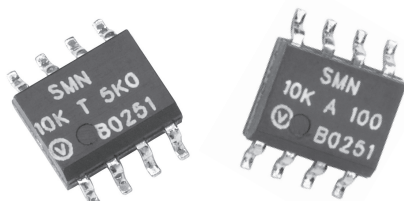


Bulk Metal® Foil Technology 4 Resistor Precision Surface Mount Network Dual-In-Line Molded Package 50 MIL Pitch

FEATURES

- Low Temperature Coefficient of Resistance:
Absolute: $\pm 5\text{ppm}/^\circ\text{C}$
Tracking: $\pm 1\text{ppm}/^\circ\text{C}$
- Large variety of resistance ratios
- Tight Resistance Ratio Tolerance: 0.01%
- Excellent Ratio Stability: 0.01% - 0.1 watts, at 70°C , 2000 hours
- Power Rating: at 70°C
Entire Package: 0.4 watts
Each Resistor: 0.1 watts
- Low thermal EMF: $0.1\mu\text{V}/^\circ\text{C}$
- Low Current Noise: $0.01\mu\text{V}/\text{V}(\text{RMS})$ (- 40dB)
- Terminals: Solder coated copper alloy



Product may not
be to scale

The SMN Surface Mount Network is made up of 4 independent Bulk Metal® Foil resistors in a small standard molded epoxy package with 50 mil lead pitch (Jedec MS-012 package). This network features close TCR tracking and tight ratio tolerance. The electrical specification of this integrated construction offers improved performance and better real estate utilization over discrete resistors and matched sets. The resistors may be used independently or as divider pairs.

TABLE 1 - RESISTANCE VALUES AND TOLERANCES	
RESISTANCE VALUES	100R, 200R, 400R, 500R, 1K, 2K, 5K, 10K
ABSOLUTE TOLERANCE EACH RESISTOR	$\pm 0.02\%$, $\pm 0.05\%$, $\pm 0.1\%$
RESISTANCE RATIO TOLERANCE	$\pm 0.01\%$, $\pm 0.02\%$, $\pm 0.05\%$

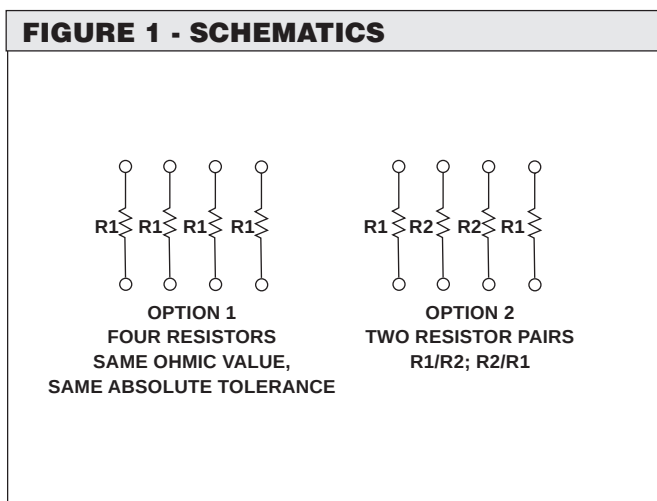


TABLE 2 - RATIOS AVAILABLE					
R1/R2 RESISTANCE RATIO	R1	R2	R1/R2 RESISTANCE RATIO	R1	R2
100	10K	100R	2.5	1K	400R
50	10K	200R		500R	200R
	5K	100R	2	10K	5K
25	10K	400R		2K	1K
	5K	200R		1K	500R
20	10K	500R		400R	200R
	2K	100R		200R	100R
10	10K	1K	1.25	500R	400R
	5K	500R	1.0	100R	100R
	2K	200R		200R	200R
	1K	100R		400R	400R
5	10K	2K		500R	500R
	5K	1K		1K	1K
	2K	400R		2K	2K
	1K	200R		5K	5K
	500R	100R		10K	10K
4	2K	500R			
	400R	100R			

FIGURE 2 - DIMENSIONS AND IMPRINTING
EXAMPLE in inches (millimeters)

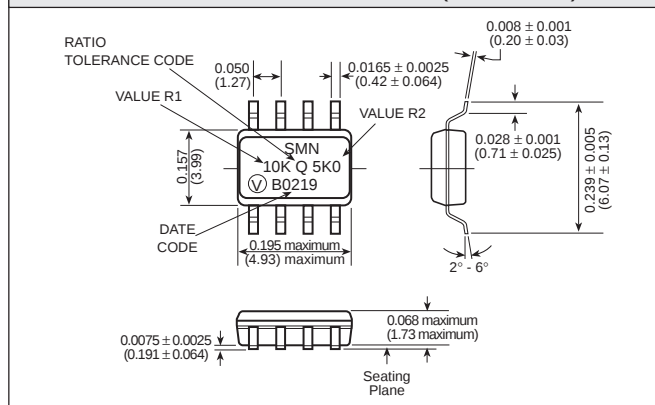


FIGURE 3 - LAND PATTERN in inches (millimeters)

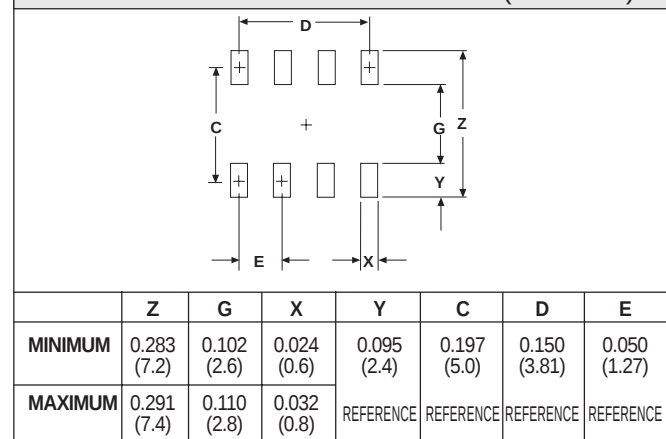


TABLE 3 - PERFORMANCE SPECIFICATIONS (PER MIL-PRF 914 TEST METHODS)

SPECIFICATIONS	TYPICAL LIMITS
Power Rating at 70°C	Entire package: 0.4 watts Each resistor: 0.1 watts (Note: Power derated to 0 Watt at 150°C)
Maximum Working Voltage (each resistor)	50V
TCR - 55°C to + 125°C (25°C reference)	Absolute: ± 5ppm/°C Tracking: ± 1ppm/°C (R1/R2 = 1) ± 2ppm/°C (1 < R1/R2 ≤ 10) ± 3ppm/°C (10 < R1/R2 ≤ 100)
Thermal Shock 25 x (- 65°C to + 125°C)	ΔR = 0.015% ΔRatio = 0.01%
Thermal Shock 5 x (- 65°C to + 125°C) and Power Conditioning 1.5 rated power at 25°C, 100 hours	ΔR = 0.02% ΔRatio = 0.015%
DWV Atm. Pressure 200V (A.C), 1 minute	Successfully passed
Insulation Resistance 100V (D.C), 1 minute	> 10 ⁴ MΩ
Resistance To Bonding Exposure 260°C, 10 seconds	ΔR = 0.01% ΔRatio = 0.005%
Moisture Resistance + 65°C to - 10°C; 90 to 98% RH; 0.1 x rated power; 240 hours	ΔR = 0.025% ΔRatio = 0.01%
Shock 100G	ΔR = 0.01% ΔRatio = 0.01%
Vibration, High Frequency (10Hz - 2000Hz), 20G	ΔR = 0.01% ΔRatio = 0.01%
High Temperature Exposure 100 hours at 125°C	ΔR = 0.02% ΔRatio = 0.01%
Low Temperature Storage 24 hours at - 65°C	ΔR = 0.01% ΔRatio = 0.005%
Load Life Stability at + 70°C; 0.1 watt per resistor, 2000 hours	ΔR = 0.02% ΔRatio = 0.01%
Shelf Life Stability 1 year at + 15 to + 35°C; 15 to 75% RH, No load	ΔR = 0.0025% ΔRatio = 0.002%
Short Time Overload 2.5 x Rated Voltage; 5 seconds	ΔR = 0.01% ΔRatio = 0.005%
Weight	0.08 grams

TABLE 4 - ORDERING INFORMATION

MODEL	RESISTANCE VALUE*	ABSOLUTE TOLERANCE	RESISTANCE RATIO TOLERANCE	TCR TRACKING	PACKAGING
SMN	R1 = R2 =	Q = ± 0.02% A = ± 0.05% B = ± 0.1%	T = ± 0.01% Q = ± 0.02% A = ± 0.05%	**	T = Tubes R = Tape and Reel W = Waffle Pack

100Ω to < 1KΩ Example: 150R = 150Ω

1KΩ to 10KΩ Example: 1K00 = 1KΩ

*Specify the resistance value for each resistor of network - even if all values are the same

**Specify required TCR Tracking

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