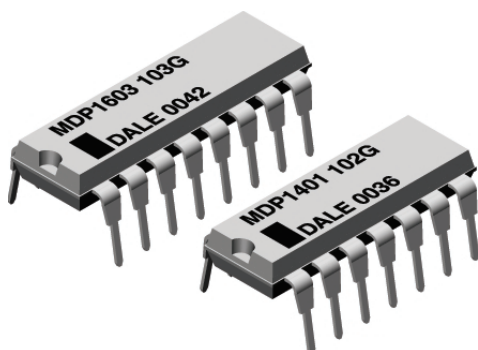


Thick Film Resistor Networks, Dual-In-Line, Molded DIP, 01, 03, 05 Schematics



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	$\pm 1, \pm 2, \pm 5$	± 100	± 50 ± 50 ± 100	1.3
	03	0.250	10 - 2.2M	$\pm 1, \pm 2, \pm 5$			
	05	0.125	Consult factory	$\pm 1, \pm 2, \pm 5$			
MDP 16	01	0.125	10 - 2.2M	$\pm 1, \pm 2, \pm 5$	± 100	± 50 ± 50 ± 100	1.5
	03	0.250	10 - 2.2M	$\pm 1, \pm 2, \pm 5$			
	05	0.125	Consult factory	$\pm 1, \pm 2, \pm 5$			

* 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
03
SCHEMATIC

101
RESISTANCE VALUE

G
TOLERANCE

First 2 digits (3 for "F" tolerance) are significant figures. Last digit specifies number of zeros to follow.

F = $\pm 1\%$
G = $\pm 2\%$
J = $\pm 5\%$

05 Schematic

MDP
MODEL

14
NUMBER OF PINS

05
SCHEMATIC

221
RESISTANCE VALUE R₁

271
RESISTANCE VALUE R₂

G
TOLERANCE

First two digits (3 for "F" tolerance) are significant figures. The last digit specifies the number of zeros to follow.

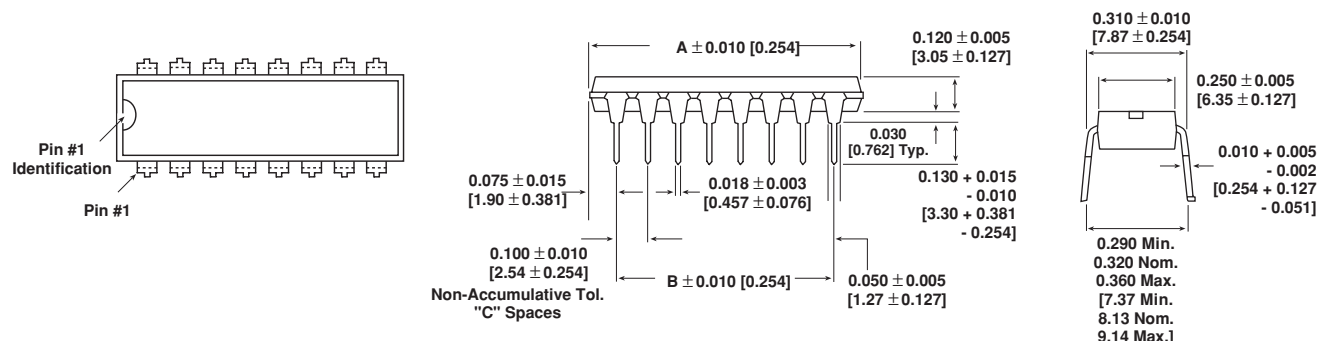
F = $\pm 1\%$
G = $\pm 2\%$
J = $\pm 5\%$

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]

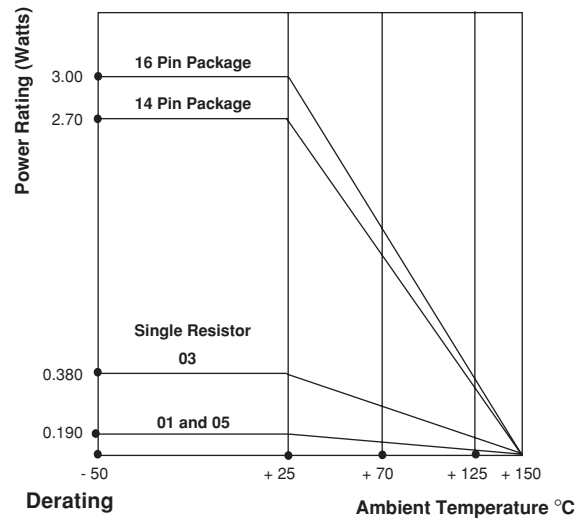
MODEL	A	B	C
MDP 14	0.750 [19.05]	0.600 [15.24]	6
MDP 16	0.850 [21.59]	0.700 [17.78]	7

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 _{eff}	< 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	

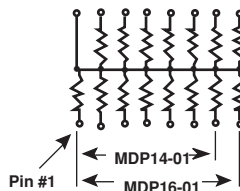
MECHANICAL SPECIFICATIONS

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

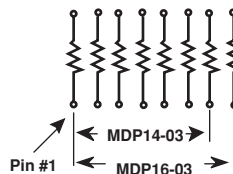


13 and 15 resistors with one pin common

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

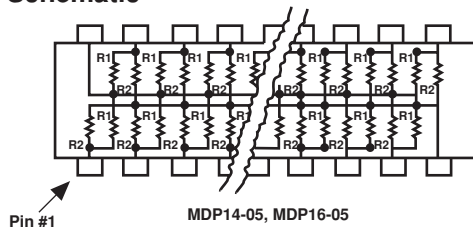


7 and 8 isolated resistors

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



PERFORMANCE		
TEST	CONDITIONS	MAX. ΔR (Typical Test Lots)
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	$\pm 0.50\% \Delta R$
Thermal Shock	5 cycles between - 65°C and + 125°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°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°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°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)	—