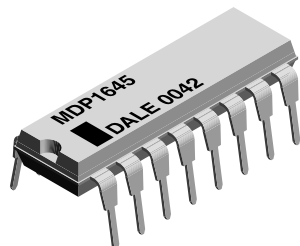


# Thick Film Resistor Networks, Dual-In-Line, Molded DIP



## FEATURES

- TTL/ECL translator and SCSI-BUS signal terminator schematics available
- 0.190" (4.83 mm) maximum seated height
- Rugged, molded case construction
- Low temperature coefficient (-55 °C to +125 °C),  
MDP 1645:  $\pm 100$  ppm/°C,  
MDP 1646:  $\pm 250$  ppm/°C
- Compatible with automatic insertion equipment
- Thick film resistive elements
- Reduces PC board space and reduces total assembly costs
- Available in tube pack
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


RoHS\*  
Available

## Note

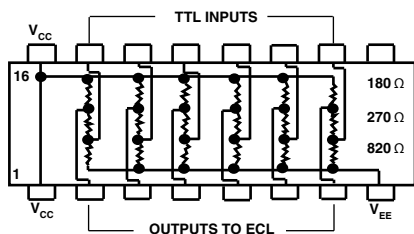
\* This datasheet provides information about parts that are RoHS-compliant and/or parts that are non-RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information/tables in this datasheet for details.

## STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL/ PIN NO.	POWER RATING ELEMENT $P_{70^{\circ}\text{C}}$ W	POWER RATING PACKAGE $P_{70^{\circ}\text{C}}$ W	TOLERANCE $\pm \%$	RESISTANCE VALUES $\Omega$	TEMPERATURE COEFFICIENT (-55 °C to +125 °C) $\pm$ ppm/°C (Typ.)	TCR TRACKING $\pm$ ppm/°C	WEIGHT g
MDP1645	0.125	2.0	2	180, 270, 820	100	150	1.5
MDP1646	0.125	2.0	5	330, 150	250	150	1.5

## CIRCUIT APPLICATIONS

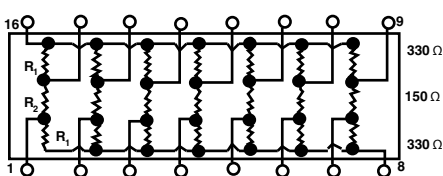
### MDP1645 Schematic



### TTL to ECL translator

The MDP1645 network consists of 18 resistors of 3 different values, internally divided into six (6) identical three (3) resistor sections for TTL to ECL translation.

### MDP1646 Schematic



### SCSI-BUS signal terminator

The MDP1646 network consists of 21 resistors of 2 different values, internally divided into seven (7) identical three (3) resistor sections for SCSI-BUS terminator applications.

## GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: MDP1646D04 (preferred part number information)

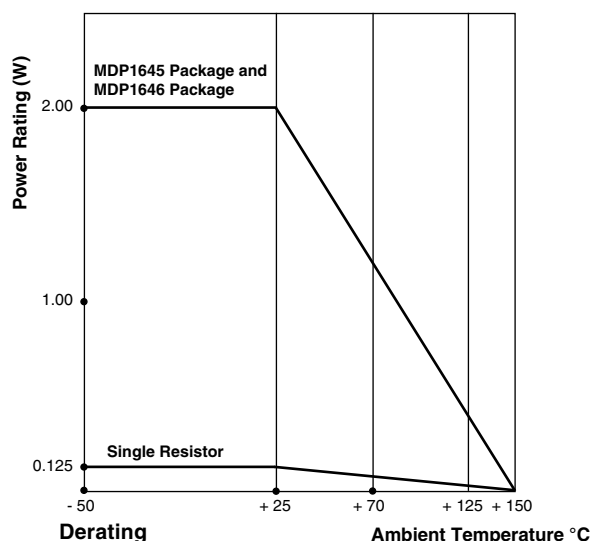
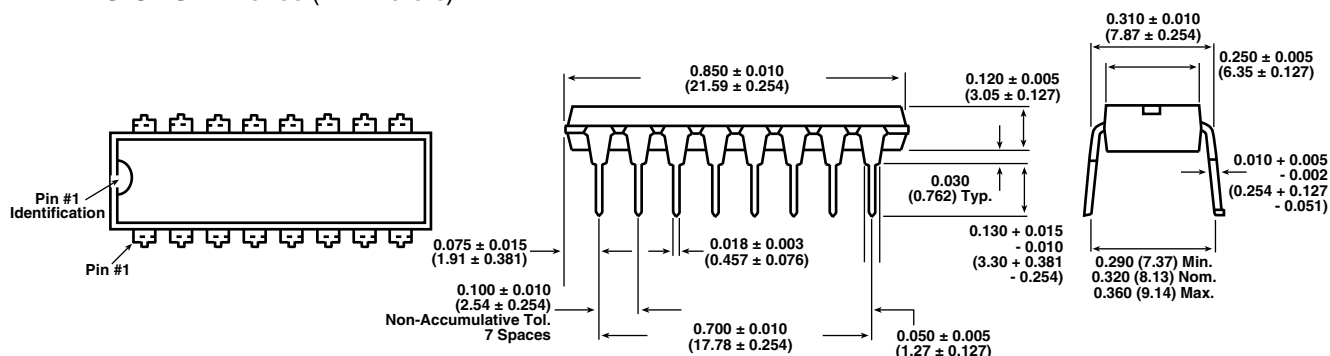
M	D	P	1	6	4	6	D	0	4					
GLOBAL MODEL			PIN COUNT			SCHEMATIC			PACKAGING			SPECIAL		
MDP			16			45 = TTL/ECL translator 46 = Signal terminator			E04 = Lead (Pb)-free, tube D04 = Tin/lead, tube			Blank = Standard (Dash number) (Up to 3 digits) From 1 to 999 as applicable		

Historical Part Number: MDP1646 (will continue to be accepted)

MDP	16	46	D04
HISTORICAL MODEL	PIN COUNT	SCHEMATIC	PACKAGING

## Note

- For additional information on packaging, refer to the Through-Hole Network Packaging document ([www.vishay.com/doc?31542](http://www.vishay.com/doc?31542)).

**DIMENSIONS** in inches (millimeters)**TECHNICAL SPECIFICATIONS**

PARAMETER	UNIT	MDP SERIES
Maximum Operating Voltage	V <sub>DC</sub>	100
Voltage Coefficient of Resistance (Typical)	V <sub>eff</sub>	< 50 ppm/°C
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
Terminals	Copper alloy, solder plated
Body	Molded epoxy
Weight	1.5 g

**PERFORMANCE**

TEST	CONDITIONS	MAX. ΔR (TYPICAL TEST LOTS)
Thermal Shock	5 cycles between -65 °C and +125 °C	± 0.50 % ΔR
Short Time Overload	2.5 x rated working voltage 5 s	± 0.25 % ΔR
Low Temperature Operation	45 min at full rated working voltage at -65 °C	± 0.25 % ΔR
Moisture Resistance	240 h with humidity ranging from 80 % RH to 98 % RH	± 0.50 % ΔR
Resistance to Soldering Heat	Leads immersed in +260 °C solder to within 1/16" of body for 10 s	± 0.25 % ΔR
Shock	Total of 18 shocks at 100 g's	± 0.25 % ΔR
Vibration	12 h at maximum of 20 g's between 10 Hz and 2000 Hz	± 0.25 % ΔR
Load Life	1000 h at +70 °C, rated power applied 1.5 h "ON", 0.5 h "OFF" for full 1000 h period. Derated according to the curve.	± 0.50 % ΔR
Terminal Strength	4 1/2 pound pull for 30 s	± 0.25 % ΔR
Insulation Resistance	10 000 MΩ (minimum)	-
Dielectric Withstanding Voltage	No evidence of arcing or damage (200 V <sub>RMS</sub> for 1 min)	-



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