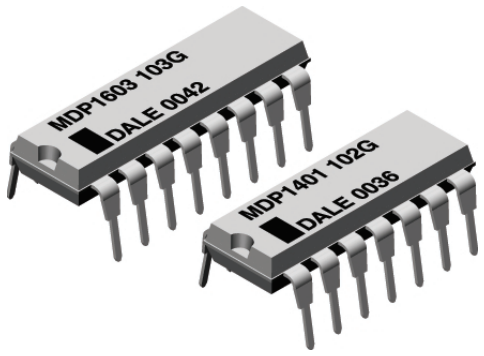
Vishay Dale

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) ± 100ppm/°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	± 1, ± 2, ± 5	± 100	± 50	1.3
	03	0.250	10 - 2.2M	± 1, ± 2, ± 5		± 50	
	05	0.125	Consult factory	± 1, ± 2, ± 5		± 100	
MDP 16	01	0.125	10 - 2.2M	± 1, ± 2, ± 5	± 100	± 50	1.5
	03	0.250	10 - 2.2M	± 1, ± 2, ± 5		± 50	
	05	0.125	Consult factory	± 1, ± 2, ± 5		± 100	

* For resistor power ratings @ + 25°C see derating curves.
** Tighter tracking available

ORDERING INFORMATION

01 and 03 Schematics

MDP	14	01 / 03	101	G
MODEL	NUMBER OF PINS	SCHEMATIC	RESISTANCE VALUE	TOLERANCE
			First 2 digits (3 for "F" tolerance) are significant figures. Last digit specifies number of zeros to follow.	F = ± 1% G= ± 2% J = ± 5%

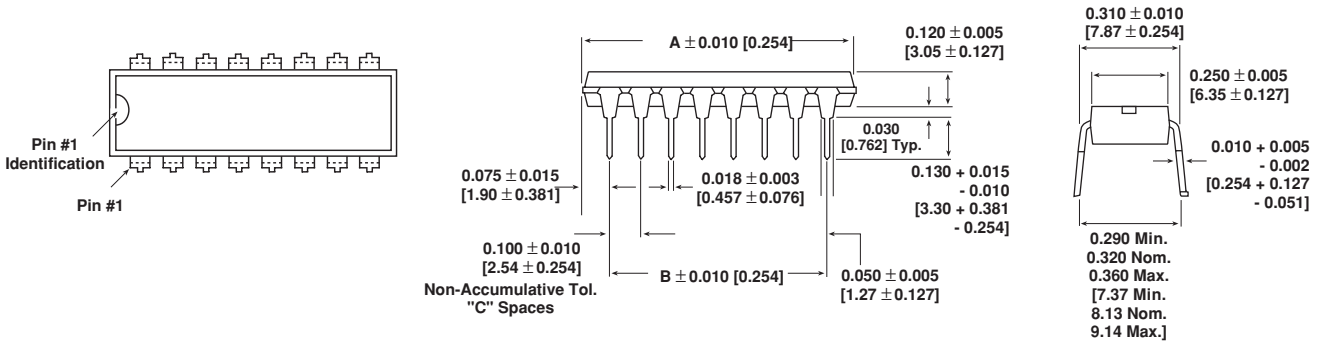
05 Schematic

MDP	14	05	221	271	G
MODEL	NUMBER OF PINS	SCHEMATIC	RESISTANCE VALUE R_1	RESISTANCE VALUE R_2	TOLERANCE
			First two digits (3 for "F" tolerance) are significant figures. The last digit specifies the number of zeros to follow.		F = ± 1% G= ± 2% J = ± 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 ± 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%.

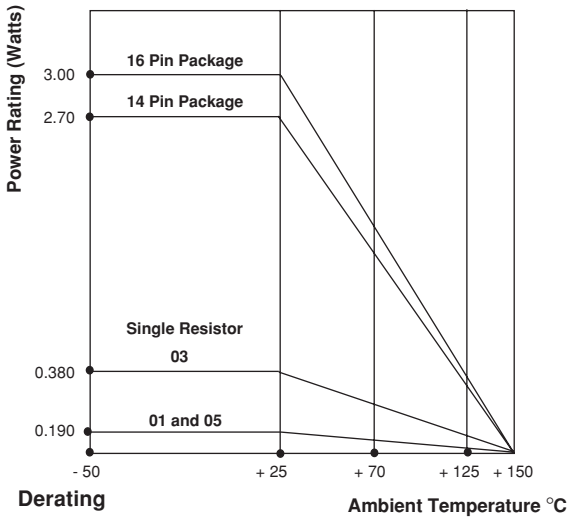
DIMENSIONS in inches [millimeters]



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

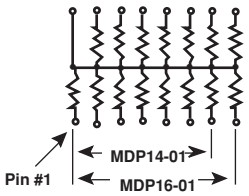
TECHNICAL SPECIFICATIONS			
PARAMETER	**UNIT**	**MDP-14**	**MDP-16**
Package Power Rating (Maximum at + 70°C)	W	1.73	1.92
Voltage Coefficient of Resistance	V_{eff}	< 50ppm typical	
Dielectric Strength	VAC	200	
Insulation Resistance	Ω	> 10,000M minimum	
Operating Temperature Range	°C	- 55 to + 125	
Storage 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

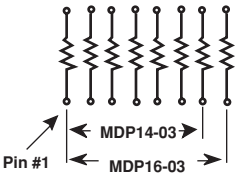


13 and 15 resistors with one pin common

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

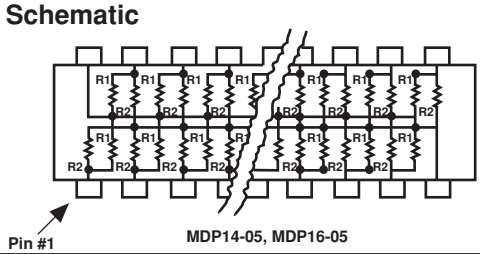


7 and 8 isolated resistors

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	± 0.50% ΔR
Thermal Shock	5 cycles between - 65°C and + 125°C	± 0.50% ΔR
Short Time Overload	2.5 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	± 0.50% 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	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% ΔR
Insulation Resistance	10,000 Megohm (minimum)	—
Dielectric Withstanding Voltage	No evidence of arcing or damage (200 VRMS for 1 minute)	—