



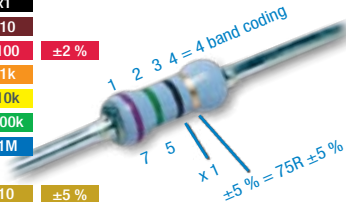
RESISTOR COLOR CARD

Vishay Draloric/Beyschlag/BCcomponents

Vishay Intertechnology, Inc.

MELF and Leaded Resistor Products – E24 Series

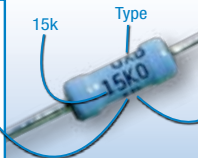
Band 1 Coding	Band 2 Coding	Band 3 Coding	Band 4 Coding
	0	x1	
1	1	x10	
2	2	x100	±2 %
3	3	x1k	
4	4	x10k	
5	5	x100k	
6	6	x1M	
7	7		
8	8	:10	±5 %
9	9	:100	±10 %



According to IEC 60062

Leaded Resistor Products – Script Marking

Tolerance (%)	
T	= ±0.01
H	= ±0.02
Z	= ±0.025
A	= ±0.05
B	= ±0.1
C	= ±0.25



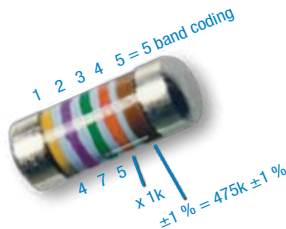
Temperature Coefficient (ppm/K)	
T	= 0±2
A	= 0±5
B	= 0±10
F	= 0±15
E	= 0±25

MELF and Leaded Resistor Products – E96 Series and E192 Series

Band 1 Coding	Band 2 Coding	Band 3 Coding	Band 4 Coding	Band 5 Coding	TC dots near Band 4 or 6
	0	0	x1	±10 %	
1	1	1	x10	±5 %	TC 100 ¹
2	2	2	x100	±1 %	TC 50 ¹
3	3	3	x1k	±2 %	TC 15
4	4	4	x10k	±0.05 %	TC 25
5	5	5	x100k	±0.02 %	
6	6	6	x1M	±0.5 %	TC 10
7	7	7		±0.25 %	TC 05
8	8	8	:10	±0.1 %	
9	9	9	:100	±0.01 %	

According to IEC 60062

¹ TC 100 and 50 without dot coding



- near Band 1 established reliability
 - for $\lambda < 10^{-5}/h$
 - for $\lambda < 10^{-6}/h$
 - for $\lambda < 10^{-7}/h$
 - for $\lambda < 10^{-8}/h$
- HF-version (leaded)
- near Band 2 ●●● Carbon Film
- near Band 3 ●●● HF-version (MELF)



Standard Resistance Values

E24	E96	E192	E24	E96	E192	E24	E96	E192	E24	E96	E192	E24	E96	E192	E24	E96	E192	E24	E96	E192	E24	E96	E192	E24	E96	E192	
100	100	100	130	130	130	169	169	220	221	221	287	287	374	374	487	487	634	634	825	825							
		101			132						223				493		642										
	102	102		133	133	174	174	226	226	294	294	383	383	499	499	649	649	845	845								
		104			135						229				505		657										
	105	105		137	137	178	178	232	232	300	301	301	390	392	392	510	511	511	665	665	866	866					
		106			138	180	180				234				397		673										
	107	107		140	140	182	182	237	237	309	309	402	402	523	523	680	681	681	887	887							
		109			142			240	240			312			530		690										
110	110	110		143	143	187	187		243	243	316	316	412	412	536	536	698	698	910	909	909						
		111			145				246	246			417		542		706										
	113	113		147	147	191	191	249	249	324	324	422	422	549	549	715	715	931	931								
		114			149				252				427		556		723										
	115	115	150	150	150	196	196	255	255	330	332	332	430	432	432	560	562	562	732	732	953	953					
		117			152				258				437		569		741										
	118	118		154	154	200	200	200	261	261	340	340	442	442	576	576	750	750	976	976							
120	120	120			156				264	264			448		583		759										
	121	121		158	158	205	205	267	267	348	348	453	453	590	590	768	768										
		123	160	160		208	270	271					459		597		777										
	124	124		162	162	210	210	274	274	357	357	464	464	604	604	787	787										
		126			164				213			360	361	470		612		796									
	127	127		165	165	215	215	280	280	365	365	475	475	620	619	619	806	806									
		129			167				218				481		626	820	816										

E24 includes the E12 Series marked in blue

E96 includes the E48 Series marked in blue



Standard Resistance Values

Flat Chip Resistor Products 3-Digit Coding (E24 Series)



$36 \times 100 = 3k6$

Code	Multiply value by
1	10
2	100
3	1 000
4	10 000
5	100 000
6	1 000 000
7	10 000 000
8	100 000 000



For values below 100 Ω , "R" is used as the decimal point, e.g. 7R5 = 7.5 Ω

Flat Chip Resistor Products 4-Digit Coding (E96 and E24 Series)



$475 \times 10 = 4k75$

Code	Multiply value by
1	10
2	100
3	1 000
4	10 000
5	100 000



For values below 1000 Ω , "R" is used as the decimal point, e.g. 8R25 = 8.25 Ω

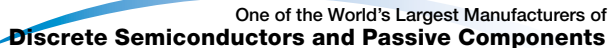
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Discrete Semiconductors and Passive Components



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