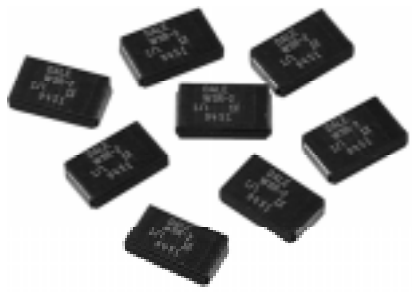
Power Metal Strip® Resistors

Low Value, Surface Mount



Actual Size

Enlarged

FEATURES

- Properties better than wirewound resistors.
- Ideal for all types of current sensing, voltage division and pulse applications including switching and linear power supplies, instruments, power amplifiers and low voltage lighting.
- Proprietary processing technique produces extremely low resistance value.
- All welded construction of a metal resistive element and 60/40 tin/lead copper terminations. Encapsulated with a high temperature molding compound.
- Very low inductance, .5nH to 5nH.
- Excellent frequency response.
- Low Thermal EMF.

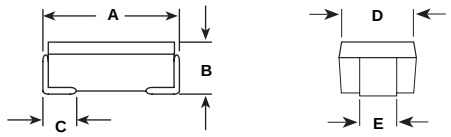
ELECTRICAL SPECIFICATIONS

MODEL	POWER RATING @ + 70°C	RESISTANCE RANGE ±1%	TCR* PPM/°C (Max.)	OPERATING TEMPERATURE RANGE
WSR-2	2W	.001Ω - 1Ω	.005Ω - .0099Ω = ± 110	- 65°C to + 275°C
WSR-3	3W	.001Ω - .2Ω	.01Ω - 1Ω = ± 75	- 65°C to + 275°C

*For values below .005Ω consult factory.

DIMENSIONAL CONFIGURATIONS

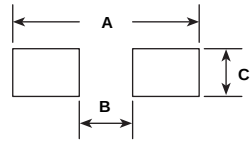
[Numbers in brackets indicate millimeters]



A	B	C	D	E
.455 ± .032 [11.56 ± .813]	.095 ± .005 [2.41 ± .127]	.100 ± .010 [2.54 ± .254]	.275 ± .005 [6.98 ± .127]	.215 ± .005 [5.46 ± .127]

RECOMMENDED SOLDER PAD LAYOUT FOR WSR

[Numbers in brackets indicate millimeters]



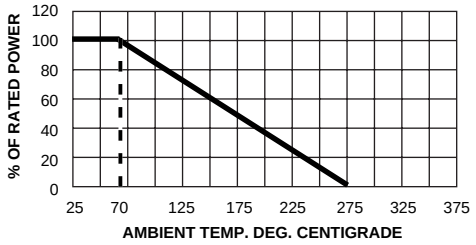
A	B	C
0.515 [13.08]	0.205 [5.21]	0.230 [5.84]

NOTE: The WSR-3 has three (3) watt power rating when mounted to a circuit board with 750 sq mill circuit traces connecting to the recommended solder pad.

ENVIRONMENTAL PERFORMANCE

TEST	WSR - 2	WSR - 3	TEST METHOD
Thermal Shock	± (0.5% + .0005Ω) ΔR	± (0.5% + .0005Ω) ΔR	- 55°C to + 150°C, 1000 cycles, 15 minutes at each extreme
Short Time Overload	± (0.5% + .0005Ω) ΔR	± (2% + .0005Ω) ΔR	WSR-2: 5 x Rated Power 5 sec. WSR-3: 4 x Rated Power for 5 sec.
Low Temperature Storage	± (0.5% + .0005Ω) ΔR	± (0.5% + .0005Ω) ΔR	- 65°C for 24 hours
High Temperature Exposure	± (1% + .0005Ω) ΔR	± (1% + .0005Ω) ΔR	1000 hours @ + 275°C
Bias Humidity	± (0.5% + .0005Ω) ΔR	± (0.5% + .0005Ω) ΔR	+ 85°C, 85% RH, 10% Bias, 1000 hours
Mechanical Shock	± (0.5% + .0005Ω) ΔR	± (0.5% + .0005Ω) ΔR	100g for 11 milliseconds, 5 pulses
Vibration	± (0.5% + .0005Ω) ΔR	± (0.5% + .0005Ω) ΔR	Frequency varied 10 to 500Hz in 1 minute, 3 directions, 9 hours
Load Life	± (1% + .0005Ω) ΔR	± (2% + .0005Ω) ΔR	1000 hours @ Rated Power, + 70°C, 1.5 hours On, 0.5 hours Off
Solder Heat	± (0.5% + .0005Ω) ΔR	± (0.5% + .0005Ω) ΔR	+ 260°C Solder, 10 - 12 second dwell, 25mm/second emergency
Dielectric Withstanding Voltage	500 VAC	500 VAC	
Insulation Resistance	1000 MΩ Dry, 100 MΩ Moisture	1000 MΩ Dry, 100 MΩ Moisture	
Moisture Resistance	± (0.5% + .0005Ω) ΔR	± (0.5% + .0005Ω) ΔR	MIL-STD-202 Method 106, 0% Power, 7a and 7b not required

DERATING



HOW TO ORDER

WSR-2	.01Ω	±1%	R86
MODEL	RESISTANCE	TOLERANCE	PACKAGING

WSR - 2
WSR - 3

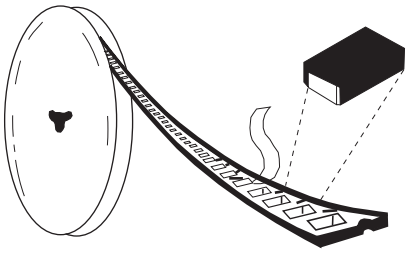
B43 - Bulk pack below full reel quantities.
R86 - Embossed carrier tape.

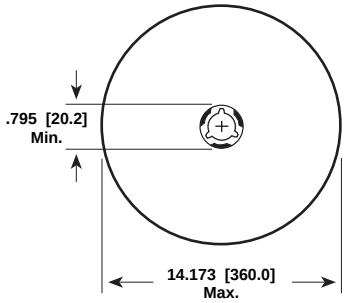
TAPE AND REEL SPECIFICATIONS PER EIA-481 [Numbers in brackets indicate millimeters]

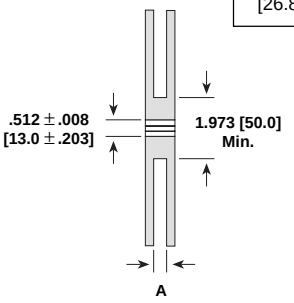
Reel

Reel Dimensions

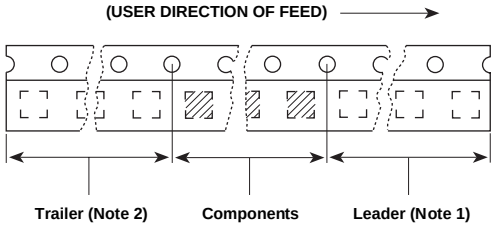
A (Max.)
1.055 [26.8]







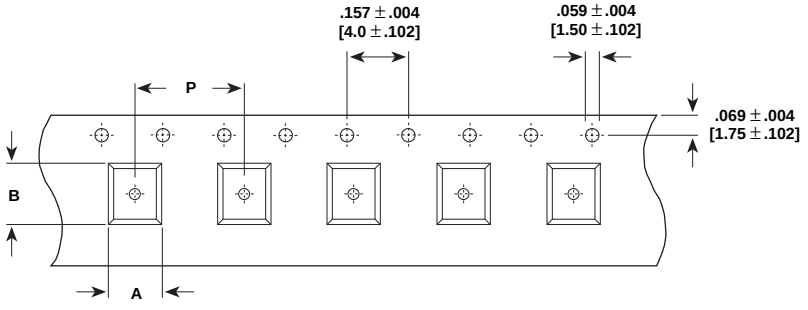
Tape

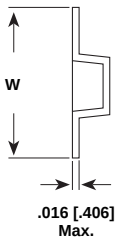


NOTE 1: There shall be a leader of 9.06" [230mm] minimum which may consist of carrier and/or cover tape followed by a minimum of 6.30" [160mm] of carrier tape with sealed cover tape not to exceed 22.05" [560mm] combined total.

NOTE 2: There shall be a minimum of 6.30" [160mm] of empty component pockets sealed with cover tape.

Tape Dimensions





MODEL	A ±.005 [.13]	B ±.005 [.13]	P ±.005 [.13]	W ±.012 [0.30]	QTY/REEL
WSR-2/WSR-3	.288 [7.32]	.475 [12.07]	.472 [12.0]	.945 [24.0]	1500