### MDP 01, 03, 05

Vishay Dale

## Thick Film Resistor Networks, Dual-In-Line, Molded DIP, 01, 03, 05 Schematics



### **FEATURES**

- 0.160" [4.06 mm] maximum seated height and rugged, molded case construction
- Thick film resistive elements
- Low temperature coefficient (- 55 °C to + 125 °C) ± 100 ppm/°C
- Reduces total assembly costs
- Compatible with automatic insertingpequipment
- Wide resistance range (10  $\Omega$  to 2.2 M $\Omega$ )
- Uniform performance characteristics
- Available in tube pack
- · Lead (Pb)-free version is RoHS compliant

#### STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL/ NO. OF PINS	SCHEMATIC	RESISTOR POWER RATING Max. AT 70 °C W	RESISTANCE RANGE Ω	STANDARD TOLERANCE ± %	TEMPERATURE COEFFICIENT (- 55 °C to + 125 °C) ppm/°C	TCR TRACKING** (- 55 °C to + 125 °C) ppm/°C	WEIGHT g
MDP 14	01 03 05	0.125 0.250 0.125	10 - 2.2M 10 - 2.2M Consult factory	± 2 (± 1, ± 5)***	± 100	± 50 ± 50 ± 100	1.3
MDP 16	01 03 05	0.125 0.250 0.125	10 - 2.2M 10 - 2.2M Consult factory	± 2 (± 1, ± 5)***	± 100	± 50 ± 50 ± 100	1.5

\* For resistor power ratings at + 25 °C see derating curves \*\* Tighter tracking available \*\*\*  $\pm$  1 % and  $\pm$  5 % tolerences available on request

GLOBAL PART NUMBER INFORMATION						
New Global	Part Numbering	MDP1403100RGD0	4 (preferred part n	umbering format)		
	MDF	0 1 4 0	3 1 0	0 R G	D 0 4	
GLOBAL MODEL	PIN COUNT	SCHEMATIC	RESISTANCE	TOLERANCE CODE	PACKAGING	SPECIAL
MDP	<b>14</b> = 14 Pin <b>16</b> = 16 Pin	01 = Bussed 03 = Isolated 00 = Special	R = Decimal K =Thousand M = Million 10R0 = 10 Ω	$F = \pm 1 \%$ $G = \pm 2 \%$ $J = \pm 5 \%$ S = Special	E04 = Lead (Pb)-free, Tube D04 = Tin/Lead,Tube	Blank = Standard (Dash Number) (up to 3 digits) From <b>1-999</b>
			680K = 680 kΩ 1M00 = 1.0 MΩ	·		as applicable
Historical Pa	art Number exan	nple: MDP1403101G 14	(will continue to b	e accepted) 101	G	D04
HISTORICA			SCHEMATIC	RESISTANC		PACKAGING
New Global	Part Numbering	MDP1405121CGD0	4 (preferred part n	umbering format)		
	MDF	0 1 4 0	5 1 2	1 C G		
GLOBAL MODEL	PIN COUNT	SCHEMATIC	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING	SPECIAL
MDP	<b>14</b> = 14 Pin <b>16</b> = 16 Pin	<b>05</b> = Dual Terminator	3 digit Impedance code followed by Alpha modifier (see Impedence	$F = \pm 1 \%$ $G = \pm 2 \%$ $J = \pm 5 \%$	E04 = Lead (Pb)-free, Tube D04 = Tin/Lead,Tube	Blank = Standard (Dash Number) (up to 3 digits) From <b>1-999</b> as applicable
Historical Pa	14		j 2	21	271 G SISTANCE TOLERANCE	D04
MODEL					ALUE 2 CODE	
* Pb containing	g terminations are	e not RoHS compliar	nt, exemptions may	apply		



RoHS\*

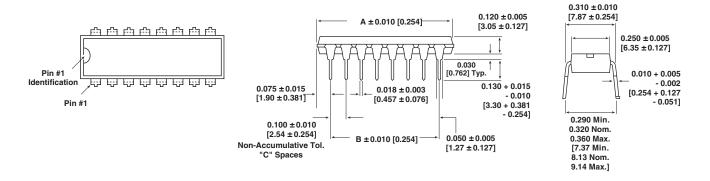
COMPLIANT



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#### **DIMENSIONS** in inches [millimeters]



GLOBAL MODEL	А	В	с
MDP 14	0.750 [19.05]	0.600 [15.24]	6
MDP 16	0.850 [21.59]	0.700 [17.78]	7

TECHNICAL SPECIFICATIONS				
PARAMETER	UNIT	MDP14	MDP16	
Package Power Rating (Maximum at + 70 °C)	w	1.73	1.92	
Voltage Coefficient of Resistance	V <sub>eff</sub>	< 50 ppm typical		
Dielectric Strength	VAC	200		
Insulation Resistance	Ω	> 10 000M minimum		
Operating Temperature Range	°C	- 55 to + 125		
Storage Temperature Range	°C	- 55 to + 150		

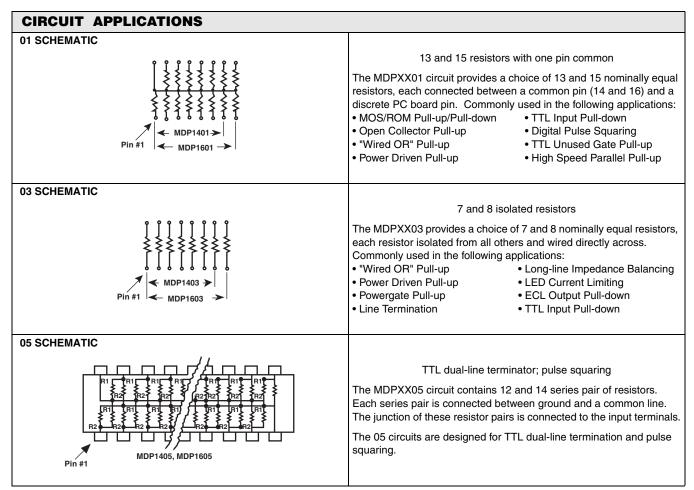
MECHANICAL SPECIFICATIONS				
Marking Resistance to Solvents:	Permanency testing per MIL-STD-202, Method 215			
Solderability:	Per MIL-STD-202, Method 208E			
Body:	Molded epoxy			
Terminals:	Solder plated leads			
Weight:	14 pin = 1.3 grams; 16 pin = 1.5 grams			

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IMPEDANCE CODES					
CODE	<b>R1(</b> Ω)	<b>R2(</b> Ω)	CODE	<b>R1(</b> Ω <b>)</b>	<b>R2(</b> Ω)
500B	82	130	141A	270	270
750B	120	200	181A	330	390
800C	130	210	191A	330	470
990A	160	260	221B	330	680
101C	180	240	281B	560	560
111C	180	270	381B	560	1.2K
121B	180	390	501C	620	2.7K
121C	220	270	102A	1.5K	3.3K
131A	220	330	202B	ЗК	6.2K

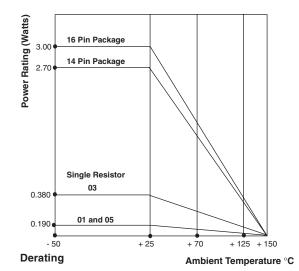


Standard E-24 resistance values stocked. Consult factory



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PERFORMANCE			
TEST	CONDITIONS	MAX. ΔR (Typical Test Lots) ± 0.50 % ΔR	
Power Conditioning	1.5 rated power, applied 1.5 hours "ON" and 0.5 hour "OFF" for 100 hours ± 4 hours at + 25 °C ambient temperature		
Thermal Shock	5 cycles between - 65 °C and + 125 °C	± 0.50 % ∆R	
Short Time Overload	2.5 x rated working voltage 5 seconds	± 0.25 % ∆R	
Low Temperature Operation	45 minutes at full rated working voltage at - 65 °C	± 0.25 % ∆R	
Moisture Resistance	240 hours with humidity ranging from 80 % RH to 98 % RH	± 0.50 % ∆R	
Resistance to Soldering Heat	Leads immersed in + 350 °C solder to within 1/16" of device body for 3 seconds	± 0.25 % ΔR	
Shock	Total of 18 shocks at 100 G's	± 0.25 % ∆R	
Vibration	12 hours at maximum of 20 G's between 10 and 2000 Hz	± 0.25 % ΔR	
Load Life	1000 hours at + 70 °C, rated power applied 1.5 hours "ON, 0.5 hour "OFF" for full 1000 hour period. Derated according to the curve.	± 1.00 % ΔR	
Terminal Strength	4.5 pound pull for 30 seconds	± 0.25 % ∆R	
Insulation Resistance	10 000 Megohm (minimum)	-	
Dielectric Withstanding Voltage	No evidence of arcing or damage (200 VRMS for 1 minute)	-	



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