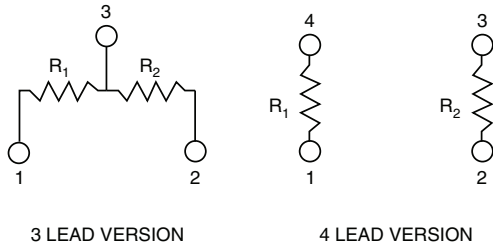


Molded, SC70 Thin Film Resistor, Surface Mount Network



Vishay Dale Thin Film MP Series Dividers provide ± 2 ppm/ $^{\circ}\text{C}$ tracking and a ratio tolerance as tight as $\pm 0.05\%$, ultra small size, 3 or 4 lead package and exceptional stability for all surface mount applications. The standard SC70 package format with common standard resistance values provide easy selection for most applications requiring matched pair resistor elements. If you require a non-standard ratio, consult the applications engineering group as we may be able to meet your requirements.

SCHEMATIC



FEATURES

- Small physical size EIAJ SC70 format
- Tight resistance ratio tolerances $\pm 0.05\%$
- Low TCR tracking ± 2 ppm
- Excellent long term ratio stability ($\Delta R \pm 0.015\%$ at 70°C for 2000 h)
- Center-tapped or isolated matched pair resistors
- Compliant to RoHS Directive 2002/95/EC
- Halogen-free according to IEC 61249-2-21 definition



RoHS*
COMPLIANT
HALOGEN
FREE

Note

* Pb containing terminations are not RoHS compliant, exemptions may apply

TYPICAL PERFORMANCE

	ABSOLUTE	TRACKING
TCR	25	2
	ABSOLUTE	RATIO
TOL.	0.1	0.05

STANDARD RESISTANCE VALUES

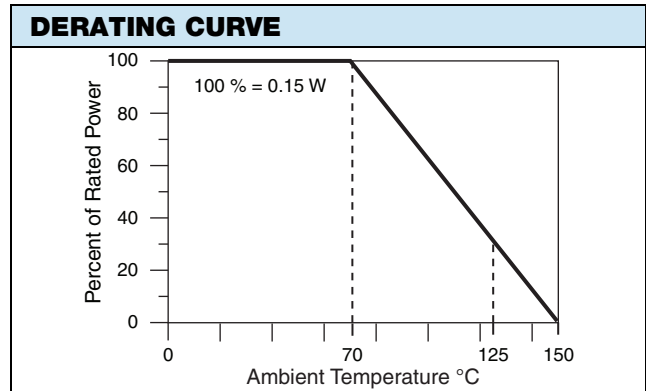
TYPE	STANDARD VALUES	
	R ₁ (Ω)	R ₂ (Ω)
MP3	500	500
	1K	1K
	10K	10K
MP4	1K	1K
	10K	10K
	50K	50K

STANDARD ELECTRICAL SPECIFICATIONS

TEST	SPECIFICATIONS	CONDITIONS
Material	Passivated nichrome	-
Pin/Lead Number	3, 4	-
Resistance Range	100 Ω to 50 k Ω per resistor	-
TCR: Absolute	± 25 ppm/ $^{\circ}\text{C}$	- 55 $^{\circ}\text{C}$ to + 125 $^{\circ}\text{C}$
TCR: Tracking	± 2 ppm/ $^{\circ}\text{C}$ (typical)	- 55 $^{\circ}\text{C}$ to + 125 $^{\circ}\text{C}$
Tolerance: Absolute	$\pm 0.10\%$ to $\pm 1.0\%$	+ 25 $^{\circ}\text{C}$
Tolerance: Ratio	$\pm 0.05\%$ (standard), $\pm 1.0\%$	-
Power Rating: Resistor	0.075 W	Maximum at + 70 $^{\circ}\text{C}$
Power Rating: Package	0.150 W	Maximum at + 70 $^{\circ}\text{C}$
Stability: Absolute	$\Delta R \pm 0.05\%$	2000 h at + 70 $^{\circ}\text{C}$
Stability: Ratio	$\Delta R \pm 0.015\%$	2000 h at + 70 $^{\circ}\text{C}$
Voltage Coefficient	0.1 ppm/V	-
Working Voltage	100 V max. not to exceed $\sqrt{P \times R}$	-
Operating Temperature Range	- 55 $^{\circ}\text{C}$ to + 125 $^{\circ}\text{C}$	-
Storage Temperature Range	- 55 $^{\circ}\text{C}$ to + 150 $^{\circ}\text{C}$	-
Noise	< - 30 dB	-
Thermal EMF	0.1 $\mu\text{V}/^{\circ}\text{C}$	-
Shelf Life Stability: Absolute	$\Delta R \pm 0.01\%$	1 year at + 25 $^{\circ}\text{C}$
Shelf Life Stability: Ratio	$\Delta R \pm 0.002\%$	1 year at + 25 $^{\circ}\text{C}$

DIMENSIONS AND IMPRINTING in millimeters					
			DIMENSION	MIN.	MAX.
			A	0.800	1.100
			A1	0.000	0.100
			A2	0.800	1.000
			B	0.100	0.018
			b1	0.400	0.500
			b2	0.200	0.250
			D	1.800	2.200
			E	1.800	2.400
			E1	1.150	1.350
			e	1.300	-
			e2	0.650	-
			L	0.100	0.030

MECHANICAL SPECIFICATIONS	
Resistive Element	Passivated nichrome
Substrate Material	Silicon
Body	Molded epoxy
Terminals	Copper alloy
Lead (Pb)-free Option	100 % matte tin
Tin Lead Option	Sn85
Tin Lead and Lead (Pb)-free Finish	Plated



GLOBAL PART NUMBER INFORMATION											
New Global Part Numbering: MP32001AWS											
	M	P	3	2	0	0	1	A	W	S	
	M	P	T	4	2	0	0	1	B	T	1
GLOBAL MODEL (2 or 3 digits)	LEADS		RESISTANCE				TOLERANCE AND RATIO TOLERANCE		PACKAGING		
MP (Tin Lead)	3 4		The first 3 digits are significant figures and the last digit specifies the number of zeros to follow. When like values are required use total resistance. Example: 2001 = 2K (1K/1K) 2002 = 20K (10K/10K)				Abs. Tol. Ratio A = 0.1 % 0.05 % B = 0.1 % 0.1 % C = 0.25 % 0.1 % D = 0.5 % 0.1 % F = 1.0 % 0.5 %		BS = BULK 100 min., 1 mult WS = WAFFLE 100 min., 1 mult TAPE AND REEL T1 = 1000 min., 1000 mult ⁽¹⁾		
MPT (Lead (Pb)-free) (e3)									Note ⁽¹⁾ Preferred packaging code		
Historical Part Number example: MP32002BW (for reference purposes only)											
MP	3	2002	B	W							
SERIES	LEADS	RESISTANCE	TOLERANCE AND RATIO TOLERANCE	PACKAGING							



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