.95	5.74	104.96	7.46	89.96	0.051 [1.30]
TJ8-XX	220.0	± 15%	0.036	8.7	220.90	2.22	168.99	3.59	150.21	5.13	131.44	6.67	112.66	0.051 [1.30]
TJ8-XX	270.0	± 15%	0.040	8.3	270.40	2.01	206.86	3.25	183.87	4.64	160.89	6.03	137.90	0.051 [1.30]
TJ8-XX	330.0	± 15%	0.044	7.9	324.90	1.83	248.55	2.96	220.93	4.23	193.32	5.50	165.70	0.051 [1.30]
TJ8-XX	390.0	± 15%	0.047	7.6	384.40	1.69	294.07	2.72	261.39	3.89	228.72	5.06	196.04	0.051 [1.30]
TJ8-XX	470.0	± 15%	0.053	7.2	476.10	1.51	364.22	2.45	323.75	3.49	283.28	4.54	242.81	0.051 [1.30]
TJ8-XX	560.0	± 15%	0.058	6.9	562.50	1.39	430.31	2.25	382.50	3.21	334.69	4.18	286.88	0.051 [1.30]
TJ8-XX	680.0	± 15%	0.064	6.6	672.40	1.27	514.39	2.06	457.23	2.94	400.08	3.82	342.92	0.051 [1.30]
TJ8-XX	820.0	± 15%	0.071	6.2	828.10	1.15	633.50	1.85	563.11	2.65	492.72	3.44	422.33	0.051 [1.30]
TJ8-XX	1000.0	± 15%	0.077	6.0	1000.0	1.04	765.00	1.69	680.00	2.41	595.00	3.13	510.00	0.051 [1.30]
TJ8-XX	1200.0	± 15%	0.104	5.1	1210.00	0.95	925.65	1.53	822.80	2.19	719.95	2.85	617.10	0.045 [1.14]
TJ8-XX	1500.0	± 15%	0.118	4.9	1488.40	0.86	1138.63	1.38	1012.11	1.98	885.60	2.57	759.08	0.045 [1.14]
TJ8-XX	1800.0	± 15%	0.159	4.2	1795.60	0.78	1373.63	1.26	1221.01	1.80	1068.38	2.34	915.76	0.040 [1.02]
TJ8-XX	2200.0	± 15%	0.179	4.0	2190.40	0.71	1675.66	1.14	1489.47	1.63	1303.29	2.12	1117.10	0.040 [1.02]
TJ8-XX	2700.0	± 15%	0.203	3.9	2689.60	0.64	2057.54	1.03	1828.93	1.47	1600.31	1.91	1371.70	0.040 [1.02]
TJ8-XX	3300.0	± 15%	0.277	3.3	3312.40	0.57	2533.99	0.93	2252.43	1.32	1970.88	1.72	1689.32	0.036 [0.914]
TJ8-XX	3900.0	± 15%	0.304	3.2	3880.90	0.53	2968.89	0.86	2639.01	1.22	2309.14	1.59	1979.26	0.036 [0.914]
TJ9-XX	1.5	± 15%	0.004	20.0	1.44	50.35	1.10	81.33	0.98	116.18	0.86	151.04	0.73	0.064 [1.63]
TJ9-XX	2.7	± 15%	0.005	20.0	2.56	37.76	1.96	61.00	1.74	87.14	1.52	113.28	1.31	0.064 [1.63]
TJ9-XX	3.9	± 15%	0.006	20.0	4.00	30.21	3.06	48.80	2.72	69.71	2.38	90.62	2.04	0.064 [1.63]
TJ9-XX	5.6	± 15%	0.007	20.0	5.76	25.17	4.41	40.66	3.92	58.09	3.43	75.52	2.94	0.064 [1.63]
TJ9-XX	8.2	± 15%	0.008	20.0	7.84	21.58	6.00	34.85	5.33	49.79	4.66	64.73	4.00	0.064 [1.63]
TJ9-XX	10.0	± 15%	0.009	20.0	10.24	18.88	7.83	30.50	6.96	43.57	6.09	56.64	5.22	0.064 [1.63]

*The DC current values listed are typical values that drop the nominal inductance by the percent listed.

STANDARD ELECTRICAL SPECIFICATIONS in inches [millimeters]

MODEL	IND. (μH)	TOL.	DCR MAX. (Ohms)	RATED CURRENT (Amps)	NOM. IND. @ 0 DC AMPS (μH)	INDUCTANCE SHIFT WITH DC CURRENT*								LEAD DIAMETER "A"
						10% CURRENT (Amps)	MIN. IND. (μH)	20% CURRENT (Amps)	MIN. IND. (μH)	30% CURRENT (Amps)	MIN. IND. (μH)	40% CURRENT (Amps)	MIN. IND. (μH)	
TJ9-XX	12.0	± 20%	0.010	20.0	12.96	16.78	9.91	27.11	8.81	38.73	7.71	50.35	6.61	0.064 [1.63]
TJ9-XX	15.0	± 20%	0.011	20.0	16.00	15.10	12.24	24.40	10.88	34.85	9.52	45.31	8.16	0.064 [1.63]
TJ9-XX	18.0	± 20%	0.012	20.0	19.36	13.73	14.81	22.18	13.16	31.69	11.52	41.19	9.87	0.064 [1.63]
TJ9-XX	22.0	± 20%	0.013	20.0	23.04	12.59	17.63	20.33	15.67	29.05	13.71	37.76	11.75	0.064 [1.63]
TJ9-XX	27.0	± 15%	0.014	20.0	27.04	11.62	20.69	18.77	18.39	26.81	16.09	34.85	13.79	0.064 [1.63]
TJ9-XX	33.0	± 15%	0.015	20.0	31.36	10.79	23.99	17.43	21.32	24.90	18.66	32.37	15.99	0.064 [1.63]
TJ9-XX	39.0	± 20%	0.016	20.0	40.96	9.44	31.33	15.25	27.85	21.78	24.37	28.32	20.89	0.064 [1.63]
TJ9-XX	47.0	± 15%	0.017	20.0	46.24	8.88	35.37	14.35	31.44	20.50	27.51	26.65	23.58	0.064 [1.63]
TJ9-XX	56.0	± 15%	0.018	19.9	57.76	7.95	44.19	12.84	39.28	18.34	34.37	23.85	29.46	0.064 [1.63]
TJ9-XX	68.0	± 15%	0.019	19.0	70.56	7.19	53.98	11.62	47.98	16.60	41.98	21.58	35.99	0.064 [1.63]
TJ9-XX	82.0	± 15%	0.020	18.3	84.64	6.57	64.75	10.61	57.56	15.15	50.36	19.70	43.17	0.064 [1.63]
TJ9-XX	100.0	± 15%	0.021	17.6	100.00	6.04	76.50	9.76	68.00	13.94	59.50	18.12	51.00	0.064 [1.63]
TJ9-XX	120.0	± 15%	0.022	17.0	116.64	5.59	89.23	9.04	79.32	12.91	69.40	16.78	59.49	0.064 [1.63]
TJ9-XX	150.0	± 15%	0.025	15.9	153.76	4.87	117.63	7.87	104.56	11.24	91.49	14.62	78.42	0.064 [1.63]
TJ9-XX	180.0	± 15%	0.028	15.3	184.96	4.44	141.49	7.18	125.77	10.25	110.05	13.33	94.33	0.064 [1.63]
TJ9-XX	220.0	± 15%	0.030	14.7	219.04	4.08	167.57	6.59	148.95	9.42	130.33	12.25	111.71	0.064 [1.63]
TJ9-XX	270.0	± 15%	0.033	14.0	268.96	3.68	205.75	5.95	182.89	8.50	160.03	11.05	137.17	0.064 [1.63]
TJ9-XX	330.0	± 15%	0.036	13.4	324.00	3.36	247.86	5.42	220.32	7.75	192.78	10.07	165.24	0.064 [1.63]
TJ9-XX	390.0	± 15%	0.038	12.9	384.16	3.08	293.88	4.98	261.23	7.11	228.58	9.25	195.92	0.064 [1.63]
TJ9-XX	470.0	± 15%	0.042	12.4	466.56	2.80	356.92	4.52	317.26	6.45	277.60	8.39	237.95	0.064 [1.63]
TJ9-XX	560.0	± 15%	0.043	11.9	556.96	2.56	426.07	4.14	378.73	5.91	331.39	7.68	284.05	0.064 [1.63]
TJ9-XX	680.0	± 15%	0.048	11.3	676.00	2.32	517.14	3.75	459.68	5.36	402.22	6.97	344.76	0.064 [1.63]
TJ9-XX	820.0	± 15%	0.054	10.7	829.44	2.10	634.52	3.39	564.02	4.84	493.52	6.29	423.01	0.064 [1.63]
TJ9-XX	1000.0	± 15%	0.059	10.3	998.56	1.91	763.90	3.09	679.02	4.41	594.14	5.74	509.27	0.064 [1.63]
TJ9-XX	1200.0	± 15%	0.082	9.8	1211.04	1.74	926.45	2.80	823.51	4.01	720.57	5.21	617.63	0.057 [1.45]
TJ9-XX	1500.0	± 15%	0.091	9.3	1505.44	1.56	1151.66	2.52	1023.70	3.59	895.74	4.67	767.77	0.057 [1.45]
TJ9-XX	1800.0	± 15%	0.118	8.9	1797.76	1.42	1375.29	2.30	1222.48	3.29	1069.67	4.27	916.86	0.051 [1.30]
TJ9-XX	2200.0	± 15%	0.131	8.4	2190.24	1.29	1675.53	2.09	1489.36	2.98	1303.19	3.87	1117.02	0.051 [1.30]
TJ9-XX	2700.0	± 15%	0.147	8.0	2704.00	1.16	2068.56	1.88	1838.72	2.68	1608.88	3.49	1379.04	0.051 [1.30]
TJ9-XX	3300.0	± 15%	0.165	7.6	3317.76	1.05	2538.09	1.69	2256.08	2.42	1974.07	3.15	1692.06	0.051 [1.30]
TJ9-XX	3900.0	± 15%	0.181	5.2	3893.76	0.97	2978.73	1.56	2647.76	2.23	2316.79	2.90	1985.82	0.051 [1.30]
TJ9-XX	4700.0	± 15%	0.201	5.1	4678.56	0.88	3579.10	1.43	3181.42	2.04	2783.74	2.65	2386.07	0.051 [1.30]
TJ9-XX	5600.0	± 15%	0.224	5.0	5595.04	0.81	4280.21	1.30	3804.63	1.86	3329.05	2.42	2853.47	0.051 [1.30]

*The DC current values listed are typical values that drop the nominal inductance by the percent listed.

MARKING

— Vishay Dale

— Model number

— Date code

ORDERING INFORMATION

TJ5	1U	330μH	15%
MODEL	MOUNTING/COATING CODE	INDUCTANCE VALUE	TOLERANCE

1U = Unmounted vertical/uncoated (may not be self supporting).
2U = Unmounted horizontal/uncoated.

Filter Inductors

Toroid

FEATURES

- Choice of encapsulated (TE) or dipped (TD) styles
- TD style combines low cost with excellent performance in commercial applications
- High Q and wide selection of Q versus frequency ranges in one small package. Large number of standard inductance values

Pb-free

RoHS COMPLIANT

STANDARD ELECTRICAL SPECIFICATIONS (Applies to Core Only)

MODEL			TC CODE	TEMPERATURE COEFFICIENT	TEMPERATURE RANGE	TC AVAILABILITY		
TE-3 TD-3	TE-4 TD-4	TE-5 TD-5				Q0	Q3	Q4
X	X	X	TA	0 ± 1%	- 55 °C to + 125 °C		X	X
X	X	X	TD	0 ± 0.1%	0 °C to + 55 °C		X	X
X	X	X	TL*	+ 40 to + 110 ppm/°C + 85 to + 185 ppm/°C	- 55 °C to + 25 °C + 25 °C to + 85 °C			X
X	X	X	TM	0 ± 0.25 %	- 6 5°C to + 125 °C		X	X
X	X	X	TR	50 ppm/°C (Typical)	- 65 °C to + 125 °C	X		
X	X	X	TW	0 ± 0.25 %	- 55 °C to + 85 °C		X	X

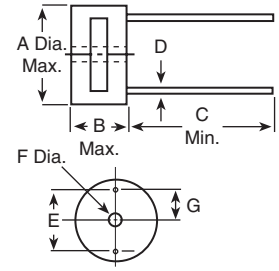
* Inverse of typical Temperature Coefficient of polystyrene capacitor.

INDUCTANCE RANGE

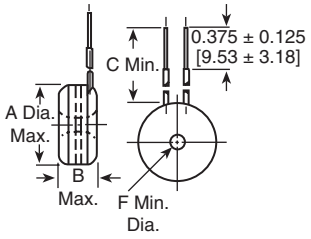
TC CODE	TE-3 TD-3	TE-4 TD-4	TE-5 TD-5
Q0	50 µH to 15 mH	150 µH to 20 mH	1 mH to 100 mH
Q3	500 µH to 1 H	1 mH to 2 H	5 mH to 2 H
Q4	1 mH to 4 H	2 mH to 5 H	10 mH to 5 H

DIMENSIONS in inches [millimeters]

TE



TD



MODEL	A	B	C	D	E	F	G
TE-3	0.685 [17.40]	0.385 [9.78]	1.0 [25.40]	0.025 [0.635]	0.500 [12.70]	0.093 [2.36]	0.250 [6.35]
TD-3	0.685 [17.40]	0.320 [8.13]	3.0 [76.20]	-	-	0.125 [3.18]	-
TE-4	1.06 [26.92]	0.500 [12.70]	1.0 [25.40]	0.032 [0.813]	0.900 [22.86]	0.120 [3.05]	0.450 [11.43]
TD-4	1.06 [26.92]	0.437 [11.10]	4.0 [101.60]	-	-	0.220 [5.59]	-
TE-5	1.33 [33.78]	0.735 [18.67]	1.0 [25.40]	0.032 [0.813]	1.0 [25.40]	0.144 [3.66]	0.500 [12.70]
TD-5	1.32 [33.53]	0.688 [17.48]	6.0 [152.40]	-	-	0.220 [5.59]	-

ELECTRICAL SPECIFICATIONS

Tolerance:

TE-3, TD-3 = ± 1 % > 2 mH, ± 2 % 154 µH to 2 mH, ± 5 % < 150 µH
TE-4, TD-4 = ± 1 % > 2 mH, ± 2 % < 2 mH
TE-5, TD-5 = ± 1% > 2mH, ± 2% < 2mH

Insulation Resistance: 1000 Megohm minimum

Dielectric Strength: 1000 V minimum (TE)
500 V minimum (TD)

MECHANICAL SPECIFICATIONS

Terminal Strength: 2 pounds pull test (TE)

Vibration: Per MIL-T-27 (TE)

Shock: Per MIL-T-27 (TE)

Weight:
TE-3 = 5.1 grams, TD-3 = 4.9 grams typical
TE-4 = 20 grams, TD-4 = 17 grams typical
TE-5 = 53 grams, TD-5 = 52 grams typical

MATERIAL SPECIFICATIONS

Coating: Vinyl (TD), non-flammable, abrasion and moisture resistant. Resists most cleaning agents
(Consult factory for chemicals which may be used)

Standard Terminals: Tinned copper (TE)
Stranded, tinned copper, Teflon insulated (TD)

Encapsulant: Epoxy (TE)

Gauge:
TE-3 = 22 AWG, TD-3 = 26 AWG
TE-4 = 20 AWG, TD-4 = 24 AWG
TE-5 = 20 AWG, TD-5 = 24 AWG

DESCRIPTION

TE-3	Q0	TR	5 mH	± 1 %	EB	e2
MODEL	Q TYPE	TC CODE	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE	JEDEC LEAD (Pb)-FREE STANDARD

GLOBAL PART NUMBER

DC RESISTANCE AND SELF-RESONANT FREQUENCIES (Typical Values)

MODEL	INDUCTANCE	DCR (Ohms)			SELF-RESONANT FREQUENCY (MHz)		
		Q0	Q3	Q4	Q0	Q3	Q4
TE-3, TD-3	50.0 µH	0.68	-	-	7.6	-	-
TE-3, TD-3	100.0 µH	1.0	-	-	5.1	-	-
TE-3, TD-3	332.0 µH	3.3	-	-	2.9	-	-
TE-3, TD-3	1.0 mH	6.9	1.5	0.82	1.4	1.1	1.0
TE-3, TD-3	3.32 mH	24.0	4.1	2.3	0.79	0.57	0.55
TE-3, TD-3	10.0 mH	84.0	14.0	5.9	0.40	0.29	0.25
TE-3, TD-3	15.0 mH	106.0	17.0	9.1	0.34	0.24	0.21
TE-3, TD-3	33.2 mH	-	40.0	18.0	-	0.14	0.12
TE-3, TD-3	100.0 mH	-	138.0	58.0	-	0.08	0.077
TE-3, TD-3	332.0 mH	-	555.0	220.0	-	0.04	0.038
TE-3, TD-3	1.0 H	-	1500.0	670.0	-	0.021	0.019
TE-3, TD-3	4.0 H	-	-	2700.0	-	-	0.009
TE-4, TD-4	150.0 µH	0.54	-	-	2.6	-	-
TE-4, TD-4	1.0 mH	2.8	0.7	-	1.0	0.75	-
TE-4, TD-4	2.0 mH	5.5	1.4	0.78	0.64	0.54	0.45
TE-4, TD-4	10.0 mH	27.0	4.9	2.5	0.24	0.21	0.18
TE-4, TD-4	20.0 mH	54.0	9.6	5.0	0.18	0.15	0.13
TE-4, TD-4	100.0 mH	-	56.0	23.0	-	0.059	0.051
TE-4, TD-4	1.0 H	-	570.0	260.0	-	0.016	0.014
TE-4, TD-4	2.0 H	-	1200.0	520.0	-	0.013	0.011
TE-5, TD-5	1.0 mH	1.8	-	-	0.80	-	-
TE-5, TD-5	3.32 mH	5.2	-	-	0.44	-	-
TE-5, TD-5	5.0 mH	6.5	1.8	-	0.33	0.32	-
TE-5, TD-5	10.0 mH	13.0	2.4	1.7	0.21	0.20	0.15
TE-5, TD-5	33.2 mH	49.0	8.8	3.9	0.12	0.11	0.086
TE-5, TD-5	100.0 mH	133.0	27.0	11.0	0.061	0.057	0.044
TE-5, TD-5	332.0 mH	-	80.0	44.0	-	0.032	0.024
TE-5, TD-5	1.0 H	-	222.0	121.0	-	0.016	0.012
TE-5, TD-5	2.0 H	-	475.0	217.0	-	0.012	0.008

STANDARD INDUCTANCE VALUE

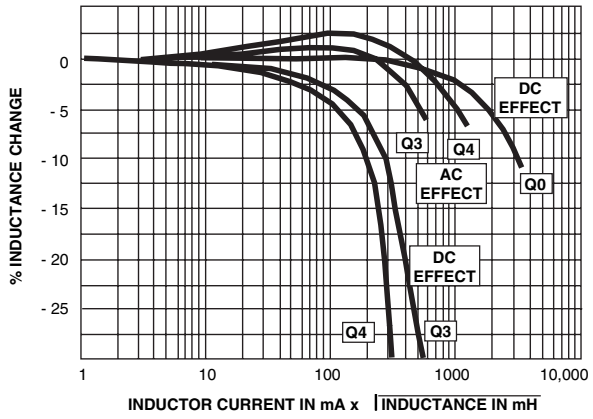
The following standardization chart is offered for your design and ordering convenience. Each value listed is within one percent of the preceding and succeeding values shown. All decade multiples of these values, within the range shown for each model in the chart, are Vishay Dale standard values.

(Example: For a TE-3, 200 µH, 20 mH and 200 mH are all decade multiples of 2.00 and are all standard values.)

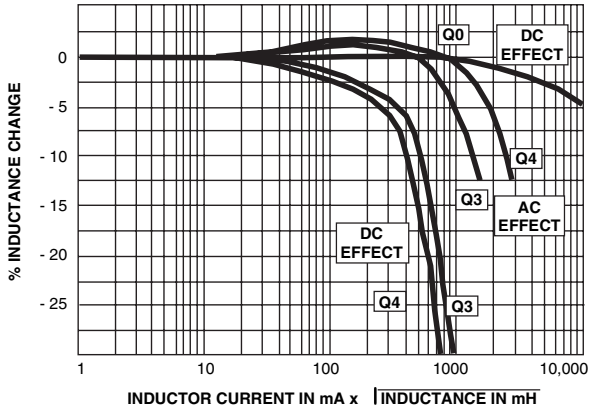
1.00	1.21	1.47	1.78	2.15	2.61	3.09	3.74	4.42	5.23	6.19	7.32	8.66
1.02	1.24	1.50	1.82	2.21	2.67	3.16	3.83	4.53	5.36	6.34	7.50	8.87
1.05	1.27	1.54	1.87	2.26	2.74	3.24	3.92	4.64	5.49	6.49	7.68	9.00
1.07	1.30	1.58	1.91	2.32	2.80	3.32	4.00	4.75	5.62	6.65	7.87	9.09
1.10	1.33	1.62	1.96	2.37	2.87	3.40	4.02	4.87	5.76	6.81	8.00	9.31
1.13	1.37	1.65	2.00	2.43	2.94	3.48	4.12	4.99	5.90	6.98	8.06	9.53
1.15	1.40	1.69	2.05	2.49	3.00	3.57	4.22	5.00	6.00	7.00	8.25	9.76
1.18	1.43	1.74	2.10	2.55	3.01	3.65	4.32	5.11	6.04	7.15	8.45	

PERFORMANCE GRAPHS: INDUCTANCE VS DC BIAS, INDUCTANCE VS AC EXCITATION

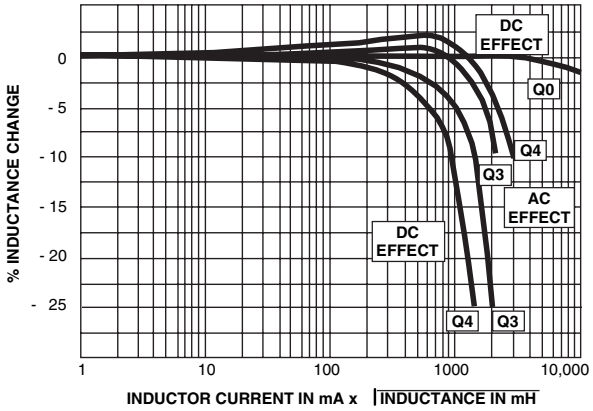
TE-3, TD-3



TE-4, TD-4

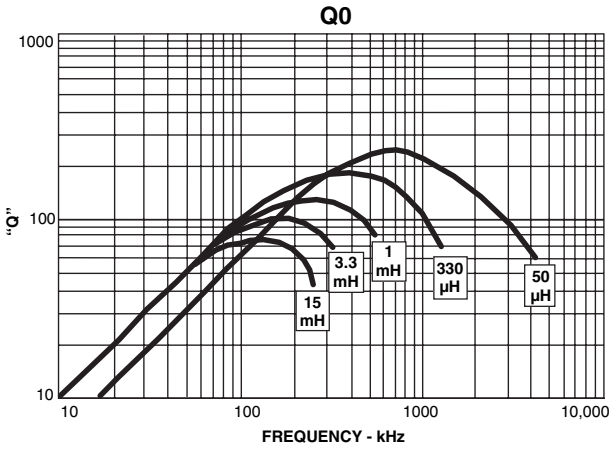


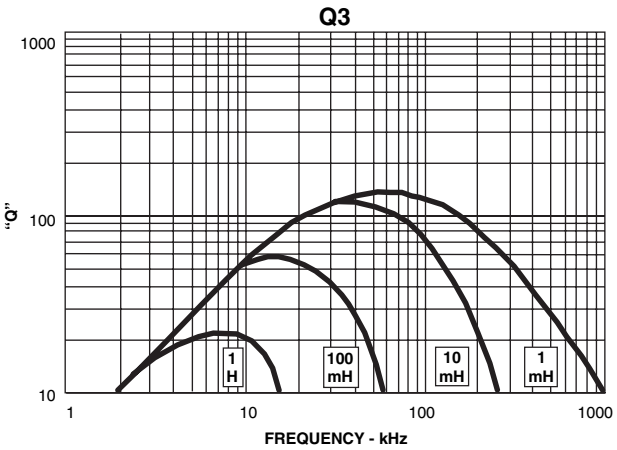
TE-5, TD-5

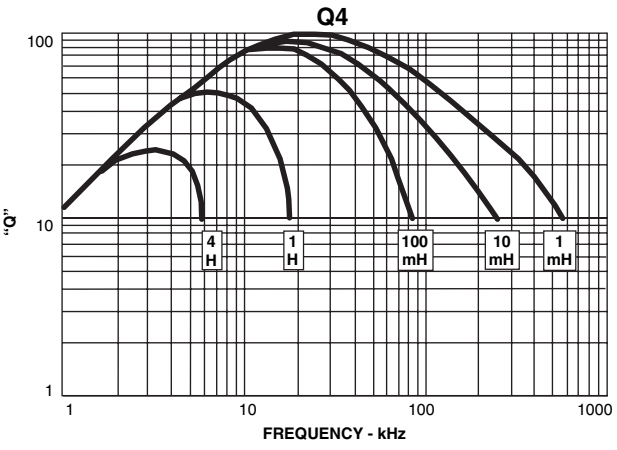


PERFORMANCE GRAPHS: TYPICAL Q VS FREQUENCY

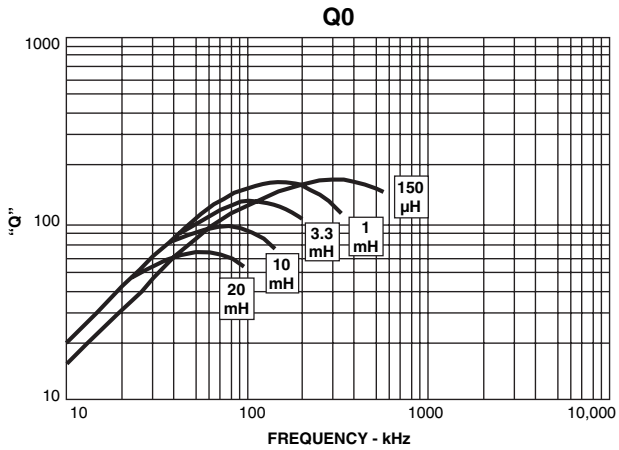
TE-3, TD-3

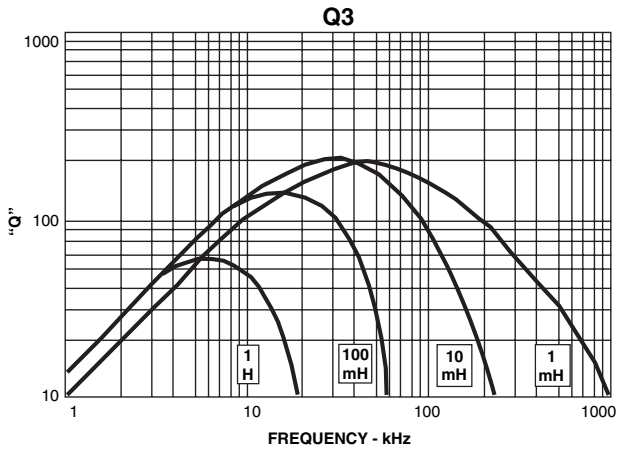


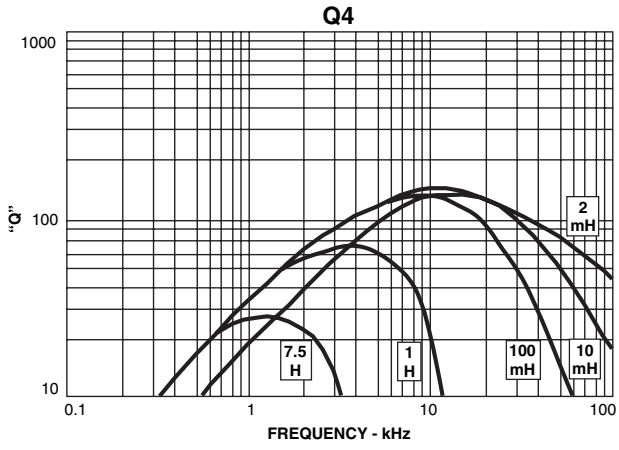




TE-4, TD-4

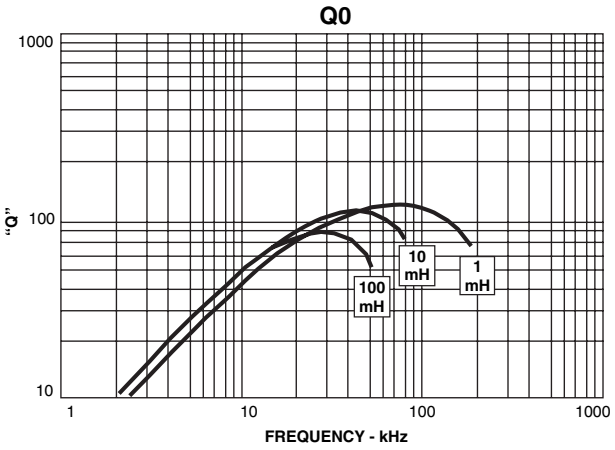


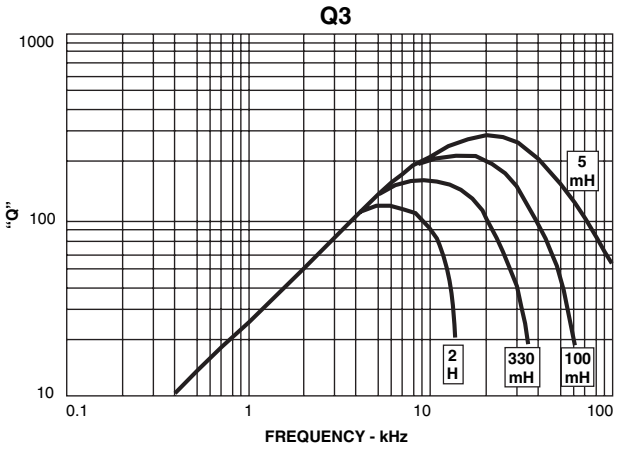


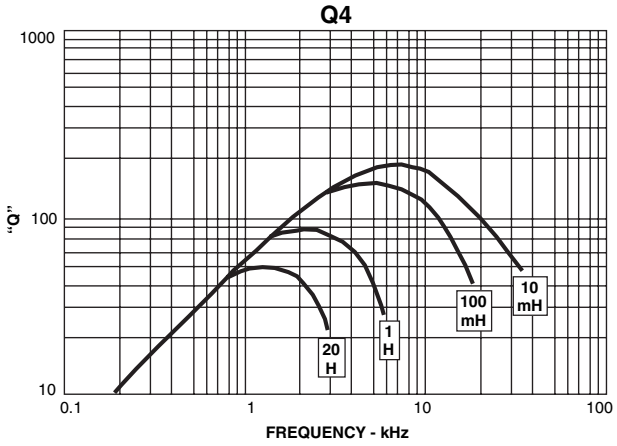


PERFORMANCE GRAPHS: TYPICAL Q VS FREQUENCY

TE-5, TD-5







MARKING

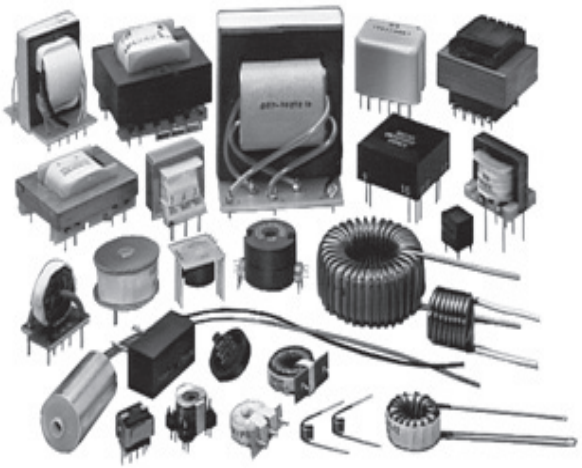
- Vishay Dale
- Model
- Q type
- TC code
- Inductance value
- Inductance tolerance
- Date code

Magnetic Components

Switch Mode Magnetics

Air Core Inductors

Inductive Products



CUSTOM DESIGN AND PRODUCTION

Vishay Dale has extensive facilities for custom design and production of custom magnetics. Design applications include:

- PWM, PSM and FM Transformers
- Pulse and Trigger Transformers
- Test Measurement Transformers
- Power Transformers
- Power, Filter and Switchmode Inductors
- Telecommunications/Audio Transformers

Design Input forms for the above design applications follow:

PACKAGE DESIGN AND MATERIALS

If you have your own electrical design we can add value by assisting you with selection of the most economical materials and efficient packaging design.

Vishay Dale can provide designs to meet UL, CSA, IEEE and VDE requirements.

Produced to your specifications for a wide range of high frequency applications including: Television, Radio (2-way, scanners, AM/FM), Satellite Communication, Cable TV Systems, Microwave, Test Equipment.

ELECTRICAL SPECIFICATIONS

Frequency: To 500MHz.
Current: 10 amp maximum.
Temperature: To + 130°C.

MECHANICAL SPECIFICATIONS

Winding: 1 to 32 turns, clockwise or counter-clockwise with variable pitch.
Wire Gauge: #18 to #32.
Leads: Automatically tinned. Various configurations available.
Coil Inside Diameter: 0.079" to 0.354" [2.01mm to 8.99mm].
Coil Length: Up to 1.26" [32.0mm].

Can't find it in the catalog? Vishay Dale has the custom capability to design and produce a wide range of magnetic components to your requirements.

POWER TRANSFORMERS:

50 to 400 Hz, VA ratings to 100 VA. Specialty models in Low Profile and PC Mount.

INDUCTORS:

Inductance values to 20 H, current ratings to 60 amps. Capability of many styles including: Toroidal, Laminated, E Core, Pot Core, Slug Core, Air Core.

AUDIO TRANSFORMERS:

Coupling Transformers and Hybrid Transformers available in PC Mount, Leadset and Low Profile.

TRANSFORMERS:

Switching Magnetics, Converter Transformers, Pulse Transformers, High Voltage Transformers.

Custom Products

Vishay Dale

Power Transformer Design Information

CONTACT INFORMATION

Contact Person _____ E-Mail _____

Phone # _____ - _____ - _____ Fax # _____ - _____ - _____ Company _____

General Application of this product: _____

ELECTRICAL REQUIREMENTS

Approximate Output Power: _____ VA

Minimum Line Frequency (Hz):
50 60 400 1K 100K 150K 250K Other _____

Maximum Temperature Rise (°C)
10 20 30 40 50 Other _____

Efficiency: _____ %

Isolation Voltage: _____ Vac/Vdc

Interwinding Capacitance (Ciw): _____ pF

Duty Cycle: _____ %

Primary Input Voltage:
90 100 115 120 200 230 240 115/230 Other: _____

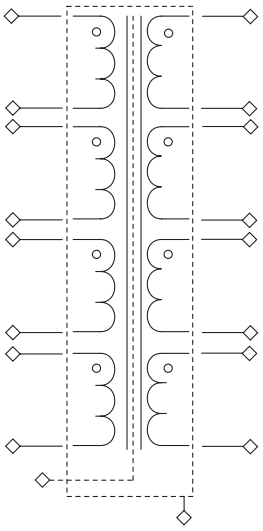
Protection (Resettable or Single Use):
Thermal Fused Other _____

Regulation: _____ %

Agency Requirements: UL VDE CSA IEC

Leakage Ind. (LI): _____ μH

SCHEMATIC



Voltage: _____
Current: _____
L: _____

Voltage: _____
Current: _____
L: _____

Voltage: _____
Current: _____
L: _____

Voltage: _____
Current: _____
L: _____

Screen or Shield
Thick: _____
Material: _____

Voltage: _____
Current: _____
Rect: _____

Voltage: _____
Current: _____
Rect: _____

Voltage: _____
Current: _____
Rect: _____

Voltage: _____
Current: _____
Rect: _____

Outer Shield
Thick: _____
Material: _____

AC or DC
Rms or Peak
HW FW FWB

AC or DC
Rms or Peak
HW FW FWB

AC or DC
Rms or Peak
HW FW FWB

AC or DC
Rms or Peak
HW FW FWB

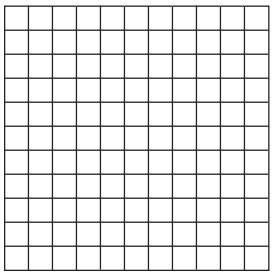
Other Requirements:
_____
_____

Other Requirements:
_____
_____

Other Requirements:
_____
_____

Budgetary/Target Price:
_____@_____ pcs

Pin Requirements



Grid Units: _____

PHYSICAL REQUIREMENTS

Flame Retardant: Yes No
Standard Varnish: Yes No
Encapsulated: Yes No
Hermetically Sealed: Yes No
Shielded: Yes No

Mounting Style:
Thru Hole Surface Mount Flying Leads Other

Length (Max.): _____
Width (Max.): _____
Height (Max.): _____

Temperature Class (°C):
105 130 155 180 200

PRIORITIZATION (1-HIGHEST)

_____ Size
_____ Efficiency
_____ Cost

_____
_____
_____
_____ (Continue on separate sheet if necessary)

Power Transformer Design Information

CONTACT INFORMATION

Contact Person _____ E-Mail _____

Phone # _____ - _____ - _____ Fax # _____ - _____ - _____ Company _____

General Application of this product: _____

ELECTRICAL REQUIREMENTS

Approximate Output Power: _____ VA

Minimum Line Frequency (Hz):
50 60 400 1K 100K 150K 250K Other _____

Maximum Temperature Rise (°C)
10 20 30 40 50 Other _____

Efficiency: _____ %

Isolation Voltage: _____ Vac/Vdc

Interwinding Capacitance (Ciw): _____ pF

Duty Cycle: _____ %

Primary Input Voltage:
90 100 115 120 200 230 240 115/230 Other: _____

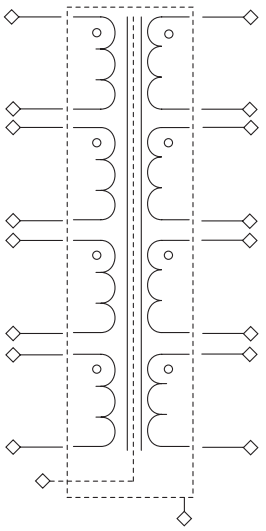
Protection (Resettable or Single Use):
Thermal Fused Other _____

Regulation: _____ %

Agency Requirements: UL VDE CSA IEC

Leakage Ind. (LI): _____ µH

SCHEMATIC



Voltage: _____
Current: _____
L: _____

Voltage: _____
Current: _____
L: _____

Voltage: _____
Current: _____
L: _____

Voltage: _____
Current: _____
L: _____

Screen or Shield
Thick: _____
Material: _____

Voltage: _____
Current: _____
Rect: _____

Voltage: _____
Current: _____
Rect: _____

Voltage: _____
Current: _____
Rect: _____

Voltage: _____
Current: _____
Rect: _____

Outer Shield
Thick: _____
Material: _____

AC or DC
Rms or Peak
HW FW FWB

AC or DC
Rms or Peak
HW FW FWB

AC or DC
Rms or Peak
HW FW FWB

AC or DC
Rms or Peak
HW FW FWB

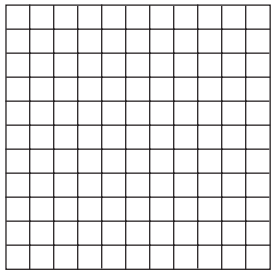
Other Requirements:
_____
_____

Other Requirements:
_____
_____

Other Requirements:
_____
_____

Budgetary/Target Price:
_____@_____ pcs

Pin Requirements



Grid Units: _____

PHYSICAL REQUIREMENTS

Flame Retardant: Yes No
Standard Varnish: Yes No
Encapsulated: Yes No
Hermetically Sealed: Yes No
Shielded: Yes No

Mounting Style:
Thru Hole Surface Mount Flying Leads Other

Length (Max.): _____
Width (Max.): _____
Height (Max.): _____

Temperature Class (°C):
105 130 155 180 200

OTHER REQUIREMENTS

_____
_____
_____
_____ (Continue on separate sheet if necessary)

PRIORITIZATION (1-HIGHEST)

_____ Size
_____ Efficiency
_____ Cost

Custom Products

Vishay Dale

PWM, PSM, & FM Transformer Design Information

CONTACT INFORMATION

Contact Person _____ E-Mail _____

Phone # _____ - _____ - _____ Fax # _____ - _____ - _____ Company _____

General Application of this product: _____

Primary Voltage _____ Vac/Vdc

Secondary Voltage _____ Vac/Vdc

Secondary Current _____ A(Max.)

Driver Current _____ A(Max.)

Size of Storage Capacitors _____ F

Maximum Temperature rise (°C)
10 20 30 40 50 Other_____

Frequency: _____Hz

Isolation Voltage: _____Vac/Vdc

Duty Cycle: _____%

Circuit Type: PWM PSM FM Other _____

Driver Type: SCR FET PWM Other_____

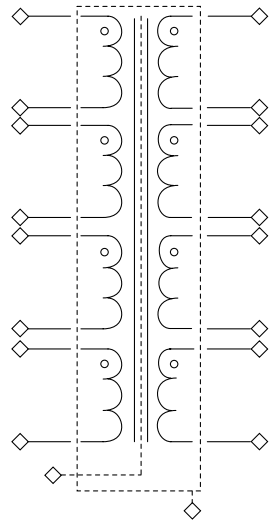
Protection (Resettable or single use):
Thermal Fused Other _____

Build to Agency Requirements: UL VDE CSA IEC MIL-Spec _____

Certify to Agency Requirements: UL VDE CSA IEC MIL-Spec _____

Leakage L: _____μH(Max.) Ciw: _____ pF(Max.) ET: _____V-μsec

SCHEMATIC



Voltage: _____
Current: _____
L: _____

Voltage: _____
Current: _____
L: _____

Voltage: _____
Current: _____
L: _____

Voltage: _____
Current: _____
L: _____

Screen or Shield
Thick: _____
Material: _____

Voltage: _____
Current: _____
Rect: _____

Voltage: _____
Current: _____
Rect: _____

Voltage: _____
Current: _____
Rect: _____

Voltage: _____
Current: _____
Rect: _____

Outer Shield
Thick: _____
Material: _____

AC or DC
Rms or Peak
HW FW FWB

AC or DC
Rms or Peak
HW FW FWB

AC or DC
Rms or Peak
HW FW FWB

AC or DC
Rms or Peak
HW FW FWB

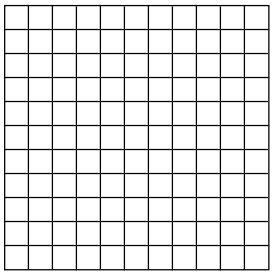
Other Requirements:
_____
_____

Other Requirements:
_____
_____

Other Requirements:
_____
_____

Budgetary/Target Price:
_____@_____ pcs.

Pin Requirements



Grid Units: _____

PHYSICAL REQUIREMENTS

Flame Retardant: Yes No
Standard Varnish: Yes No
Encapsulated: Yes No
Hermetically Sealed: Yes No
Shielded: Yes No

Mounting Style:
Thru Hole Surface Mount Flying Leads Other

Length (Max.): _____
Width (Max.): _____
Height (Max.): _____

Temperature Class (°C):
105 130 155 180 200

OTHER REQUIREMENTS

_____
_____
_____
_____ (Continue on separate sheet if necessary)

PRIORITIZATION (1-HIGHEST)

_____ Size
_____ Efficiency
_____ Cost

Power, Filter and Switchmode Inductor Design Information

CONTACT INFORMATION

Contact Person _____ E-Mail _____

Phone # _____ - _____ - _____ Fax # _____ - _____ - _____ Company _____

General Application of this product: _____

ELECTRICAL REQUIREMENTS

Application: Power/Energy Storage or Filter/Frequency Selection

L: _____ H

DC Bias: _____ Adc

L @ DC Bias: _____ H

Q Min. @ nominal L: _____

% of Saturation (Max.): _____ %

AC Current or Voltage Level: _____ Aac or Vac

DC Current or Voltage Level: _____ Adc or Vdc

Impedance: _____ Ohms @ _____ Hz

Frequency (range): _____ Hz

SRF: _____ Hz

ET: _____ V-μsec

DCR (Max.): _____ Ohms

Dielectric Rating: _____ Vac/Vdc

Operating Temperature Range: _____ to _____

Maximum Temperature Rise (°C): 10 20 30 40 50 ___

SCHEMATIC

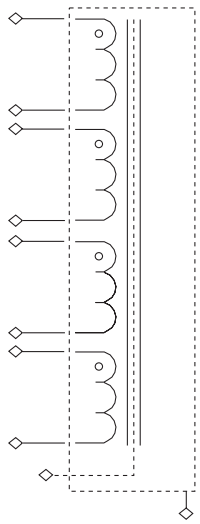
Voltage: _____ AC or DC
Current: _____ Rms or Peak
Other: _____

Voltage: _____ AC or DC
Current: _____ Rms or Peak
Other: _____

Voltage: _____ AC or DC
Current: _____ Rms or Peak
Other: _____

Voltage: _____ AC or DC
Current: _____ Rms or Peak
Other: _____

Screen or Shield
Thick: _____
Material: _____

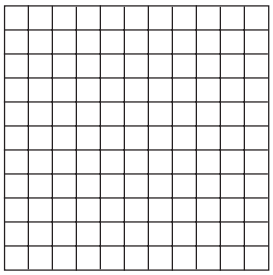


Buck and Boost Inductors	
Input Voltage	_____ V
Output Voltage	_____ V
Switching Frequency:	_____ Hz
Maximum DC Output Current:	_____ A
Minimum DC Output Current:	_____ A
Maximum Duty Cycle:	_____ %
Minimum Duty Cycle:	_____ %
AC Ripple:	_____ %

Budgetary/Target Price:
_____@____ pcs.

Outer Shield
Thick: _____
Material: _____

Pin Requirements



Grid Units: _____

PHYSICAL REQUIREMENTS

Flame Retardant: Yes No
Standard Varnish: Yes No
Encapsulated: Yes No
Hermetically Sealed: Yes No
Shielded: Yes No

Mounting Style: Vertical or Horizontal
Thru Hole Surface Mount Flying Leads Other _____

Inside Diameter (Min.): _____
Length (Max.): _____
Width (Max.): _____
Height (Max.): _____

Temperature Class (°C):
105 130 155 180 200

OTHER REQUIREMENTS

_____
_____
_____
_____ (Continue on separate sheet if necessary)

PRIORITIZATION (1-HIGHEST)

_____ Size
_____ Efficiency
_____ Cost

Custom Products

Vishay Dale

Telecommunications/Audio Transformer Design Information

CONTACT INFORMATION

Contact Person _____ E-Mail _____

Phone # _____ - _____ - _____ Fax # _____ - _____ - _____ Company _____

General Application of this product: _____

ELECTRICAL REQUIREMENTS

Power Rating: _____ Watts

Primary Voltage:_____ Vac/Vdc

Primary Impedance: _____ Ohms

Secondary Impedance: _____ Ohms

Turns Ratio: _____ (if known)

Isolation Voltage: _____ Vac/Vdc

DC Loop Current: _____mA dc

Maximum Drive Level: _____ dbm Vrms

ref Resistance: _____ Ohms

Return Loss: _____ db(Min.)

Leakage L: _____µH(Max.) Ciw: _____ pF(Max.) DCR: _____Ohms

Application Type: Modem Audio xDSL

Frequency Range: _____Hz to _____Hz

Frequency Response: ref_____Hz ±_____db from_____Hz to_____Hz

Insertion/Transducer Loss: ±_____db(Max.) or ±_____db @_____Hz

Longitudinal Transverse Balance:

_____db(Min.) from_____Hz to _____Hz

_____db(Min.) from_____Hz to _____Hz

Crosstalk: _____db or better from_____Hz to_____Hz w/_____spacing.

Distortion: _____% Maximum

SCHEMATIC

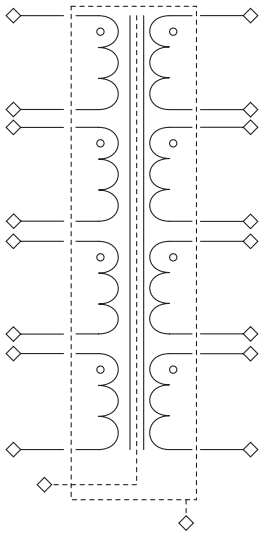
Z: _____
L: _____
DC current: _____

Z: _____
L: _____
DC current: _____

Z: _____
L: _____
DC current: _____

Z: _____
L: _____
DC current: _____

Screen or Shield
Thick: _____
Material: _____



Z: _____
L: _____
Output: Single Push-Pull

Z: _____
L: _____
Output: Single Push-Pull

Z: _____
L: _____
Output: Single Push-Pull

Z: _____
L: _____
Output: Single Push-Pull

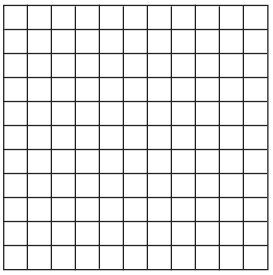
Outer Shield
Thick: _____
Material: _____

Build or Certify to Agency Requirements:
UL/CSA FCC BABT Other
_____

Modem Specifications:
V.22 V.29 V.32 V.34 V.90

Budgetary/Target Price:
_____@_____ pcs.

Pin Requirements



Grid Units: _____

Flame Retardant: Yes No
Standard Varnish: Yes No
Encapsulated: Yes No
Hermetically Sealed: Yes No
Shielded: Yes No

Mounting Style:
Thru Hole Surface Mount Flying Leads Other

Inside Diameter (Min.): _____
Length (Max.): _____
Width (Max.): _____
Height (Max.): _____

Temperature Class (°C):
105 130 155 180 200

OTHER REQUIREMENTS

_____
_____
_____
_____ (Continue on separate sheet if necessary)

PRIORITIZATION (1-HIGHEST)

_____ Size
_____ Efficiency
_____ Cost

Test & Measurement Transformer Design Information

CONTACT INFORMATION

Contact Person _____ E-Mail _____

Phone # _____ - _____ - _____ Fax # _____ - _____ - _____ Company _____

General Application of this product: _____

ELECTRICAL REQUIREMENTS

Primary Voltage: _____ Vac/Vdc

Primary Current Range: _____Ohms

Desired Secondary Voltage: _____Ohms

Turns Ratio: _____(if known)

Accuracy Required: _____ %

Ratio Error: _____@ 10%
_____@ 100%

Dielectric Rating: _____Vac/Vdc

Frequency range: _____Hz to__ref_____Hz

Load/Burden Resistance: _____Ohms

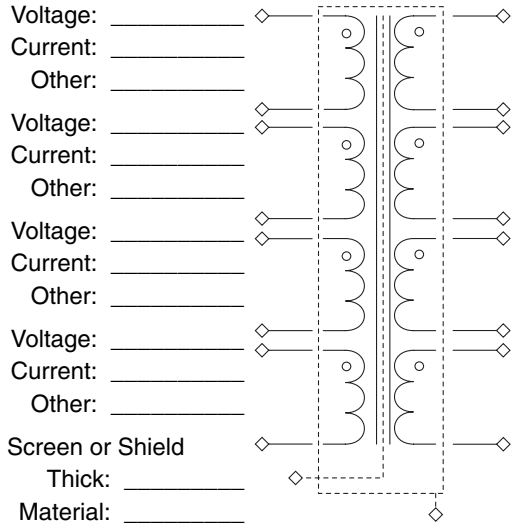
Isolation Voltage: _____Vac/Vdc

DC Current: _____mAdc

Maximum Phase Error Angle: _____@ 10%
_____@ 100%

Operating Temperature Range: _____to_____

SCHEMATIC



Voltage: _____
Current: _____
Other: _____

Voltage: _____
Current: _____
Other: _____

Voltage: _____
Current: _____
Other: _____

Voltage: _____
Current: _____
Other: _____

Screen or Shield
Thick: _____
Material: _____

Voltage: _____
Current: _____
RL: _____
AC or DC
Rms or Peak
Ohms

Voltage: _____
Current: _____
RL: _____
AC or DC
Rms or Peak
Ohms

Voltage: _____
Current: _____
RL: _____
AC or DC
Rms or Peak
Ohms

Voltage: _____
Current: _____
RL: _____
AC or DC
Rms or Peak
Ohms

Outer Shield
Thick: _____
Material: _____

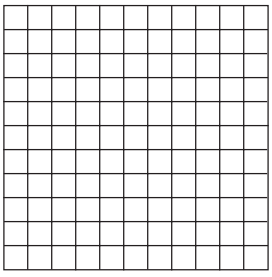
Other Requirements:
_____
_____

Other Requirements:
_____
_____

Other Requirements:
_____
_____

Budgetary/Target Price:
_____@_____ pcs.

Pin Requirements



Grid Units: _____

PHYSICAL REQUIREMENTS

Flame Retardant: Yes No
Standard Varnish: Yes No
Encapsulated: Yes No
Hermetically Sealed: Yes No
Shielded: Yes No

Mounting Style: Vertical or Horizontal
Thru Hole Surface Mount Flying Leads Other _____

Inside Diameter (Min.): _____
Length (Max.): _____
Width (Max.): _____
Height (Max.): _____

Temperature Class (°C):
105 130 155 180 200

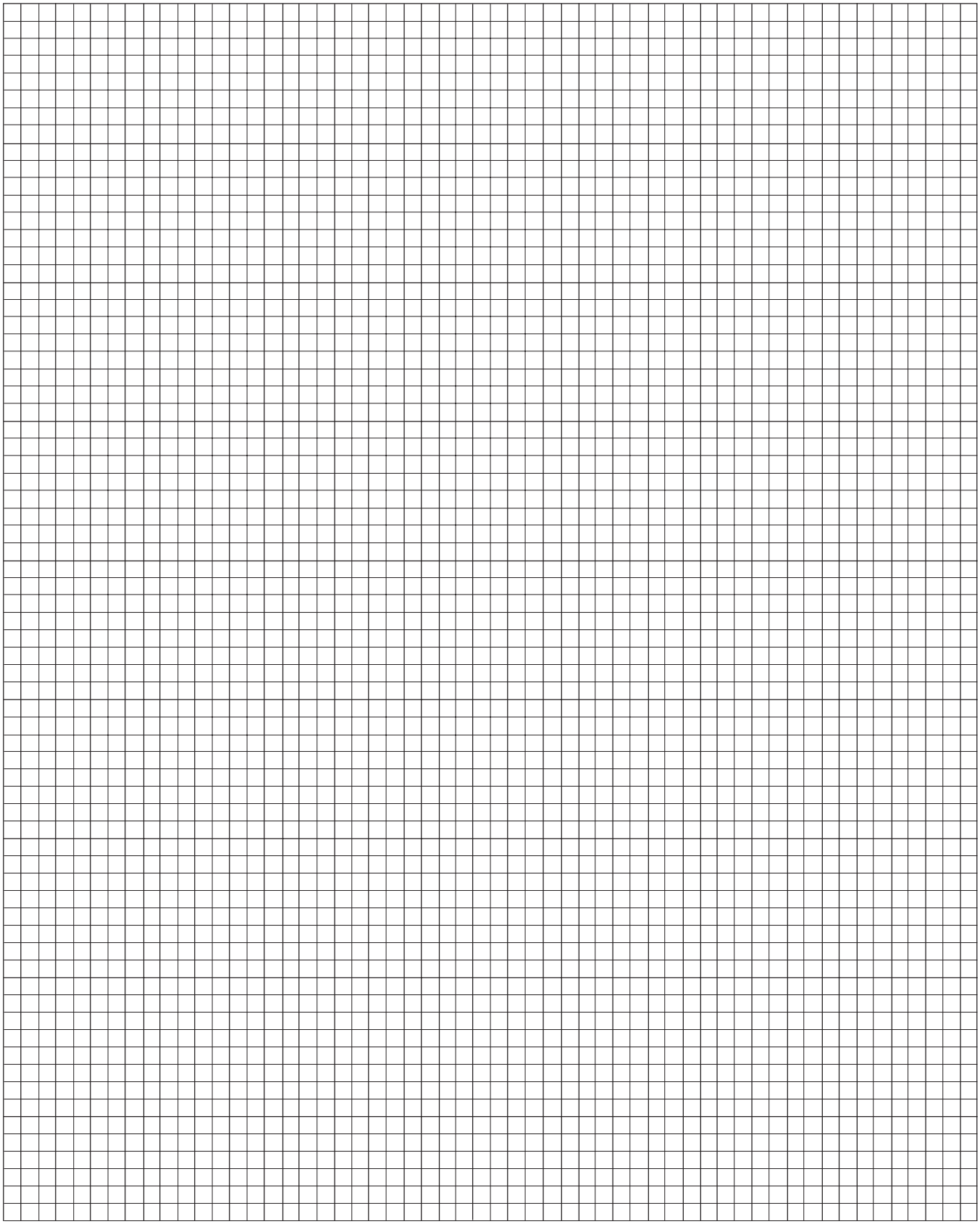
OTHER REQUIREMENTS

_____
_____
_____
_____ (Continue on separate sheet if necessary)

PRIORITIZATION (1-HIGHEST)

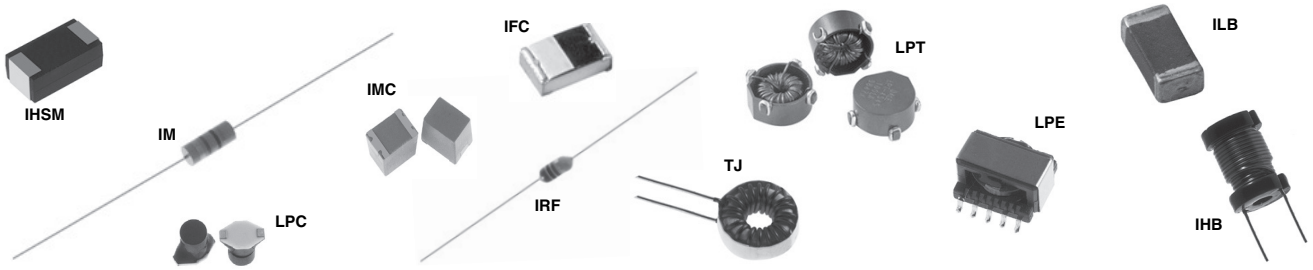
_____ Size
_____ Efficiency
_____ Cost

Custom Design Grid



Inductor and Magnetic Product Terminology

INTRODUCTION



The scope of this application note is to define the terminology associated with inductors and their applications. Some of these terms are listed in the component data sheets. Many terms go beyond the specification of inductors. These terms describe issues associated with inductor design and performance, magnetic materials and theory and applications. A thorough understanding of these terms and definitions will aid in the selling, procurement and application of inductor products.

DEFINITIONS

AIR CORE INDUCTORS
(See Ceramic Core and Phenolic Core.)

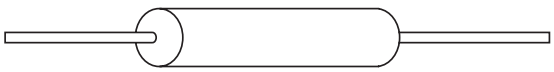
AMBIENT TEMPERATURE
The temperature of still air immediately surrounding a component or circuit. A typical method to measure ambient temperature is to record the temperature that is approximately 1/2 inch from the body of the component or circuit.

ATTENUATION
The relative decrease in amplitude of a given parameter. Attenuation measurements are common for voltage, current and power. It is usually expressed in units of decibels (dB). For a power ratio, one dB = 10 $Log_{10}(P_1/P_2)$.

A dB is equal to 20 Log_{10} (I_1/I_2) for current and 20 Log_{10} (V_1/V_2) for voltage ratios.

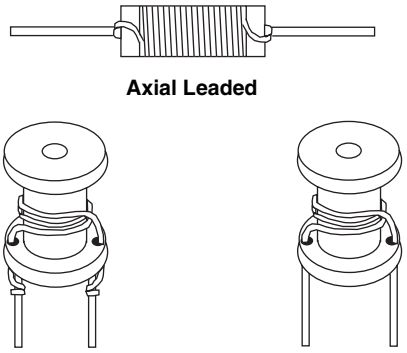
AXIAL INDUCTOR
An inductor constructed on a core with concentric leads on opposite ends of the core. Axial inductors are available for both power applications and RF applications, and are available in many core materials including the basic phenolic, ferrite and powdered iron types. Both rod and bobbin shapes are utilized. Axial inductors are very suitable for tape and reel packaging for auto placement. (See Inductor.)

Axial Leaded Inductor



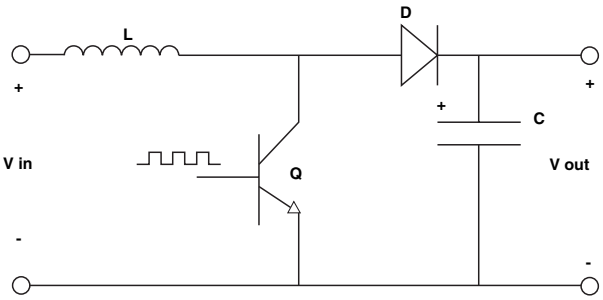
BOBBIN CORE
A core with the shape of a bobbin or spool which contains flanges. Bobbin cores are available with and without leads and in the axial and radial form. (See Axial Inductor and Radial Inductor.)

Bobbins



BOOST REGULATOR (DC-DC)
A basic DC-DC switching converter topology that takes an unregulated input voltage, and produces a higher, regulated output voltage. This higher output voltage is achieved by storing energy in an input inductor and then transferring the energy to the output by turning a shunt switch (transistor) on and off.

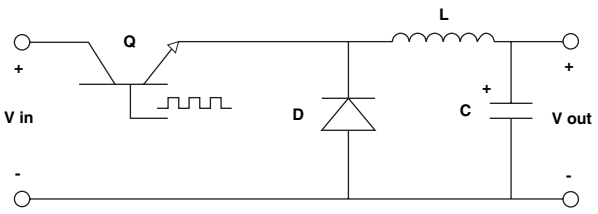
Simplified Boost Regulator



BUCK REGULATOR (DC-DC)

A basic DC-DC switching converter topology that takes an unregulated input voltage, and produces a lower, regulated output voltage. This output voltage is achieved by chopping the input voltage with a series connected switch (transistor) which applies pulses to an averaging inductor and capacitor circuit.

Simplified Buck Regulator



CERAMIC CORES

Ceramic is one of the common materials used for inductor cores. Its main purpose is to provide a form for the coil. In some designs it also provides the structure to hold the terminals in place. Ceramic has a very low thermal coefficient of expansion. This allows for relatively high inductance stability over the operating temperature ranges.

Ceramic has no magnetic properties. Thus, there is no increase in permeability due to the core material.

Ceramic core inductors are often referred to as “air core” inductors. Ceramic core inductors are most often used in high frequency applications where low inductance values, very low core losses and high Q values are required.

CHOKE

(See RF Choke.)

CLOSED MAGNETIC PATH

Magnetic core shapes designed to contain all of the magnetic flux generated from an excited winding(s). Inductors made with these core types are considered to be shielded inductors. Shielding, however, is a matter of degree. Common core shapes that are considered to have closed magnetic paths are toroids, E-cores and most pot cores. Shielded bobbins also offer a high degree of shielding and may be considered to have closed magnetic paths for most practical purposes. Common core shapes that are considered to have open magnetic flux paths are rod cores and unshielded bobbin cores. (See Shielded Inductor.)

COILS

Another common name for inductors. (See Inductor.)

COLOR CODES

Inductor color codes have been standardized. The color marks or bands represent the inductor's value and tolerance. Following is a table that translates the colors and numbers:

COLOR CODE CHART			
COLOR	SIGNIFICANT FIGURES OR DECIMAL POINT	MULTIPLIER	INDUCTANCE TOLERANCE
Black	0	1	—
Brown	1	10	± 1%
Red	2	100	± 2%
Orange	3	1000	± 3%
Yellow	4	10,000	± 4%
Green	5	—	—
Blue	6	—	—
Violet	7	—	—
Gray	8	—	—
White	9	—	—
None	—	—	± 20%
Silver	—	—	± 10%
Gold			± 5%

COMMON-MODE NOISE

Noise or electrical interference that is common to both electrical lines in relation to earth ground.

COPPER LOSS

The power lost by current flowing through the winding. The power loss is equal to the square of the current multiplied by the resistance of the wire (I^2R). This power loss is transferred into heat.

CORE LOSSES

Core losses are caused by an alternating magnetic field in the core material. The losses are a function of the operating frequency and the total magnetic flux swing. The total core losses are made up of three main components: Hysteresis, eddy current and residual losses. These losses vary considerably from one magnetic material to another. Applications such as higher power and higher frequency switching regulators and RF designs require careful core selection to yield the highest inductor performance by keeping the core losses to a minimum.

CORE SATURATION

(See Saturation Current.)

CURIE TEMPERATURE

The temperature above which a ferrite core loses its magnetic properties. The core's permeability typically increases dramatically as the core temperature approaches the curie temperature which causes the inductance to increase. The permeability drops to near unity at the curie temperature which causes the inductance to drop dramatically. The curie point is the temperature at which the initial permeability has dropped to 10% of its original value at room temperature.

DC-DC CONVERTER

A circuit or device that converts a DC input voltage to a regulated output voltage. The output voltage may be lower, higher or the same as the input voltage. Switching regulator DC-DC circuits most often require an inductor or transformer to achieve the regulated output voltage. Switching regulator circuits can achieve a higher level of power efficiency when compared to non-switching techniques. (See Boost Regulator and Buck Regulator.)

DCR (DC RESISTANCE)

The resistance of the inductor winding measured with no alternating current. The DCR is most often minimized in the design of an inductor. The unit of measure is ohms, and it is usually specified as a maximum rating.

DIFFERENTIAL-MODE NOISE

Also known as normal-mode noise, it is electrical interference that is not common to both electrical lines but present between both electrical lines.

DISTRIBUTED CAPACITANCE

In the construction of an inductor, each turn of wire or conductor acts as a capacitor plate. The combined effects of each turn can be represented as a single capacitance known as the distributed capacitance. This capacitance is in parallel with the inductor. This parallel combination will resonate at some frequency which is called the self-resonant frequency (SRF). Lower distributed capacitances for a given inductance value will result in a higher SRF value for the inductor and vice versa. (See SRF.)

EMI

EMI is an acronym for Electromagnetic Interference. It is unwanted electrical energy in any form. EMI is often used interchangeably with “Noise”.

EDDY CURRENT LOSSES

Eddy current losses are present in both the magnetic core and winding of an inductor. Eddy currents in the winding (or conductor) contribute to two main types of losses: losses due to proximity effects and skin effects. As for the core losses, an electric field around the flux lines in the magnetic field is generated by alternating magnetic flux. This will result in eddy currents if the magnetic core material has electrical conductivity. Losses result from this phenomenon since the eddy currents flow in a plane that is perpendicular to the magnetic flux lines.

EPOXY COATED INDUCTOR

Inductors that have been coated with epoxy as opposed to having a molded case, shrink wrapped tubing or left with an open construction body. Epoxy coated inductors typically have smooth edges and surfaces. The epoxy coat acts as an insulation. Both radial and axial styles can be found with epoxy coated surfaces.

FERRITE CORE

Ferrite is a magnetic material which consists of a mixed oxide of iron and other elements that are made to have a crystalline molecular structure. The crystalline structure is created by firing the ferrite material at a very high temperature for a specified amount of time and profile. The general composition of ferrites is $xxFe_2O_4$ where xx represents one or several metals. The most popular metal combinations are manganese and zinc (MnZn) and nickel and zinc (NiZn). These metals can be easily magnetized.

FILTER

A circuit or device whose purpose is to control electrical energy at a given frequency or over a range of frequencies. Groups of passive components are commonly used to construct many types of filters. These passive components include resistors, capacitors and inductors.

IMPEDANCE

The impedance of an inductor is the total resistance to the flow of current, including the AC and DC component. The DC component of the impedance is simply the DC resistance of the winding. The AC component of the impedance includes the inductor reactance. The following formula calculates the inductive reactance of an ideal inductor (i.e., one with no losses) to a sinusoidal AC signal.

$$Z = X_L = 2\pi fL$$

L is in henries and f is in hertz. This equation indicates that higher impedance levels are achieved by higher inductance values or at higher frequencies. Skin effect and core losses also add to the impedance of an inductor. (See Skin Effect and Core Losses.)

IMPEDANCE ANALYZER

Test instrument capable of measuring a wide range of impedance parameters, gain and phase angle. In testing inductors, impedance analyzers can measure inductance, Q, SRF, insertion loss, impedance and capacitance. They operate in a much more automatic fashion in comparison to Q Meters. Some impedance analyzers have a wider test frequency range than a Q meter.

INCREMENTAL CURRENT

The DC bias current flowing through the inductor which causes an inductance drop of 5% from the initial zero DC bias inductance value. This current level indicates where the inductance can be expected to drop significantly if the DC bias current is increased further. This applies mostly to ferrite cores in lieu of powdered iron. Powdered iron cores exhibit “soft” saturation characteristics. This means their inductance drop from higher DC levels is much more gradual than ferrite cores. The rate at which the inductance will drop is also a function of the core shape. (See Saturation Current.)

INDUCTANCE

The property of a circuit element which tends to oppose any change in the current flowing through it. The inductance for a given inductor is influenced by the core material, core shape and size, the turns count and the shape of the coil. Inductors most often have their inductances expressed in microhenries (μH). The following table can be used to convert units of inductance to microhenries. Thus, 47mH would equal 47,000μH.

1 henry (H) = 10^6μH
1 millihenry (mH) = 10^3μH
1 microhenry (μH) = 1μH
1 nanohenry (nH) = 10^{-3}μH

INDUCTANCE TOLERANCE

Standard inductance tolerances are typically designated by a tolerance letter. Standard inductance tolerance letters include: (See Color Codes.)

LETTER	TOLERANCE
F	± 1%
G	± 2%
H	± 3%
J	± 5%
K	± 10%
L	± 15%*
M	± 20%

*L = ± 20% for some Military Products.

INDUCTOR

A passive component designed to resist changes in current. Inductors are often referred to as “AC Resistors”. The ability to resist changes in current and the ability to store energy in its magnetic field, account for the bulk of the useful properties of inductors. Current passing through an inductor will produce a magnetic field. A changing magnetic field induces a voltage which opposes the field-producing current. This property of impeding changes of current is known as inductance. The voltage induced across an inductor by a change of current is defined as:

$$V = L \, di/dt$$

Thus, the induced voltage is proportional to the inductance value and the rate of current change. (See Inductance.)

INPUT LINE FILTER

A power filter placed on the input to a circuit or assembly that attenuates noise introduced from the power bus. The filter is designed to reject noise within a frequency band. Typically these filters are low-pass filters meaning they pass low frequency signals such as the DC power and attenuate higher frequency signals which consist of mainly noise. Band pass or low pass filters are commonly made up of inductor and capacitor combinations. (Also see Noise, Attenuation, EMI and Pi-Filter.)

*KOOL MU® CORE

Kool Mu® is a magnetic material that has an inherent distributed air gap. The distributed air gap allows the core to store higher levels of magnetic flux when compared to other magnetic materials such as ferrites. This characteristic allows a higher DC current level to flow through the inductor before the inductor saturates.

Kool Mu® material is an alloy that is made up of basically nickel and iron powder (approx. 50% of each) and is available in several permeabilities. It has a higher permeability than powdered iron and also lower core losses. Kool Mu® is required to be pressed at a much higher pressure than powdered iron material. The manufacturing process includes an annealing step that relieves the pressure put onto the powdered metals which restores their desirable magnetic properties. Thus, the powdered particles require a high temperature insulation as compared to powdered iron.

Kool Mu® performs well in power switching applications. The relative cost is significantly higher than powdered iron.

LAMINATED CORES

Cores constructed by stacking multiple laminations on top of each other. The laminations are offered in a variety of materials and thicknesses. Some laminations are made to have the grains oriented to minimize the core losses and give higher permeabilities. Each lamination has an insulated surface which is commonly an oxide finish. Laminated cores are used in some inductor designs but are more common in a wide variety of transformer applications.

LITZ WIRE

Wire consisting of a number of separately insulated strands that are woven or bunched together such that each strand tends to take all possible positions in the cross section of the wire as a whole. The current through each individual strand is divided equally since this wire design equalizes the flux linkages and reactance of the individual strands. In other words, a Litz conductor has lower AC losses than comparable solid wire conductors which becomes important as the operating frequency increases. (See Skin Effect.)

*Kool Mu® is a registered trademark of Magnetics, Inc.

MAGNETIC WIRE

Wire used to create a magnetic field such as those in magnetic components (inductors and transformers). Magnet wire is nearly 100% copper and must be made from virgin copper. It is offered with a number of different organic polymer film coatings.

MATCHED IMPEDANCE

The condition that exists when two coupled circuits are adjusted so that the output impedance of one circuit equals the input impedance of the other circuit connected to the first. There is a minimum power loss between two circuits when their connecting impedances are equal.

MOLDED INDUCTOR

An inductor whose case has been formed via a molding process. Common molding processes include injection and transfer molding. Molded inductors typically have well defined body dimensions which consist of smooth surfaces and sharper corners as compared to other case types such as epoxy coated and shrink wrap coatings. (See Inductor.)

MONOLITHIC INDUCTOR

(See Multilayer Inductor.)

MPP CORE

MPP is an acronym for molypermalloy powder. It is a magnetic material that has an inherent distributed air gap. The distributed air gap allows the core to store higher levels of magnetic flux when compared to other magnetic materials such as ferrites. This characteristic allows a higher DC current level to flow through the inductor before the inductor saturates.

The basic raw materials are nickel, iron and molybdenum. The ratios are: approximately 80% nickel, 2% - 3% molybdenum, and the remaining is iron. The manufacturing process includes an annealing step as discussed in the Kool Mu® definition. MPP stores higher amounts of energy and has a higher permeability than Kool Mu®.

Cores are offered in 10 or more permeability selections. The core characteristics allow inductors to perform very well in switching power applications. Since higher energy can be stored by the core, more DC current can be passed through the inductor before the core saturates. The cost of MPP is significantly higher than Kool Mu®, powdered irons and most ferrite cores with similar sizes. (See Saturation Current.)

MULTILAYER INDUCTOR

An inductor constructed by layering the coil between layers of core material. The coil typically consists of a bare metal material (no insulation). This technology is sometimes referred to as “non-wirewound”. The inductance value can be made larger by adding additional layers for a given spiral pattern.

NOISE

Unwanted electrical energy in a circuit that is unrelated to the desired signal. Sources of noise are most often generated by some type of switching circuit. Common sources include switching voltage regulators and clocked signals such as digital circuits.

OHM

The unit of measurement for resistance and impedance. Resistance is calculated by Ohm's Law:

R = V/I where R = resistance
V = voltage
I = current.

OPERATING TEMPERATURE RANGE

Range of ambient temperatures over which a component can be operated safely. The operating temperature is different from the storage temperature in that it accounts for the component's self temperature rise caused by the winding loss from a given DC bias current. This power loss is referred to as the “copper” loss and is equal to:

$$\text{Power Loss} = (\text{DCR})\ (I^2_{dc}).$$

This power loss results in an increase to the component temperature above the given ambient temperature. Thus, the maximum operating temperature will be less than the maximum storage temperature:

Maximum Operating Temperature =
Storage Temperature - Self Temperature Rise

(See Core Losses.)

PERMEABILITY (CORE)

The permeability of a magnetic core is the characteristic that gives the core the ability to concentrate lines of magnetic flux. The core material, as well as the core geometry, affect the core's “effective permeability”. For a given core shape, size and material, and a given winding, higher permeability magnetic materials result in higher inductance values as opposed to lower permeability materials.

PHENOLIC CORE

Phenolic is a common material used for inductor cores. Many are made of a polyester base that have high temperature characteristics. It is also common for phenolic cores to have high flammability ratings such as UL94V-0. Phenolic cores also provide high strength and are more economical than ceramic cores.

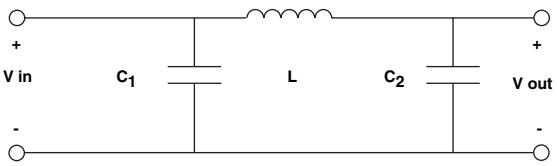
Phenolic has no magnetic properties. Thus, there is no increase in permeability due to the core material.

Phenolic core inductors are often referred to as “air core” inductors and are most often used in high frequency applications where low inductance values, very low core losses and high *Q* values are required.

PI-FILTER

A filter consisting of two capacitors connected in parallel with a series inductor. These filters are commonly found near DC-DC converters to filter ripple current and voltage.

Basic Pi-Filter



POLYOLEFIN TUBING

A common shrink wrap (tubing) used in the electronic industry. It is often used to provide insulation or protect wire insulation such as coil windings. Polyolefin tubing is a polymer which can be provided to meet various degrees of flammability requirements.

POWDERED IRON CORE

Powdered iron is a magnetic material that has an inherent distributed air gap. The distributed air gap allows the core to store higher levels of magnetic flux when compared to other magnetic materials such as ferrites. This characteristic allows a higher DC current level to flow through the inductor before the inductor saturates.

Powdered iron cores are made of nearly 100% iron. The iron particles are insulated from each other, mixed with a binder (such as phenolic or epoxy) and pressed into the final core shape. The cores are cured via a baking process. Other characteristics of powdered iron cores include: they are typically the lowest cost alternative and their permeabilities typically have a more stable temperature coefficient than ferrites. (See Saturation Current.)

Q

The Q value of an inductor is a measure of the relative losses in an inductor. The Q is also known as the “quality factor” and is technically defined as the ratio of inductive reactance to effective resistance and is represented by:

$$Q = \frac{X_L}{Re} = \frac{2\pi fL}{Re}$$

Since X_L and Re are functions of frequency, the test frequency must be given when specifying *Q*. X_L typically increases with frequency at a faster rate than Re at lower frequencies, and vice versa at higher frequencies. This results in a bell shaped curve for *Q* vs frequency. Re is mainly comprised of the DC resistance of the wire, the core losses and skin effect of the wire.

Based on the above formula, it can be shown that the *Q* is zero at the self resonant frequency since the inductance is zero at this point.

Q METER

A standard instrument used to measure the inductance and Q of small RF inductors. The Q meter is based on a stable, continuously variable oscillator and a resonant circuit which is connected to the part to be tested.

The *Q* is proportional to the voltage across the internal calibrated variable capacitor. The voltage is measured by an internal RF voltmeter. The capable test frequency range is near 22kHz to 70MHz.

RF CHOKE

Another name for a radio frequency inductor which is intended to filter or choke out signals. (See Inductor.)

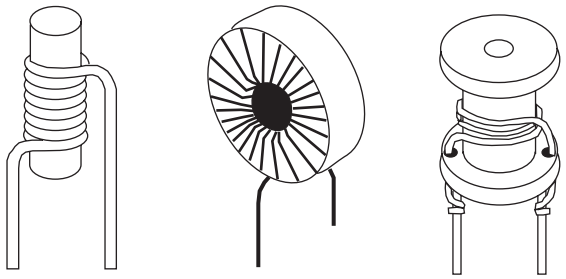
RFI

RFI is an acronym for Radio-Frequency Interference. It is an older and more restrictive term that is used interchangeably with “EMI”. (See EMI.)

RADIAL INDUCTOR

An inductor constructed on a core with leads exiting from the same side of the inductor body as to be mounted in the same plane. Radial inductors most often refer to two leaded devices but technically include devices with more than two leads as well. Some common core shapes include rod cores, bobbins and toroids. (See Inductor.)

Radial Inductor Styles



RATED CURRENT

The level of continuous DC current that can be passed through the inductor. This DC current level is based on a maximum temperature rise of the inductor at the maximum rated ambient temperature. The rated current is related to the inductor's ability to minimize the power losses in the winding by having a low DC resistance. It is also related to the inductor's ability to dissipate this power lost in the windings. Thus, the rated current can be increased by reducing the DC resistance or increasing the inductor size.

For low frequency current waveforms, the RMS current can be substituted for the DC rated current. The rated current is not related to the magnetic properties of the inductor. (See Incremental Current and Saturation Current.)

REACTANCE

The imaginary part of the impedance. (See Impedance.)

RIPPLE VOLTAGE

The periodic alternating voltage imposed on the voltage output of a switching voltage converter. The ripple voltage is normally specified as a peak-to-peak value.

SATURATION CURRENT

The DC bias current flowing through the inductor which causes the inductance to drop by a specified amount from the initial zero DC bias inductance value. Common specified inductance drop percentages include 10% and 20%. It is useful to use the 10% inductance drop value for ferrite cores and 20% for powdered iron cores in energy storage applications.

The cause of the inductance to drop due to the DC bias current is related to the magnetic properties of the core. The core, and some of the space around the core, can only store a given amount of magnetic flux density.

Beyond the maximum flux density point, the permeability of the core is reduced. Thus, the inductance is caused to drop. Core saturation does not apply to “air-core” inductors. (See Incremental Current and Permeability.)

SRF (SELF-RESONANT FREQUENCY)

The frequency at which the inductor's distributed capacitance resonates with the inductance. It is at this frequency that the inductance is equal to the capacitance and they cancel each other. The inductor will act purely resistive with a high impedance at the SRF point.

The distributed capacitance is caused by the turns of wire layered on top of each other and around the core. This capacitance is in parallel to the inductance. At frequencies above the SRF, the capacitive reactance of the parallel combination will become the dominant component.

Also, the Q of the inductor is equal to zero at the SRF point since the inductive reactance is zero. The SRF is specified in MHz and is listed as a minimum value on product data sheets. (Also see Distributed Capacitance.)

SHIELDED INDUCTOR

An inductor designed for its core to contain a majority of its magnetic field. Some inductor designs are self shielding. Examples of these are magnetic core shapes which include toroids, pot cores and E-cores. Magnetic core shapes such as slug cores and bobbins require the application of a magnetic sleeve or similar method to yield a shielded inductor.

It should be noted that magnetic shielding is a matter of degree. A certain percentage of the magnetic field will escape the core material. This is even applicable for toroidal cores as lower core permeabilities will have higher fringing fields than will high permeability toroidal cores. (See Closed Magnetic Path.)

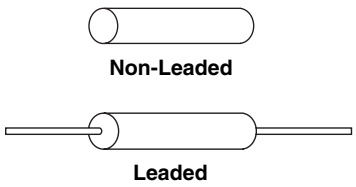
SKIN EFFECT

Skin effect is the tendency for alternating current to flow near the surface of the conductor in lieu of flowing in a manner as to utilize the entire cross-sectional area of the conductor. This phenomenon causes the resistance of the conductor to increase. The magnetic field associated with the current in the conductor causes eddy currents near the center of the conductor which opposes the flow of the main current near the center of the conductor. The main current flow is forced further to the surface as the frequency of the alternating current increases. (See Litz Wire.)

SLUG CORE

A core with the shape of a cylindrical rod. Slug cores typically refer to cores with no leads. Axial leaded slug cores are also very common. Non-leaded slug cores are typically used in power filtering applications. They exhibit higher flux density characteristics than other core shapes as most of the magnetic energy is stored in the air around the core. (See Axial Inductors and Radial Inductors.)

Slug Cores



STORAGE TEMPERATURE RANGE

Range of ambient temperatures over which a component can be stored safely. (See Operating Temperature Range.)

SWITCHING FREQUENCY

The operating frequency of a switching regulator.

SWITCHING REGULATOR

A circuit that is designed to regulate the output voltage, from a given input voltage, by using a closed control loop design. The most common switching regulator types involve a magnetic component, such as an inductor or transformer, that is used to store and transfer energy to the output by having the current switched on and off. (See Boost Regulator and Buck Regulator.)

TAPE WOUND CORES

Cores made by rolling strips of alloy iron into a toroidal shape. The metal strips have a precisely controlled thickness which are coated with a very thin insulation material to prevent the metal in the layers to make contact with each other. The finished cores have an outside coating to protect the metal layers and they are offered in a variety of material mixes. Tape wound cores are capable of storing high amounts of energy and contain a high permeability. Their major disadvantage is that they are relatively expensive when compared to other core types. (See Toroidal Inductor.)

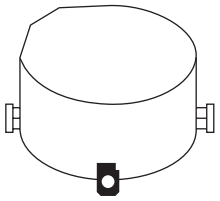
TEMPERATURE RISE

The increase in surface temperature of a component in air due to the power dissipation in the component. The power dissipation for an inductor includes both copper and core losses.

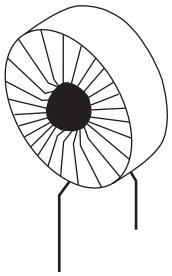
TOROIDAL INDUCTOR

An inductor constructed by placing a winding(s) on a core that has a donut shaped surface. Toroidal cores are available in many magnetic core materials within the four basic types: Ferrite, Powdered Iron, Alloy and High Flux and Tape Wound. Characteristics of toroidal inductors include: self shielding (closed magnetic path), efficient energy transfer, high coupling between windings and early saturation.

Toroidal Inductors



Surface Mount



Through Hole

TEST FREQUENCY

The frequency at which inductors are tested for either inductance or *Q* or both. Some test frequencies used widely in the industry include:

COMMON TEST FREQUENCIES	
TEST FREQUENCY	**INDUCTOR/VALUE MEASURED**
1kHz	Power Inductors (Wide Value Range)
0.079MHz	RF Inductors (above 10,000μH to 100,000μH)
0.250MHz	RF Inductors (above 1,000μH to 10,000μH)
0.790MHz	RF Inductors (above 100μH to 1,000μH)
2.5MHz	RF Inductors (above 10μH to 100μH)
7.9MHz	RF Inductors (above 1μH to 10μH)
25MHz	RF Inductors (above .10μH to 1μH)
50MHz	RF Inductors (.01μH to 0.1μH)

Most of these test frequencies have been designated by military specifications. However, there are some conflicting frequency assignments among the military specifications. There is a present trend to assign test frequencies that match the user frequencies. This is particularly true for very low values. These user frequencies do not match those listed above.

VOLT MICROSECOND CONSTANT

The product of the voltage applied across the winding and the time for the magnetizing current to reach 1.5 times the linear extrapolation of the current waveform. This constant is a measure of the energy handling capability of a transformer or inductor. It is dependent upon the core area, core material (including the saturation flux density of the core), the number of turns of the winding and the duty cycle of the applied pulse.

VOLUME RESISTIVITY (CORE)

The ability of a core to resist the flow of electrical current either through the bulk of the material or on its surface. The unit of the volume resistivity is Ohm - cm.

Core volume resistivity becomes an issue in inductor designs where the leads/terminals come in contact with the core material. This type includes axial and radial inductors that have leads epoxied into the core. As for core materials, high permeability ferrites present the most concern as their volume resistivity is typically the lowest.

Under certain conditions, a low resistive path can be realized between two inductor terminals if they are in contact with a low resistivity core. The inductor, under these conditions, will lose its higher impedance characteristics.

Frequency Dependance of Inductor Testing and Correlation of Results Between Q Meters and Impedance Meters

This engineering note is in response to questions raised regarding differences of inductance testing results between Vishay Dale products tested using a “Q” meter as the standard and similar inductor products produced by other manufacturers that use an impedance meter as the standard. It will also discuss the frequency dependance of inductance and Q (Quality Factor) when testing.

The primary values used to specify an inductor or coil are inductance, Q, Self-Resonant Frequency (SRF), and Direct Current Resistance (DCR). The first two parameters, inductance and Q, are very dependant on the testing frequency and the instrument used for testing. Inductance is specified in Henries, usually with a tolerance. Q, being an indication of relative losses within an inductor, is unitless, and is based on the ratio of inductive reactance (X_L) and effective resistance (R_e) at frequency (X_L/R_e). As can be seen from this formula, Q is very dependent on frequency. At lower frequencies, the inductive reactance (X_L) changes faster than effective resistance (R_e); at higher frequencies, the reverse is true. SRF is specified in Hertz and DCR in Ohms.

Many Vishay Dale leaded and surface mount inductors are referenced from what has been the industry standard test instrument: the HP4342A Q meter (it is important to note that using the Q meter as the standard does not mean that the product is necessarily tested on that meter, but only that values are referenced back to what a Q meter would read if it was testing the part). This common industry test method/instrument has historical ties back to military specifications and standards and is still in wide use throughout the industry as the standard by which values are determined. Recently, the impedance analyzer has been gaining preference as the new standard for inductance measurements of radio frequency coils (especially commercial surface mount products). The following is a brief description of the reasons for this trend.

The Q meter is made up of a variable frequency signal generator, a calibrated variable capacitor, and a high impedance RF voltmeter. There are several sources of error when testing with a Q meter. The first is *Residual Inductance* which is defined as the sum of the internal inductance of the Q meter as well as the inductance of any test leads or fixtures. It is determined by using a shorting bar with a known inductance value. This value is then subtracted from any *Measured Inductance* to give the *Effective Inductance.* The next error is called *Distributed Capacitance* which is defined as the total distributed capacitance of the inductor under test. *Distributed Capacitance* is only a concern with inductors with large inductance values (typically above 1mH).

The fundamental difficulty with measuring inductance and Q is that coil inductance, parasitics[1] of the coil and test fixture, and Q are highly dependant on the test frequency and the configuration of the test instrument and fixture. Q meters require the use of a test fixture that has parasitics that can vary from one test fixture to another. This variance requires compensation before testing to get accurate and repeatable results. It is also important to understand that the Q meter operates by resonating the coil under test with a variable capacitor. At resonance, the meter indicates the capacitance value on a dial that the test operator must judge by reading the dial. The resolution of the analog dial often introduces parallax errors that add to the inaccuracy in the measurement.

[1] Unwanted stray inductance and capacitance inherent in the product's construction.

Commercially available Q meters have inductance measurement accuracies of no better than 3%. The accuracy can be improved by the use of setup standards called correlation pieces or samples. The correlation samples are used as the standard for a specific component value and are then used to "calibrate" the meter every time testing of components is performed. The use of correlation samples has been the traditional industry test method used to improve accuracy of Q meters, and results in little error and provides consistent readings. However, this correlation process has significant disadvantages. For the best accuracy, correlation sample standards must be established and shared between the manufacturer and the customer. Also, each Q meter must be "calibrated" with the correlation standard before each test.

Because of the inherent difficulties in using a Q meter accurately, the use of impedance analyzers as the standard has become much more common. Impedance analyzers (i.e., HP4191, HP4194) have accuracies that can be better than ± 1% for impedances near 50 ohms and a machine to machine repeatability of approximately 1%. Overall session-to-session test repeatability on the same instrument is also 1%. The use of impedance analyzers also eliminates the need for correlation samples. In addition, the analyzers have digital readouts which remove the potential for problems associated with dial reading/parallax errors.

Selection of a test instrument will influence test results. Different instruments have different capabilities and accuracies. As stated, the frequency used during testing will also cause a variation in test results. Even the tolerance of a coil will change with frequency because of the variances in parasitics within the coil (i.e., a 5% tolerance coil tested at one frequency may only be a 10% tolerance coil at another frequency). Below is a table that shows the typical variations that can be expected for the same coil tested on different instruments and at different frequencies.

TYPICAL VARIATIONS

INSTRUMENT	FREQUENCY	INDUCTANCE
HP4342A Q meter	25MHz	682.3nH
HP4192A	0.130MHz	607.0nH
HP4192A	10MHz	592.7nH
Booton 62AD	1MHz	594.0nH
Tektronix LC130	0.130MHz	1300.0nH
HP4191A	100MHz	1065.0nH

As can be seen in the table above, it is difficult to get similar results between two different meters or by testing at two different frequencies. This difference is more pronounced when using meters with different test methods (Q meter versus impedance analyzer). If the testing instrument and or method is different between the manufacturer and the customer, it is possible to establish a correlation between the two readings by testing a controlled set of parts on both machines and averaging the difference to establish a correlation factor. This is only recommended when the test instruments are different and should not be used when different testing frequencies are involved.

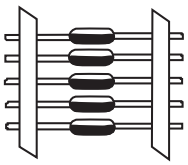
Following the trend toward the use of impedance analyzers as the standardized industry test method, and to eliminate correlation issues, Vishay Dale offers testing (at customer request) using the impedance analyzer as the standard in lieu of the Q meter. However, because reliable Q measurements can be made on the Q meter, and because of the number of existing customer designs that are based on this standard, the HP4342A Q meter will remain the reference instrument for all Q measurements. If the alternate test method is desired, then we can accommodate customer needs by designating the product with a special part number or by linking the special testing requirements to the customer part number. The IMC-1812-91, IMC-1210-91, ISC-1812-91, and ISC-1210-91 are among several parts that reflect this test method and should be considered for future use if the customer requires value testing based on the impedance analyzer standard. It should be noted that changing from standard product to the special "-" series of products like the -91 will, in most cases, have little or no impact on price or delivery. Vishay Dale will continue to monitor testing trends and will make changes as required to meet overall customer needs.

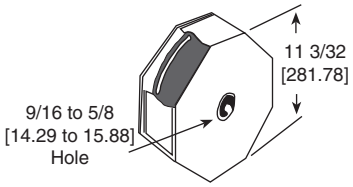
If you have further questions regarding this issue, please contact the factory at (605) 665-9301.

Leaded Magnetics Packaging Methods

TAPE AND REEL in inches [millimeters]

Reel Pack





MODEL	PACKAGE CODE	REEL SIZE	CARRIER TAPE WIDTH (W)	COMPONENT PITCH (P)	UNITS/ REEL	PACKAGE CODE	UNITS/ BULK
IM-1	R36	7.5	2.06[52.39]	0.2[5.08]	1500	B08	200
		12	2.06[52.39]	0.2[5.08]	4000		
	RJ1	7.5	2.06[52.39]	0.2[5.08]	400		
	RJ4	7.5	2.06[52.39]	0.2[5.08]	1000		
IM-2	R36	7.5	2.06[52.39]	0.2[5.08]	1500	B08	200
		12	2.06[52.39]	0.2[5.08]	4000		
	RJ1	7.5	2.06[52.39]	0.2[5.08]	400		
	RJ4	7.5	2.06[52.39]	0.2[5.08]	1000		
IM-4	R36	7.5	2.06[52.39]	0.2[5.08]	1000	B08	200
		12	2.06[52.39]	0.2[5.08]	2500		
	RJ1	7.5	2.06[52.39]	0.2[5.08]	400		
	RJ4	7.5	2.06[52.39]	0.2[5.08]	1000		
IM-6	R16	7.5	2.06[52.39]	0.4[10.16]	500	B08	200
		12	2.06[52.39]	0.4[10.16]	1000		
	RJ2	7.5	2.06[52.39]	0.4[10.16]	400		
	RJ5	12	2.06[52.39]	0.4[10.16]	1000		
IM-8	R16	12	2.06[52.39]	0.4[10.16]	1000	B08	100
	RJ2	7.5	2.06[52.39]	0.4[10.16]	400		
	RJ5	12	2.06[52.39]	0.4[10.16]	1000		
IM-9	R16	12	2.06[52.39]	0.4[10.16]	800	B08	80
	RJ2	7.5	2.06[52.39]	0.4[10.16]	400		
	RJ5	12	2.06[52.39]	0.4[10.16]	1000		
IM-10	R16	12	2.06[52.39]	0.4[10.16]	800	B08	70
	RJ2	7.5	2.06[52.39]	0.4[10.16]	400		
IM-6-38	R16	7.5	2.06[52.39]	0.4[10.16]	500	B08	200
		12	2.06[52.39]	0.4[10.16]	1000		
	RJ2	7.5	2.06[52.39]	0.4[10.16]	400		
	RJ5	12	2.06[52.39]	0.4[10.16]	1000		
IM-6RFCS-40	R36	7.5	2.06[52.39]	0.4[10.16]	500	B08	200
		12	2.06[52.39]	0.4[10.16]	1000		
	RJ1	7.5	2.06[52.39]	0.4[10.16]	400		
	RJ4	12	2.06[52.39]	0.4[10.16]	1000		
IM-10-22	R16	12	2.06[52.39]	0.4[10.16]	500	B08	100
IM-10-28	R07	12	2.88[73.15]	0.4[10.16]	250	B08	70
IM-10-31	N/A	-	-	-	-	B08	50
IM-10-37	R16	12	2.06[52.39]	0.4[10.16]	500	B08	40
IM-10-46	N/A	-	-	-	-	B08	25
IM-10RFCL-12	RB5	12	2.19[55.63]	0.4[10.16]	250	B08	50
IMS-2WWD-40	R36	7.5	2.06[52.39]	0.2[5.08]	1500	B08	200
		12	2.06[52.39]	0.2[5.08]	4000		
	RJ1	7.5	2.06[52.39]	0.2[5.08]	400		
	RJ4	7.5	2.06[52.39]	0.2[5.08]	1000		
IMS-2	R36	7.5	2.06[52.39]	0.2[5.08]	1500	B08	200
		12	2.06[52.39]	0.2[5.08]	4000		
	RJ1	7.5	2.06[52.39]	0.2[5.08]	400		
	RJ4	7.5	2.06[52.39]	0.2[5.08]	1000		

NOTE: Shaded area indicates bulk packaging.

TAPE AND REEL in inches [millimeters]							
MODEL	**PACKAGE CODE**	**REEL SIZE**	**CARRIER TAPE WIDTH (W)**	**COMPONENT PITCH (P)**	**UNITS/ REEL**	**PACKAGE CODE**	**UNITS/ BULK**
IMS-5	R36	7.5	2.50[63.50]	0.2[5.08]	1000	B08	200
		12	2.50[63.50]	0.2[5.08]	2500		
	RJ1	7.5	2.50[63.50]	0.2[5.08]	400		
	RJ4	7.5	2.50[63.50]	0.2[5.08]	1000		
IMS-5WD-40	RB6	7.5	2.50[63.50]	0.2[5.08]	1000	B08	200
		12	2.50[63.50]	0.2[5.08]	2500		
IR-2	R36	7.5	2.06[52.39]	0.2[5.08]	1500	B08	200
		12	2.06[52.39]	0.2[5.08]	4000		
	RJ2	7.5	2.06[52.39]	0.2[5.08]	400		
	RJ5	12	2.06[52.39]	0.2[5.08]	1000		
IR-4	R36	7.5	2.06[52.39]	0.2[5.08]	1000	B08	200
		12	2.06[52.39]	0.2[5.08]	2500		
	RJ1	7.5	2.06[52.39]	0.2[5.08]	400		
	RJ4	7.5	2.06[52.39]	0.2[5.08]	1000		
IRF-1	R36	7.5	2.06[52.39]	0.2[5.08]	1500	B08	200
		12	2.06[52.39]	0.2[5.08]	4000		
	RJ1	7.5	2.06[52.39]	0.2[5.08]	400		
	RJ4	7.5	2.06[52.39]	0.2[5.08]	1000		
IRF-3	R36	7.5	2.06[52.39]	0.2[5.08]	1000	B08	200
		12	2.06[52.39]	0.2[5.08]	2500		
	RJ1	7.5	2.06[52.39]	0.2[5.08]	400		
	RJ4	7.5	2.06[52.39]	0.2[5.08]	1000		
IRF-24	R36	12	2.06[52.39]	0.2[5.08]	5000	N/A	-
IRF-36	R36	12	2.06[52.39]	0.2[5.08]	5000	N/A	-
IRF-46	R36	12	2.06[52.39]	0.2[5.08]	5000	N/A	-
IHD-1	R16	7.5	2.06[52.39]	0.4[10.16]	200	B08	50
		12	2.06[52.39]	0.4[10.16]	800		
IHD-3	RA3	12	2.87[72.90]	0.6[15.24]	200	B08	various
IHA-10x	N/A	-	-	-	-	B01	various
IHA-20x	N/A	-	-	-	-	B01	various
IHA-30x	N/A	-	-	-	-	B01	various
IHA-50x	N/A	-	-	-	-	B01	various
IH-3	N/A	-	-	-	-	B15	various
IH-5	N/A	-	-	-	-	B15	various
IH-10	N/A	-	-	-	-	B15	various
IH-15	N/A	-	-	-	-	B15	various
IHM-2	N/A	-	-	-	-	P12	20
IHB-1	N/A	-	-	-	-	B40	various
IHB-2	N/A	-	-	-	-	B40	various
IHB-3	N/A	-	-	-	-	B40	various
IHB-4	N/A	-	-	-	-	B40	16
IHB-5	N/A	-	-	-	-	B40	16
IHB-6	N/A	-	-	-	-	B40	16
IHV	N/A	-	-	-	-	B48	various
PC	N/A	-	-	-	-	F09	120
WVL	N/A	-	-	-	-	F09	120
TJ	N/A	-	-	-	-	B09	various
		-	-	-	-	T07	various
TE-3	N/A	-	-	-	-	T07	35
TE-4	N/A	-	-	-	-	T07	42
TE-5	N/A	-	-	-	-	T07	36
TD-3	N/A	-	-	-	-	P09	5
TD-4	N/A	-	-	-	-	P09	2
TD-5	N/A	-	-	-	-	P09	2

NOTE: Shaded area indicates bulk packaging.

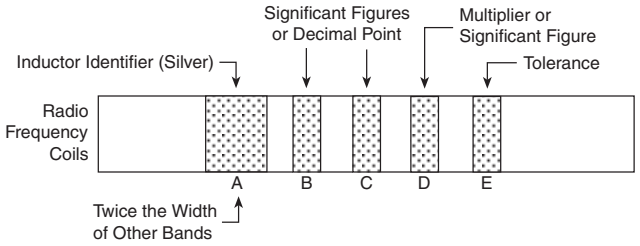
MILITARY PART ORDERING EXAMPLES

TRANSFORMERS AND INDUCTORS

MIL-T-27E (Basic [TF]) (Established Reliability - None) M27 / 1 — 215 / 2 — 05 / 3 = Dale Type — TE-3Q0TR — 1.0 mH — 2 %		1. Military Specification 2. Specification Sheet Number 3. Specification Sheet Dash Number Indicating Value and Electrical Ratings
MIL-C-15305E (Basic [LT]) (Established Reliability MIL-C-39010) LT / 1 — 4 / 2 — K / 3 = Dale Type — IM-2 (0.10 µH to 1.00 µH) 10 %	**NOTE:** Parts will be color banded. Value per Military Standard dash numer.	1. Style 2. Grade and Class 3. Family K = Coil, Radio Frequency, Fixed
MIL-C-39010D (Established Reliability) M39010/01 / 1 — A / 2 — 1R0 / 3 — J / 4 — R / 5 = Dale Type — IMS-5A-ER 1.0µH 5%	**NOTE:** Parts will be printed as shown.	1. Specification Sheet 2. Temperature Class: A = 105, B = 125 3. Value: R = Decimal Point 4. Tolerance: J = 5, K = 10, L = 20 5. Failure Rate Level

MILITARY COLOR CODES - RF COILS

	BAND B & C	BAND D	BAND E
COLOR	**SIGNIFICANT FIGURES or DECIMAL POINT**	**MULTIPLIER* or SIGNIFICANT FIGURE**	**INDUCTANCE TOLERANCE**
Black	0	1	-
Brown	1	10	± 1 %
Red	2	100	± 2 %
Orange	3	1000	± 3 %
Yellow	4	10 000	± 4 %
Green	5	-	-
Blue	6	-	-
Violet	7	-	-
Gray	8	-	-
White	9	-	-
None**	-	-	± 20 %
Silver	-	-	± 10 %
Gold	Decimal Point	-	± 5 %



Band "A" is twice the width of the other bands and is silver in color to identify part as an inductor. ***
For Inductance Values Less Than 10 either Band "B" or Band "C" will be gold and will represent the decimal point. The other two bands ("B" and "D" or "C" and "D") will represent significant figures.
For Inductance Values of 10 or More Band "B" and Band "C" represent significant figures and Band "D" is the Multiplier.
For small units, dots may be used in place of bands.

* The multiplier is the factor by which two significant figures are multiplied to yield the nominal inductance value.
** Indicates body color.
*** Coated inductors are marked with four color bands, the first being a double wide significant figure or decimal point in lieu of the double wide silver inductor identifier.

WORLDWIDE SALES CONTACTS

DISCRETE SEMICONDUCTORS AND PASSIVE COMPONENTS

THE AMERICAS

VISHAY AMERICAS
ONE GREENWICH PLACE
SHELTON, CT 06484
UNITED STATES
PH: +1-402-563-6866
FAX: +1-402-563-6296

ASIA

VISHAY INTERTECHNOLOGY ASIA PTE LTD.
25 TAMPINES STREET 92
KEPPEL BUILDING #02-00
SINGAPORE 528877
PH: +65-6788-6668
FAX: +65-6788-0988

JAPAN

VISHAY JAPAN CO., LTD.
SHIBUYA 3F, GE EDISON BUILDING
3-5-16 SHIBUYA
SHIBUYA-KU
TOKYO 150-0002
JAPAN
PH: +81-3-5464-6411
FAX: +81-3-5464-6433

EUROPE

VISHAY ELECTRONIC GMBH
GEHEIMRAT-ROSENTHAL-STR. 100
95100 SELB
GERMANY
PH: +49-9287-71-0
FAX: +49-9287-70435

VISHAY S.A.
4, RUE DE SALONIQUE
95101 ARGENTEUIL
FRANCE
PH: +33-1-39-98-22-00
FAX: +33-1-39-98-22-05

VISHAY LTD.
PALLION INDUSTRIAL ESTATE
SUNDERLAND, SR4 6SU
GREAT BRITAIN
PH: +44-191-514-4155
FAX: +44-191-567-8262

ONLINE INFORMATION

For product information and a current list of sales reps and distributors, visit our website:

www.vishay.com

ONE OF THE WORLD'S LARGEST MANUFACTURERS OF DISCRETE SEMICONDUCTORS AND PASSIVE COMPONENTS

VISHAY INTERTECHNOLOGY, INC.

World Headquarters
63 Lincoln Highway
Malvern, PA 19355-2143
USA

www.vishay.com

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