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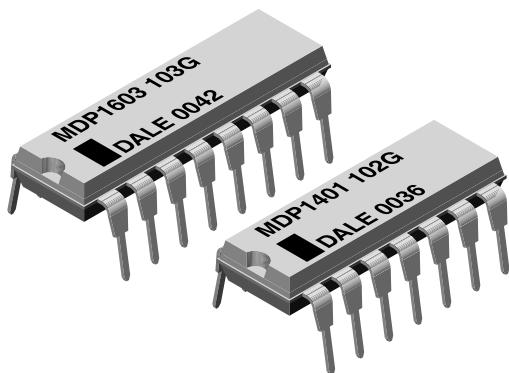


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Jameco Part Number 108564

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



### FEATURES

- 0.160" [4.06mm] maximum seated height and rugged, molded case construction.
- Highly stable thick film
- Low temperature coefficient (- 55°C to + 125°C)  $\pm 100\text{ppm}/^\circ\text{C}$
- Reduces total assembly costs
- Compatible with automatic inserting equipment
- Wide resistance range
- Uniform performance characteristics
- Available in tube pack

### STANDARD ELECTRICAL SPECIFICATIONS

MODEL/ NO. OF PINS	SCHEMATIC	RESISTOR POWER RATING Max. @ 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	0.125	10 - 2.2M	$\pm 2$	$\pm 100$	$\pm 50$	1.3
	03	0.25	10 - 2.2M				
	05	0.125	Consult factory				
MDP 16	01	0.125	10 - 2.2M	$\pm 2$	$\pm 100$	$\pm 50$	1.5
	03	0.25	10 - 2.2M				
	05	0.125	Consult factory				

\* For resistor power ratings @ + 25°C see derating curves.

\*\* Tighter tracking available

### ORDERING INFORMATION

#### 01 and 03 Schematics

MDP MODEL	14 NUMBER OF PINS	01 SCHEMATIC	101 RESISTANCE VALUE	G TOLERANCE
			First 2 digits (3 for "F" tolerance) are significant figures. Last digit specifies number of zeros to follow.	$G = \pm 2\%$

#### 05 Schematic

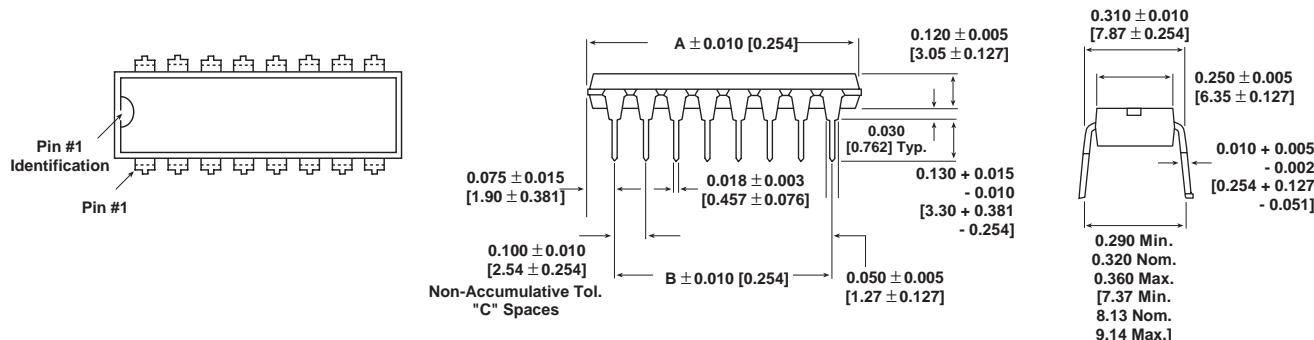
MDP MODEL	14 NUMBER OF PINS	05 SCHEMATIC	221 RESISTANCE VALUE $R_1$	271 RESISTANCE VALUE $R_2$	G TOLERANCE
			First two digits (3 for "F" tolerance) are significant figures. The last digit specifies the number of zeros to follow.		$G = \pm 2\%$

#### EXAMPLE:

MDP14-03-101G = A dual-in-line thick film resistor network with 14 pins on 0.100" [2.54mm] centers, 03 Schematic, resistance of 100 ohm and a tolerance of  $\pm 2\%$ .

#### EXAMPLE:

MDP14-05-221/271G = A 14 pin dual-in-line thick film resistor network with 12 series pair of resistors of 220 ohm and 270 ohm per pair and a tolerance of  $\pm 2\%$ .

**DIMENSIONS** in inches [millimeters]


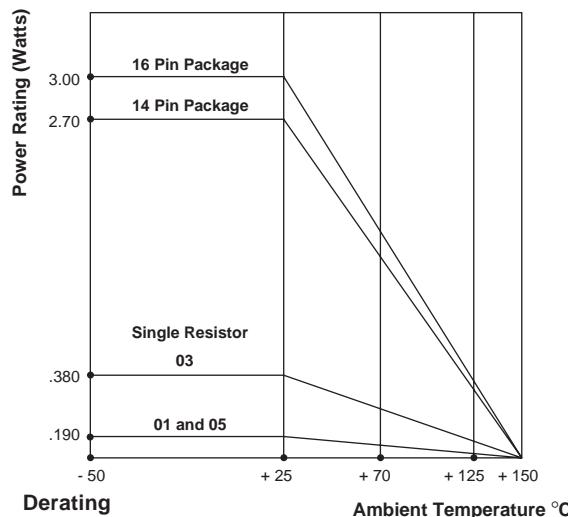
MODEL	A	B	C
MDP 14	0.750 [19.05]	0.600 [15.24]	6
MDP 16	0.850 [21.59]	0.700 [17.78]	7

**TECHNICAL SPECIFICATIONS**

PARAMETER	UNIT	MDP-14	MDP-16
Package Power Rating (Maximum at + 70°C)	W	1.73	1.92
Voltage Coefficient of Resistance	V <sub>eff</sub>	< 50ppm 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	

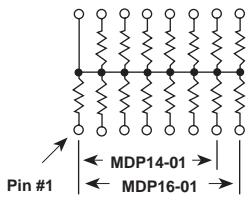
**MECHANICAL SPECIFICATIONS**

Marking Resistance to Solvents:	Permanency testing per MIL-STD-202, Method 215.
Solderability:	Per MIL-STD-202, Method 208E.
Body:	Molded epoxy.
Terminals:	Copper alloy, tin-lead plated.
Weight:	14 pin = 1.3 grams; 16 pin = 1.5 grams



## CIRCUIT APPLICATIONS

### 01 Schematic

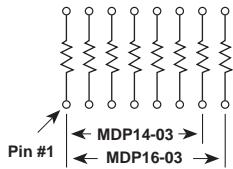


### 13 and 15 resistors with one pin common

The MDPXX-01 circuit provides a choice of 13 and 15 nominally equal resistors, each connected between a common pin (14 and 16) and a discrete PC board pin. Commonly used in the following applications:

- MOS/ROM Pull-up/Pull-down
- Open Collector Pull-up
- "Wired OR" Pull-up
- Power Driven Pull-up
- TTL Input Pull-down
- Digital Pulse Squaring
- TTL Unused Gate Pull-up
- High Speed Parallel Pull-up

### 03 Schematic

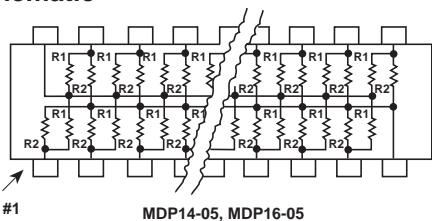


### 7 and 8 isolated resistors

The MDPXX-03 provides a choice of 7 and 8 nominally equal resistors, each resistor isolated from all others and wired directly across. Commonly used in the following applications:

- "Wired OR" Pull-up
- Power Driven Pull-up
- Powergate Pull-up
- Line Termination
- Long-line Impedance Balancing
- LED Current Limiting
- ECL Output Pull-down
- TTL Input Pull-down

### 05 Schematic



### TTL dual-line terminator; pulse squaring

The MDPXX-05 circuit contains 12 and 14 series pair of resistors. Each series pair is connected between ground and a common line. The junction of these resistor pairs is connected to the input terminals. The 05 circuits are designed for TTL dual-line termination and pulse squaring.

Standard E-24 resistance values stocked. Consult factory



<b>PERFORMANCE</b>		
<b>TEST</b>	<b>CONDITIONS</b>	<b>MAX. <math>\Delta R</math> (Typical Test Lots)</b>
Power Conditioning	1.5 rated power, applied 1.5 hours "ON" and 0.5 hour "OFF" for 100 hours $\pm 4$ hours at $+ 25^\circ\text{C}$ ambient temperature	$\pm 0.50\% \Delta R$
Thermal Shock	5 cycles between $- 65^\circ\text{C}$ and $+ 125^\circ\text{C}$	$\pm 0.50\% \Delta R$
Short Time Overload	2.5 x rated working voltage 5 seconds	$\pm 0.25\% \Delta R$
Low Temperature Operation	45 minutes at full rated working voltage at $- 65^\circ\text{C}$	$\pm 0.25\% \Delta R$
Moisture Resistance	240 hours with humidity ranging from 80% RH to 98% RH	$\pm 0.50\% \Delta R$
Resistance to Soldering Heat	Leads immersed in $+ 350^\circ\text{C}$ solder to within 1/16" of device body for 3 seconds	$\pm 0.25\% \Delta R$
Shock	Total of 18 shocks at 100 G's	$\pm 0.25\% \Delta R$
Vibration	12 hours at maximum of 20 G's between 10 and 2,000 Hz	$\pm 0.25\% \Delta R$
Load Life	1000 hours at $+ 70^\circ\text{C}$ , rated power applied 1.5 hours "ON, 0.5 hour "OFF" for full 1000 hour period. Derated according to the curve.	$\pm 1.00\% \Delta R$
Terminal Strength	4.5 pound pull for 30 seconds	$\pm 0.25\% \Delta R$
Insulation Resistance	10,000 Megohm (minimum)	—
Dielectric Withstanding Voltage	No evidence of arcing or damage (200 VRMS for 1 minute)	—