

## Metal Film Resistors

### WIREWOUND TECHNOLOGY



MOLDED RESISTORS							
REF.	DATASHEET	POWER RATING	RESISTANCE RANGE	TOL.	TEMP. LIMITS	TYP. TCR	DIMENSIONS
	No.						$\Omega$
MSP 1B	50003	25 $^{\circ}\text{C}$ 1 W	0.04 to 2.2K	$\pm 0.1$ to $\pm 5$	- 55 + 200	$\pm 25$ $\pm 50$ $\pm 100$	6.9 x 3.8 x 3.8
MSP 2B		2 W	0.04 to 4.7K				11.4 x 7 x 5
MSP 3B		2.5 W	0.04 to 13K				14.8 x 7 x 6.6

### THICK FILM TECHNOLOGY



MODEL	DATASHEET	POWER RATING	RESISTANCE RANGE STANDARD MODEL	TOL.	TEMP. LIMITS	TYP. TCR	DIMENSIONS
	No.						$\Omega$

TO-220 CASE							
RTO 20	50005	25 $^{\circ}\text{C}$ 20 W	0.012 to 1M	$\pm 1$ to $\pm 10$	- 55 + 155	$\pm 150$ $\geq 0.5 \Omega$	10.1 x 15 x 4.5
RTO 50	50035	25 $^{\circ}\text{C}$ 50 W					$\pm 250$ $\geq 0.1 \Omega$



FOR MOUNTING ONTO A HEATSINK 5 W TO 50 W							
RCH 5	50006	25 $^{\circ}\text{C}$ 5 W	0.24 to 1M	$\pm 1$ to $\pm 10$	- 55 + 125	$\pm 150$ $R > 1 \Omega$ $\pm 250$ $R < 1 \Omega$	16.6 x 9 x 15
RCH 10		10 W					19 x 11 x 15
RCH 25		25 W					28 x 14 x 15
RCH 50		50 W					47.8 x 15.5 x 15

# Quick Reference Guide

Vishay Sfernice

Metal Film Resistors



MODEL	DATASHEET	POWER RATING	RESISTANCE RANGE STANDARD MODEL	TOL.	TEMP. LIMITS	TYP. TCR	DIMENSIONS
	No.		$\Omega$	%	$^{\circ}\text{C}$	ppm/ $^{\circ}\text{C}$	mm



100 W							
RPH 100	50046	25 $^{\circ}\text{C}$ 100 W	0.092 to 1M	$\pm 1$ to $\pm 10$	- 55 + 125	$\pm 300$ < 1 $\Omega$ $\pm 150$ > 1 $\Omega$	65.5 x 46.7 x 21.6

## WIRE THICK FILM TECHNOLOGY



SOT-227 B CASE - 20 W TO 200 W								
MODEL	DATASHEET	POWER RATING AT 25 $^{\circ}\text{C}$	RES. RANGE STD. MODEL	TOL. PER RES.	ELEC. DIAGRAMS	TEMP. LIMITS	TYP. TCR	DIMENSIONS
	No.		$\Omega$	%		$^{\circ}\text{C}$	ppm/ $^{\circ}\text{C}$	mm
RTOP 200	50045	200 W	0.046 to 1M	$\pm 1$ to $\pm 10$		- 55 + 125	$\pm 300$ $R < 1 \Omega$ $\pm 150$ $R > 1 \Omega$	38 x 25 x 10
RTOP 100		100 W						
DRTOP 100		100 W	0.092 to 1M					
DRTOP 50		50 W						
TRTOP 40		40 W	0.046 to 1M					
TRTOP 30		30 W						
QRTOP 35		35 W						
QRTOP 20		20 W						




HIGH POWER FOR MOUNTING ONTO A HEATSINK - 250 W AND 500 W							
MODEL	DATASHEET	POWER RATING	RES. RANGE STD. MODEL	TOLERANCE	TEMP. LIMITS	TYP. TCR	DIMENSIONS
	No.		$\Omega$	%	$^{\circ}\text{C}$	ppm/ $^{\circ}\text{C}$	mm
RPS 250D	50007	70 $^{\circ}\text{C}$ 250 W	0.24 to 1M	$\pm 1$ to $\pm 10$	- 55 + 125	$\pm 300$ < 1 $\Omega$ $\pm 150$ > 1 $\Omega$	73 x 60 x 24.5
RPS 500D	50047	70 $^{\circ}\text{C}$ 500 W					

### MEDIUM DISSIPATION WIREWOUND RESISTORS

REFERENCES		DATASHEET	POWER RATING	RES. RANGE STD. MODEL	TOL.	TEMP. LIMITS	TYP. TCR	DIMENSIONS	
VISHAY SFERNICE	CECC							No.	Ω
	NF	BS						mm	mm

#### ENAMELLED-POWER (E24)




RWM	CECC	BS	Datasheet	25 °C	(1)	RES. RANGE	TOL.	TEMP. LIMITS	TYP. TCR	Ø NOM.	L NOM.
RWM 4 x 10	RB 59	JB	50008	3 W	5.5 W	0.1 to 10K	± 5 std. ± 1 to ± 10 on req.	- 55 + 350	+ 75	5.5	12
RWM 4 x 22	RB 61	HB		5 W	7 W	0.1 to 16K				5.5	22.1
RWM 5 x 26	RB 57	-		7 W	10 W	0.1 to 27K				7.4	24.7
RWM 6 x 22	RB 57	KB		7 W	10 W	0.1 to 39K				6.5	18
RWM 8 x 26	RB 60	-		8 W	10 W	0.1 to 27K				7.4	24.7
RWM 6 x 34	RB 60	LB		8 W	12 W	0.33 to 36K				7.4	33.7
RWM 8 x 34	RB 58	-		11 W	14 W	0.33 to 36K				7.4	33.7
RWM 8 x 45	RB 58	MB		11 W	20 W	0.47 to 62K				9.4	44.8
RWM 10 x 45	-	-		25 W	25 W	0.47 to 62K				9.4	44.8
RWM 10 x 64	-	-		25 W	25 W	0.68 to 100K				9.4	63.8
RWM 10 x 65	-	-		30 W	30 W	0.68 to 100K				9.4	63.8

**Note**


(1) With surface temperature 450 °C

#### MOLDED-INSULATED-PRECISION (E24-E48-E96)



RLP	CECC	BS	Datasheet	25 °C	RES. RANGE	TOL.	TEMP. LIMITS	TYP. TCR	Ø NOM.	L NOM.
RLP 1 molded	RP 8	-	50009	1 W	0.05 to 2.2K	± 0.1 to ± 5	- 55 + 275	± 20 ± 50	2.5	6.5
RLP 2 molded	RP 7	-		2 W	0.025 to 6.8K				4	10.2
RLP 3 insulated	RP 4	-		3 W	0.01 to 15K				5.54	14
RLP 6 insulated	-	-		6 W	0.02 to 59K				8.7	23.8
RLP 10 insulated	-	-		10 W	0.06 to 150K				10.3	46.8

#### MOLDED-INSULATED-PRECISION (E24-E48-E96)



BSI	CECC	BS	Datasheet	25 °C	RES. RANGE	TOL.	TEMP. LIMITS	TYP. TCR	Ø NOM.	L NOM.
58 BSI molded	-	-	50011	1 W	0.1 to 2K	± 0.5 to ± 5	- 55 + 200	± 100 ± 300	2.4	6.5
63 BSI molded	-	-		2 W	0.025 to 4K				3.7	10
68 BSI molded	-	-		3 W	0.01 to 15K				5.6	15
516 BSI insulated	-	-		4 W	0.01 to 20K				5	16
523 BSI insulated	-	-		5 W	0.015 to 40K				5	23
923 BSI insulated	-	-		6 W	0.02 to 60K				9	23
932 BSI insulated	-	-		8 W	0.035 to 100K				9	32
947 BSI insulated	-	-		10 W	0.06 to 150K				9	47

## MEDIUM DISSIPATION WIREWOUND RESISTORS

REFERENCES			DATASHEET	POWER RATING	RES. RANGE STD. MODEL	TOL.	TEMP. LIMITS	TYP. TCR	DIMENSIONS	
VISHAY SFERNICE	CECC								No.	Ω
	NF	BS							mm	mm

### MOLDED-PRECISION (E24-E48-E96)



RESISTOR	NF	BS	DATASHEET No.	POWER RATING	RES. RANGE STD. MODEL	TOL.	TEMP. LIMITS	TYP. TCR	Ø NOM.	L NOM.
RMB 075	-	-	50010	25 °C 0.75 W	0.1 to 2K	± 0.1 to ± 5	- 55 + 275 + 200	± 20 ± 50	2.5	6.5
RMB 1.5	-	-		1.50 W	0.1 to 6.81K				4	10.2
RMB 3	-	-		3 W	0.051 to 13K				6.4	16.2
RMBS 0.5	RP 1	-		0.50 W	0.1 to 2K				2.5	6.5
RMBS 1	RP 2	-		1 W	0.1 to 6.81K				4	10.2
RMBS 2	RP 3	-		2 W	0.015 to 13K				6.4	16.2

Note  
• RMBS spare parts

### CEMENTED



RESISTOR	DATASHEET No.	POWER RATING	RES. RANGE STD. MODEL	TOL.	TEMP. LIMITS	TYP. TCR	Ø NOM.	L NOM.
SG 3	50012	40 °C 3 W	0.01 to 3.3K	± 1 to ± 10	- 55 + 200	± 150	4.8	13
SG 4		4 W	0.1 to 3.9K	5.5	15.8			

Note  
• Undergoes European Quality Insurance System (CECC)

## HIGH DISSIPATION WIREWOUND RESISTORS

REFERENCES			DATASHEET	POWER RATING	RES. RANGE STD. MODEL	TOL.	TEMP. LIMITS	TYP. TCR	DIMENSIONS	
VISHAY SFERNICE	CECC CONF.								No.	Ω
									mm	mm

### VITREOUS EXTERNAL RINGS OR COLLARS (E12)



RESISTOR	CECC CONF.	DATASHEET No.	POWER RATING	RES. RANGE STD. MODEL	TOL.	TEMP. LIMITS	TYP. TCR	Ø NOM.	L NOM.
RW 8 x 34	-	50016	25 °C 13 W	1 to 10K	± 5	- 55 + 450	+ 75	11.5	34
RW 10 x 50	-		20 W	1 to 27K				13	50
RW 13 x 70	RB 13.70		32 W	2.2 to 56K				16	70
RW 16 x 94	-		50 W	2.2 to 56K				19.5	94
RW 20 x 117	RB 20.117		80 W	2.7 to 68K				23	117

### VITREOUS EXTERNAL COLLARS ELECTRICAL TRACTION (E12)



RESISTOR	CECC CONF.	DATASHEET No.	POWER RATING	RES. RANGE STD. MODEL	TOL.	TEMP. LIMITS	TYP. TCR	Ø NOM.	L NOM.
RWST 25 x 138	-	50017	25 °C 110 W	2.7 to 82K	± 5	- 55 + 450	+ 75	28	138
RWST 25 x 168	RB 25 x 168		180 W	2.7 to 100K				28	168
RWST 30 x 250	RB 30 x 250		320 W	4.7 to 220K				33	250
RWST 40 x 370	-		600 W	8.2 to 360K				45	370
RWST 50 x 373	-		800 W	12 to 430K				53	373

### MEDIUM DISSIPATION WIREWOUND RESISTORS

REFERENCES		DATASHEET	POWER RATING	RES. RANGE STD. MODEL	TOL.	TEMP. LIMITS	TYP. TCR	DIMENSIONS	
VISHAY SFERNICE	CECC CONF.							No.	Ω

#### VITREOUS ADJUSTABLE (E6)



RA	RBA	50019	25 °C	RES. RANGE	± 10	- 55 + 350	+ 75	Ø	L		
13 x 70	13.70		21 W	33 to 3.9K						16	70
16 x 94	-		35 W	68 to 3.9K						19.5	94
20 x 117	20.117		50 W	100 to 4.7K						23	117
25 x 138	-		75 W	150 to 6.8K						28	138
25 x 168	25.168		120 W	220 to 10K						28	168
30 x 250	-		180 W	330 to 22K						33	250

#### VITREOUS UNDULATED WIREWOUND (E12)



RSO	-	50018	25 °C	RES. RANGE	± 5 to ± 10	- 55 + 450	+ 75	Ø	L		
25 x 138			160 W	0.068 to 12						39	138
25 x 168			200 W	0.1 to 18						39	168
30 x 250			350 W	0.22 to 33						44	250
40 x 370			700 W	0.33 to 56						54.5	370
50 x 373			1000 W	0.39 to 68						65	373

#### FIXED OR ADJUSTABLE SEMI-VITREOUS (E12)



RSSD	-	50020	25 °C	RES. RANGE	± 5 to ± 20	- 55 + 450	± 75	Ø	L		
8 x 34			16 W	0.12 to 10						10	34
10 x 50			25 W	0.12 to 22						11.5	50
13 x 70			42 W	0.12 to 43						14.5	70
16 x 94			70 W	0.33 to 75						18	94
20 x 117			100 W	0.22 to 100						22	117
25 x 138			140 W	0.1 to 150						27	138
25 x 168			200 W	0.12 to 220						27	168
30 x 250			280 W	0.22 to 360						32	250
40 x 370			450 W	0.47 to 470						43	370
50 x 373	600 W	0.68 to 560	53	373							



HEATSINK ENCASED-PRECISION (E24-E48-E96)									
REFERENCES		DATASHEET	POWER RATING <sup>(1)</sup>	RES. RANGE STD. MODEL	TOL.	TEMP. LIMITS	TYP. TCR	DIMENSIONS	
VISHAY SFERNICE	CECC	No.		Ω	%	°C	ppm/°C	H NOM.	L NOM.
RH 5	RE 4	50013	25 °C 100 W	0.01 to 12K	± 0.1 to ± 10	- 55 + 200	± 20	8.9	16.3
RH 10	RE 1		12.5 W	0.006 to 20K				11	19
RH 25	RE 2		25 W	0.006 to 62K				15	28
RH 50	RE 3		50 W	0.006 to 130K				15	50

**Notes**

<sup>(1)</sup> Chassis mounted

- Undergoes European Quality Insurance System (CECC)

**MEDIUM DISSIPATION WIREWOUND RESISTORS**



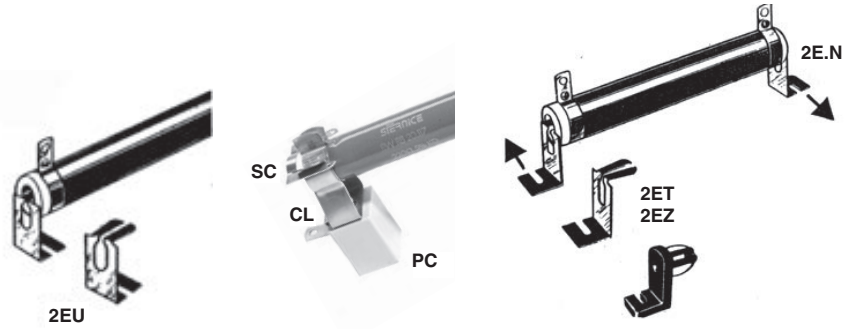
HEATSINK INDUSTRIAL APPLICATIONS									
REFERENCES		DATASHEET	POWER RATING <sup>(1)</sup>	RES. RANGE STD. MODEL	TOL.	TEMP. LIMITS	TYP. TCR	DIMENSIONS	
		No.		Ω	%	°C	ppm/°C	Ø NOM.	L NOM.
SH 5		50014	25 °C 10 W	0.1 to 3.3K	± 5	- 55 + 200	± 50 R > 5 Ω	8.9	16.3
SH 10			12.5 W	0.1 to 15K				11	19
SH 25			25 W	0.1 to 33K				15	28
SH 50			50 W					15	50

**Note**

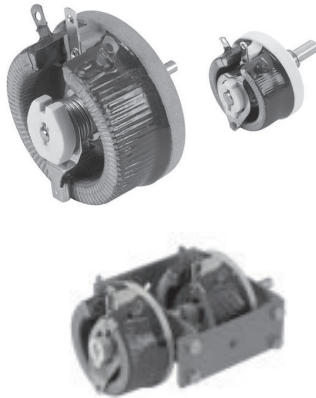
<sup>(1)</sup> Chassis mounted

### MOUNTING DEVICES

See datasheets 2E, SAT and CL-SC PC



### WIREWOUND RHEOSTATS



VITREOUS - RT... L MODEL (RT E6 RTE)						
REFERENCES		DATASHEET	POWER RATING	RESISTANCE RANGE STANDARD MODEL	TOL.	TEMP. LIMITS
VISHAY SFERNICE	CCTU	No.		Ω	%	°C
RT 12L/ RTE 12	PA 9	50025	25 °C 12 W	1 to 2.2K/4.7K	± 10	RT - 55 + 320  RTE - 55 + 220
RT 25L/ RTE 25	PA 1	50026	25 W	1 to 4.7K/13.5K		
RT 55L/ RTE 55	PA 3	50027	55 W	1 to 10K/28K		
RT 100L/ RTE 100	PA 5	50028	100 W	1 to 15K/54K		
RT 230 L/ RTE 230	PA 7	50029	250 W	1 to 22K/95K		
RT 500L	-	50030	500 W	1 to 22K/95K 1 to 33K		

**Note**

- Special features, sectorial winding, ganging