MPD/MPDA

Vishay Thin Film

Molded, SOT-143 Resistor Network



VISHAY Thin Film MPD Series Dividers provide $\pm 2 \text{ ppm/}^{\circ}\text{C}$ tracking and a ratio tolerance as tight as $\pm 0.05 \%$, small size, and exceptional stability for all surface mount applications. The standard SOT-143 package format with unity and common standard resistance divider ratios provide easy selection for most applications requiring matched pair resistor elements. The ratios listed are available for off the shelf convenience, if you require a non-standard ratio, consult the applications engineering group as we may be able to meet your requirements with a custom design.

MPD SCHEMATIC



FEATURES

- Lead (Pb)-free available
- Tight Ratio Tolerances to 0.05 %
- ± 2 ppm Tracking
- Standard Values Stocked
- Standard SOT-143 Footprint

TYPICAL PERFORMANCE

	ABS	TRACKING
TCR	25	2
	ABS	RATIO
TOL	0.1	0.05

STANDARD VALUES

MODEL	R₂ (Ω)	R₁ (Ω)	R₃ (Ω)
MPD	100K	100K	-
	50K	50K	-
	25K	25K	-
	20K	20K	-
	10K	10K	-
	5K	5K	-
	2K	2K	-
	1K	1K	-
MPDA	10K	10K	10K

MPDA SCHEMATIC



STANDARD ELECTRICAL SPECIFICATIONS				
TEST		SPECIFICATIONS	CONDITIONS	
Material		Passivated Nichrome		
TCR:	Tracking	± 2 ppm/°C (typical)	- 55 °C to + 125 °C	
	Absolute	± 25 ppm/°C	- 55 °C to + 125 °C	
Tolerance:	Ratio	± 0.5 % to ± 0.05 %	+ 25 °C	
	Absolute	± 1.0 % to ± 0.1 %	+ 25 °C	
Power Rating:	Resistor	100 mW	Max. at + 70 °C	
	Package	200 mW	Max. at + 70 °C	
Stability:	∆ <i>R</i> Absolute	0.10 %	2000 hours at + 70 °C	
	∆ <i>R</i> Ratio	0.03 %	2000 hours at + 70 °C	
Voltage Coefficie	nt	0.1 ppm/V		
Working Voltage		100 V Max.		
Operating Tempe	erature Range	- 55 °C to + 125 °C		
Storage Temperature Range		- 55 °C to + 125 °C		
Noise		< - 25 dB		
Thermal EMF		0.2 μV/°C		
Shelf Life Stabilit	y (Ratio)	50 ppm Max.	1 year at + 25 °C	

Note: Tantalum Nitride film is available on special orders

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



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c1 t Base Metal (b) (b2)

MECHANICAL SPECIFICATIONS		
Resistive Element	Passivated Nichrome	
Substrate Material	Silicon	
Body	Molded epoxy	
Terminals	Copper alloy #42 Sn62 plated	
Lead Coplanarity	3 Mils Max.	
Lead (Pb)-free Option	100 % Sn Matte	
Lead (Pb)-free Finish	Plated	

DIMENSION	MIN.	NOM.	MAX.	
А	0.80	-	1.22	
A1	0.05	-	0.15	
A2	0.75	0.90	1.07	
b	0.30	-	0.50	
b1	0.30	0.40	0.45	
b2	0.76	-	0.89	
b3	0.76	0.80	0.84	
С	0.08	-	0.20	
c1	0.08	0.10	0.16	
D	2.80	2.90	3.04	
E	2.10	-	2.64	
E1	1.20	1.30	1.40	
е		1.92 BSC		
e1	0.20 BSC			
L	0.40	0.50	0.60	
L1	0.54 REF.			
Ν		4		
Ø	0"	-	8"	

DERATING CURVE





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