Precision 50 Mil Pitch, Dual In Line, Resistor Networks

ORN Series, Small Outline Molded

Features

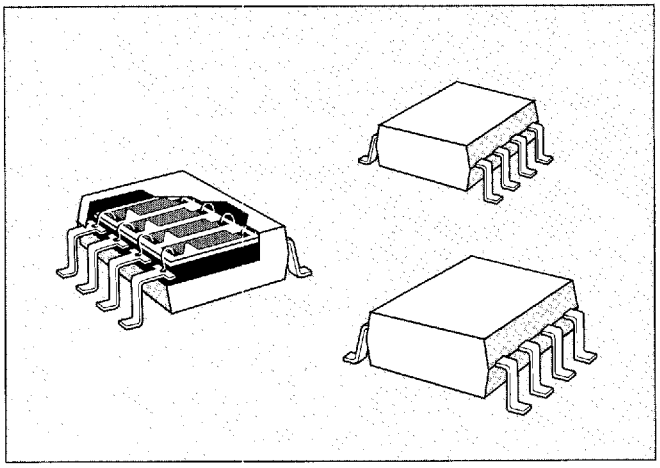
- ▲ 0.068 (1.73 mm) maximum seated height
- ▲ Rugged molded case construction with *no internal solder*
- ▲ Highly stable thin film
- ▲ Low temperature coefficient, ±25 ppm/°C
  Tracking ±5 ppm/°C (–55°C to +125°C)
- ▲ Operating temperature range –55°C to +125°C

Electrical Specifications

- ▲ Standard Resistance Offering: 500 Ω, 1K Ω, 2K Ω, 5K Ω, 10K Ω, 20K Ω, 50K Ω, 100K Ω
  (Consult factory for additional values.)
- ▲ Resistance Tolerance: ±1%, ±0.5%, ±0.25%, ±0.1%
- ▲ Resistance Ratio Match: 0.5%, 0.1%, 0.05%
- ▲ Resistance Temperature Coefficient: ±25 ppm/°C
- ▲ Resistor Power Rating: 0.100 watt (max. at +25°C)
- ▲ Package Power Rating: 0.400 watt (max. at +25°C)
- ▲ TC Tracking: ±5 ppm/°C (–55°C to +125°C) typical
- ▲ Voltage Coefficient of Resistance: <5 ppm/volt typical
- ▲ Maximum Operating Voltage: 100 volts
- ▲ Operating Temperature Range: –55°C to +125°C
- ▲ Storage Temperature Range: –55°C to +150°C

Physical Specifications

- ▲ Marking: Model Number, Schematic Number, Value Code, Tolerance Code and Name
- ▲ Marking Resistance To Solvents: Permanency testing per MIL-R-83401
- ▲ Solderability: Per MIL-R-83401
- ▲ Leads: Copper alloy, solderable
- ▲ Body: Molded epoxy

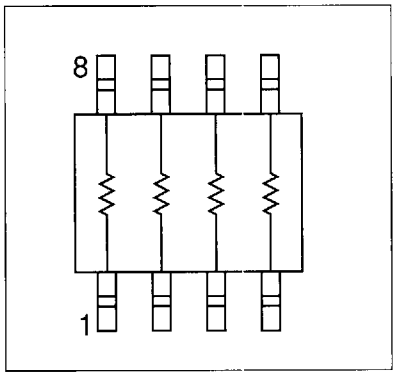


Standard Resistance Values:

500 Ω,	**1K Ω,**	**2K Ω,**	**5K Ω,**
10K Ω,	**20K Ω,**	**50K Ω,**	**100K Ω**

Consult factory for additional values.

▼ Figure 5 Circuit



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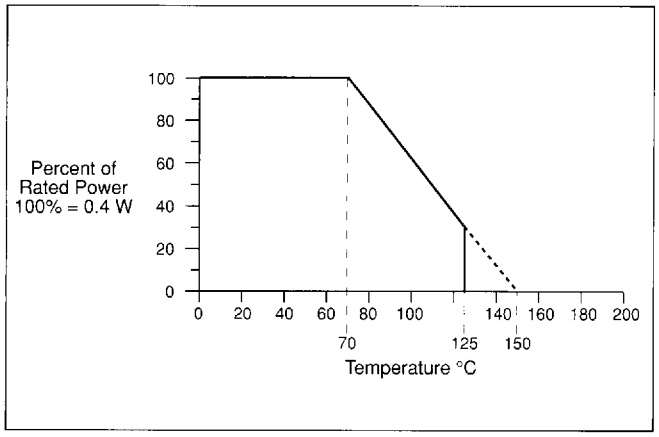
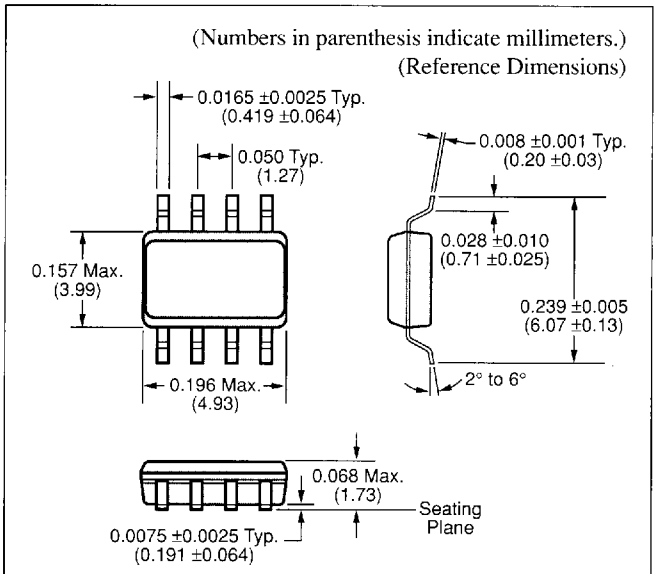
▼ Table 21 Environmental Characteristics

(Typical MIL-R-83401 Reference)	
Thermal Shock	±0.25% max Δ R (5 cycles between –65°C and +125°C)
Power Conditioning	±0.25% max Δ R (at full rated power for 100 hrs. ±4 hrs. at +25°C ambient temp.)
Low Temperature Operation	±0.10% max Δ R (45 minimum at full rated working voltage at –65°C)
Short Time Overload	±0.10% max Δ R (2-1/2 x rated working voltage for 5 sec.)
Terminal Strength	±0.10% max Δ R (4-1/2 pound pull for 30 sec.)
Resistance to Soldering Heat	±0.10% max Δ R (leads immersed in +350°C solder to a depth of 1/8" for 3 sec.)
Moisture Resistance	±0.20% max Δ R (240 hrs. with humidity ranging from 80% RH to 98% RH)
Shock	±0.25% max Δ R (total of 18 shocks at 100 G's)
Vibration	±0.25% max Δ R (12 hrs. at maximum of 20 G's between 10 and 2,000 Hz)
Life	±0.10% max Δ R (1,000 hrs. at +70°C, rated power applied 1-1/2 hrs. on, 1/2 hr. off for full 1,000 hour period). Derated according to Figure 7— Power Derating Curve.
Insulation Resistance	10,000 Megohms (minimum)
Dielectric Withstanding Voltage	No evidence of arcing or damage (200 VRMS for 1 minute)

▼ Figure 6 Power Derating Curve



▼ Figure 7 Dimensional and Terminal Configurations



NOTE:
1. Leads are within 0.005" (0.13 mm) of true position
2. Leads coplanar to ±0.004" (±0.50 mm)

▼ Table 22 Ordering Information

Series	Schematic	Resistance Value	Tolerance and Ratio Tolerance
ORN = 8 leaded SOIC Style	A = 4 nominally equal resistors with each resistor isolated from all others and wired directly across.	First 3 digits are significant figures. The last digit specifies the number of zeros to follow. Eg. 1K = 1001 10K = 1002	* A = ±0.1%, ±0.05% ratio match B = ±0.1%, ±0.1% ratio match C = ±0.25%, ±0.1% ratio match D = ±0.5%, ±0.1% ratio match F = ±1.0%, ±0.5% ratio match * Tolerance available on 1K Ω & up.

Example: ORNA1001F is an 8 leaded small outline molded network with 4 resistors, a value of 1K Ω, and a ±1% tolerance.

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