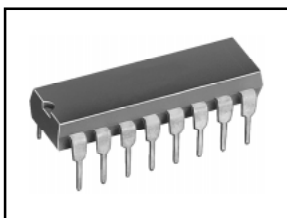


MODELS MDP14 and MDP16 Thick Film Resistor Networks

**Dual-In-Line, Molded DIP
01, 03, 05 Schematics**

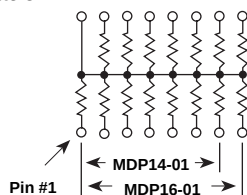


FEATURES

- .160" [4.06mm] maximum seated height
- 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

CIRCUIT APPLICATIONS

01 Schematic

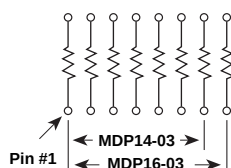


13 and 15 resistors with one pin common

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

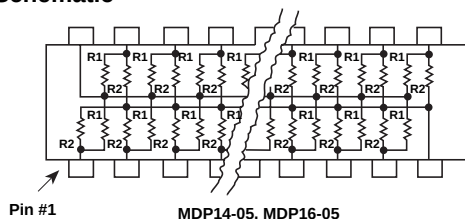


7 and 8 isolated resistors

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.

ELECTRICAL SPECIFICATIONS

Resistance Range:

01 and 03 Schematics: 10 ohm to 2.2 Megohm standard.

Tolerance:

01 and 03 Schematics: $\pm 2\%$ standard.
05 Schematic: $\pm 2\%$ standard.

Temperature Coefficient: (- 55°C to + 125°C)
 $\pm 100\text{PPM}/^\circ\text{C}$ typical.

Temperature Coefficient of TC Tracking:

(- 55°C to + 125°C)
01 and 03 Schematics: $\pm 50\text{PPM}/^\circ\text{C}$.
05 Schematic: $\pm 150\text{PPM}/^\circ\text{C}$ standard.
(Tighter tracking available).

Resistor Power Rating: (Maximum at + 25°C)
See derating curve.

Resistor Power Rating: (Maximum at + 70°C)

01 and 05 Schematics = .125 watt. 03 Schematic = .250 watt.

Package Power Rating: (Maximum at + 25°C and + 70°C)
See derating curve.

Voltage Coefficient of Resistance: $< 50\text{PPM}/^\circ\text{C/V}$ typical.

Maximum Operating Voltage: 100 VDC.

Operating Temperature Range: - 55°C to + 125°C.

Storage Temperature Range: - 55°C to + 150°C.

MECHANICAL SPECIFICATIONS

Marking Resistance to Solvents: Permanency testing per MIL-STD-202, Method 215.

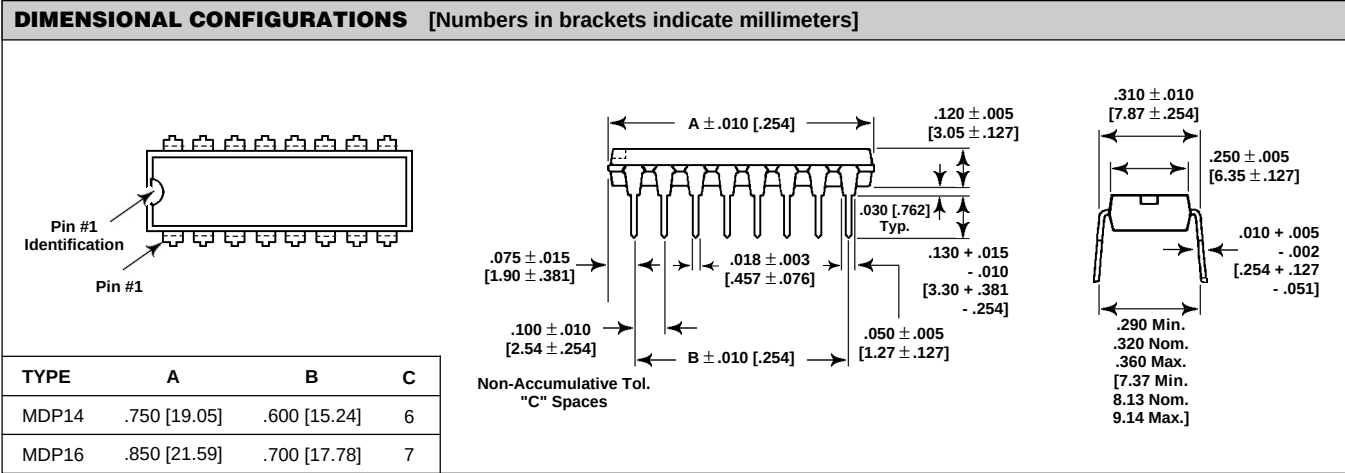
Solderability: Per MIL-STD-202, Method 208E.

Body: Molded epoxy.

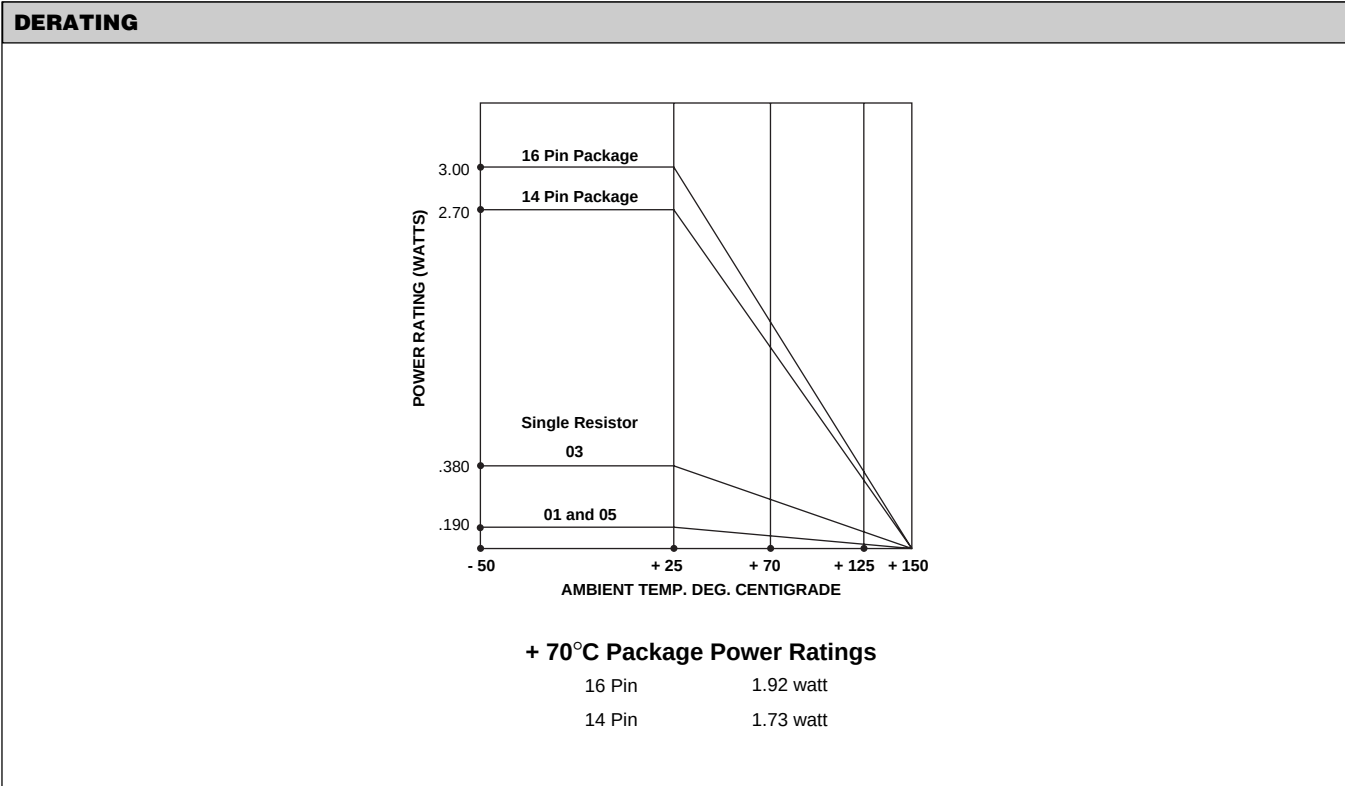
Terminals: Copper alloy, tin-lead plated.

Weight: 14 pin = 1.3 grams; 16 pin = 1.5 grams

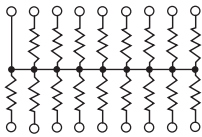
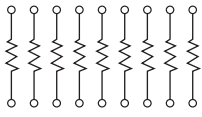
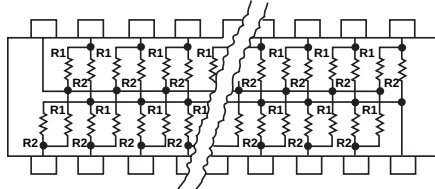
MODELS MDP14 and MDP16



ENVIRONMENTAL PERFORMANCE		
TEST	CONDITIONS	MAX. ΔR (Typical Test Lots)
Power Conditioning	1 1/2 rated power, applied 1 1/2 hours on and 1/2 hour off for 100 hours ± 4 hours at + 25°C ambient temperature	± 0.50% ΔR
Thermal Shock	5 cycles between - 65°C and + 125°C	± 0.50% ΔR
Short Time Overload	2 1/2 x rated working voltage 5 seconds	± 0.25% ΔR
Low Temperature Operation	45 minutes at full rated working voltage at - 65°C	± 0.25% ΔR
Moisture Resistance	240 hours with humidity ranging from 80% RH to 98% RH	± 0.05% ΔR
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% ΔR
Vibration	12 hours at maximum of 20 G's between 10 and 2,000 Hz	± 0.25% ΔR
Load Life	1,000 hours at + 70°C, rated power applied 1 1/2 hours on, 1/2 hour off for full 1,000 hour period. Derated according to the curve.	± 1.00% ΔR
Terminal Strength	4 1/2 pound pull for 30 seconds	± 0.25% ΔR
Insulation Resistance	10,000 Megohm (minimum)	—
Dielectric Withstanding Voltage	No evidence of arcing or damage (200 VRMS for 1 minute)	—



MODELS MDP14 and MDP16

STOCKED RESISTANCE VALUES IN OHMS ("G" Tolerance) *												
01 Schematic 	Model MDP14-01									Models MDP16-01		
	22	75	180	510	1.5k	3.3k	8.2k	22k	100k	22	110	470
	27	82	200	560	1.6k	3.9k	9.1k	27k	120k	33	120	510
	33	91	220	620	1.8k	4.7k	10k	33k	150k	39	150	560
	39	100	240	680	2.0k	5.1k	11k	39k	180k	47	180	680
	47	120	270	820	2.2k	5.6k	12k	47k	220k	56	220	820
	51	130	330	1.0k	2.4k	6.0k	15k	56k	330k	68	270	1.0k
	56	150	390	1.2k	2.7k	6.8k	18k	68k	470k	82	330	1.2k
	68	160	470	1.3k	3.0k	7.5k	20k	82k	1 Meg.	100	390	1.5k
03 Schematic 	Model MDP14-03									Models MDP16-03		
	22	56	150	390	1.0k	2.7k	6.2k	16k	82k	22	120	820
	24	62	160	430	1.1k	3.0k	6.8k	18k	100k	33	150	1.0k
	27	68	180	470	1.2k	3.3k	7.5k	20k	120k	39	180	1.2k
	30	75	200	510	1.3k	3.6k	8.2k	22k	150k	47	220	1.5k
	33	82	220	560	1.5k	3.9k	9.1k	27k	180k	56	270	1.8k
	36	91	240	620	1.6k	4.3k	10k	33k	220k	62	330	2.0k
	39	100	270	680	1.8k	4.7k	11k	39k	330k	68	390	2.2k
	43	110	300	750	2.0k	5.1k	12k	47k	470k	82	470	2.7k
	47	120	330	820	2.2k	5.6k	13k	56k	1 Meg.	100	560	3.3k
	51	130	360	910	2.4k	6.0k	15k	68k		110	680	3.9k
05 Schematic 	Models MDP14-05, MDP16-05											
	VALUE			Zo			VALUE			Zo		
	180/390			123			330/470			194		
	220/270			121			330/680			222		
	220/330			132			1.5k/3.3k			1.03k		
	330/390			179								

* Other values from 10 ohm to 3.3 Megohm.

HOW TO ORDER					
01 and 03 Schematics					
<u>MDP</u> MODEL	<u>14</u> NUMBER OF PINS	<u>01 03</u> SCHEMATIC	<u>101</u> RESISTANCE VALUE	<u>G</u> TOLERANCE	
			First 2 digits (3 for "F" tolerance) are significant figures. Last digit specifies number of zeros to follow.	G = ± 2%	
05 Schematic					
<u>MDP</u> MODEL	<u>14</u> NUMBER OF PINS	<u>05</u> SCHEMATIC	<u>221</u> RESISTANCE VALUE R ₁	<u>271</u> RESISTANCE VALUE R ₂	<u>G</u> TOLERANCE
			First two digits (3 for "F" tolerance) are significant figures. The last digit specifies the number of zeros to follow.		G = ± 2%
EXAMPLE: MDP14-03-101G = A dual-in-line thick film resistor network with 14 pins on .100" [2.54mm] centers, 03 Schematic, resistance of 100 ohm and a tolerance of ± 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 ± 2%.		