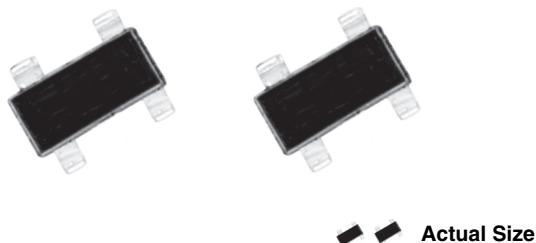


### Molded, SOT-143 Resistor Network



#### FEATURES

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



RoHS\*  
COMPLIANT

#### TYPICAL PERFORMANCE

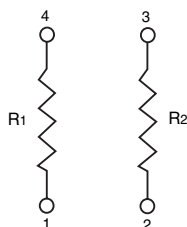
	ABS	TRACKING
TCR	25	2
	ABS	RATIO
TOL	0.1	0.05

VISHAY Thin Film MPD Series Dividers provide  $\pm 2$  ppm/ $^{\circ}$ 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.

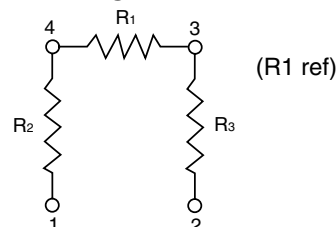
#### STANDARD VALUES

MODEL	$R_2$ ( $\Omega$ )	$R_1$ ( $\Omega$ )	$R_3$ ( $\Omega$ )
MPD	100K	100K	-
	50K	50K	-
	25K	25K	-
	20K	20K	-
	10K	10K	-
	5K	5K	-
	2K	2K	-
	1K	1K	-
MPDA	10K	10K	10K

#### MPD SCHEMATIC



#### MPDA SCHEMATIC



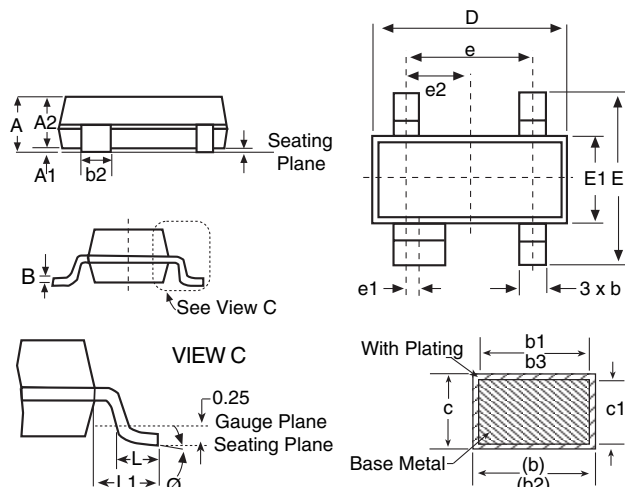
#### STANDARD ELECTRICAL SPECIFICATIONS

TEST	SPECIFICATIONS	CONDITIONS
Material	Passivated Nichrome	
TCR:	Tracking	$\pm 2$ ppm/ $^{\circ}$ C (typical)
	Absolute	$\pm 25$ ppm/ $^{\circ}$ C
Tolerance:	Ratio	$\pm 0.5$ % to $\pm 0.05$ %
	Absolute	$\pm 1.0$ % to $\pm 0.1$ %
Power Rating:	Resistor	100 mW
	Package	200 mW
Stability:	$\Delta R$ Absolute	0.10 %
	$\Delta R$ Ratio	0.03 %
Voltage Coefficient	0.1 ppm/V	
Working Voltage	100 V Max.	
Operating Temperature Range	- 55 $^{\circ}$ C to + 125 $^{\circ}$ C	
Storage Temperature Range	- 55 $^{\circ}$ C to + 125 $^{\circ}$ C	
Noise	< - 25 dB	
Thermal EMF	0.2 $\mu$ V/ $^{\circ}$ C	
Shelf Life Stability (Ratio)	50 ppm Max.	1 year at + 25 $^{\circ}$ C

**Note:** Tantalum Nitride film is available on special orders

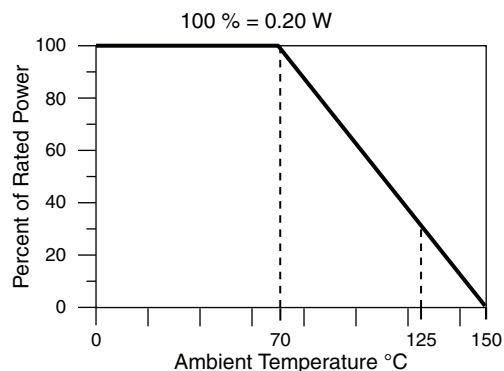
\* Pb containing terminations are not RoHS compliant, exemptions may apply

## DIMENSIONS AND IMPRINTING in millimeters



DIMENSION	MIN.	NOM.	MAX.
A	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
c	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
e	1.92 BSC		
e1	0.20 BSC		
L	0.40	0.50	0.60
L1	0.54 REF.		
N	4		
Ø	0"	-	8"

## DERATING CURVE



## 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

## GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: MPD1002AWS (preferred part number format)

	M	P	D	1	0	0	2	A	W	S
M	P	D	T	1	0	0	3	B	T	1

GLOBAL MODEL (3 or 4 digits)	RESISTANCE (4 or 8 digits)	TOLERANCE AND RATIO TOLERANCE	PACKAGING
<b>MPD</b> (Two resistors Tin Lead) <b>MPDT</b> (Two resistors Lead (Pb)-free) (e3)	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. When dual values are required list both values.  Example: 1002 = 10K (5K/5K) 1003 = 100K (50K/50K)	Abs. Tol.      Ratio <b>A</b> = ± 0.1 %    ± 0.05 % <b>B</b> = ± 0.1 %    ± 0.1 % <b>C</b> = ± 0.25 %   ± 0.1 % <b>D</b> = ± 0.5 %    ± 0.1 % <b>F</b> = ± 1 %       ± 0.5 %	<b>BS</b> = BULK 100 Min 1 Mult <b>WS</b> = WAFFLE 100 Min 1 Mult  <b>TAPE AND REEL</b> <b>T1</b> = 1000 Min 1000 Mult

Historical Part Number example: MPD1002BW (will continue to be accepted)

MPD	1002	B	W
SERIES	RESISTANCE	TOLERANCE AND RATIO TOLERANCE	PACKAGING

## MPD/MPDA

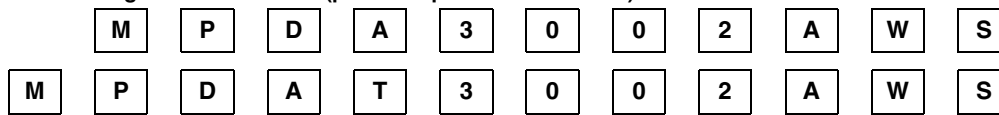
Vishay Thin Film

Molded, SOT-143 Resistor Network



## GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: MPDAT3002AWS (preferred part number format)

GLOBAL MODEL  
(4 or 5 digits)**MPDA**  
(Three equal  
series resistors  
Tin/lead)**MPDAT**  
(Three equal  
series resistors)  
(Lead (Pb)-free  
(e3))

RESISTANCE

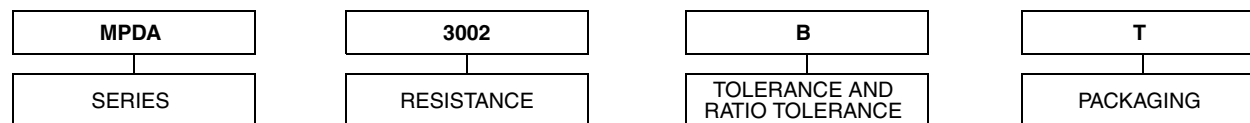
First 3 digits are significant  
figures and the last digit  
specifies the number of zeros to  
follow. When like values are  
required use total resistance.Example:  
3002 = Three 10 kΩ resistorsTOLERANCE AND  
RATIO TOLERANCE

Abs. Tol.	Ratio
<b>A</b> = ± 0.1 %	± 0.05 %
<b>B</b> = ± 0.1 %	± 0.1 %
<b>C</b> = ± 0.25 %	± 0.1 %
<b>D</b> = ± 0.5 %	± 0.1 %
<b>F</b> = ± 1 %	± 0.5 %

PACKAGING

**BS** = BULK 100 Min 1 Mult  
**WS** = WAFFLE 100 Min 1 MultTAPE AND REEL  
**T1** = 1000 Min 1000 Mult

Historical Part Number example: MPDA3002BT (will continue to be accepted)





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