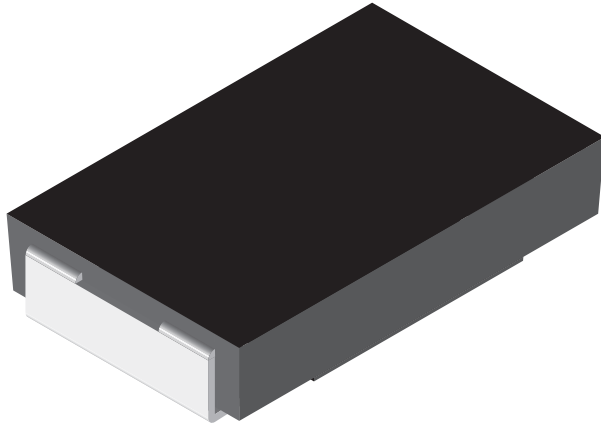


## Power Metal Strip<sup>®</sup> Resistors, Low Value, Surface Mount



**FEATURES**

- Molded high temperature encapsulation
- Ideal for all types of current sensing, voltage division and pulse applications including switching and linear power supplies, instruments, power amplifiers
- Proprietary processing technique produces extremely low resistance values
- All welded construction
- Solid metal Nickel-chrome or Manganese-copper alloy resistive element
- 60/40 tin/lead copper terminations
- Very low inductance 0.5nH to 5nH
- Excellent frequency response
- Low thermal EMF

**STANDARD ELECTRICAL SPECIFICATIONS**

MODEL	SIZE	POWER RATING $P_{70^{\circ}\text{C}}$ W	RESISTANCE RANGE	
			$\pm 0.5\%$	$\pm 1.0\%$
WSR2	4527	2.0	0.01 - 1.0	0.001 - 1.0
WSR3	4527	3.0*	0.01 - 0.2	0.001 - 0.2

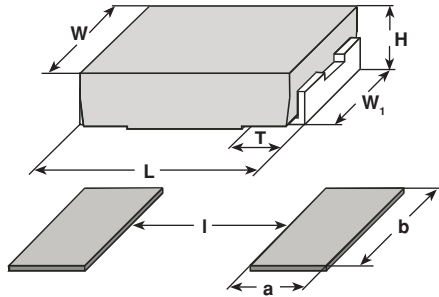
\*The WSR3 requires a minimum of 1050 sq. mil. circuit traces connecting to the recommended solder pad  
 • Part Marking: DALE, Model, Value, Tolerance, Date Code

**TECHNICAL SPECIFICATIONS**

PARAMETER	UNIT	WSR2 & WSR3
Temperature Coefficient	ppm/°C	0.005Ω - 0.0099Ω = ± 110 0.010Ω - 1.0Ω = ± 75
Dielectric Withstanding Voltage	V <sub>AC</sub>	> 500
Insulation Resistance	Ω	> 10 <sup>9</sup>
Operating Temperature Range	°C	- 65/+ 275
Maximum Working Voltage	V	(P x R) <sup>1/2</sup>
Weight/1000 pieces (typical)	g	440

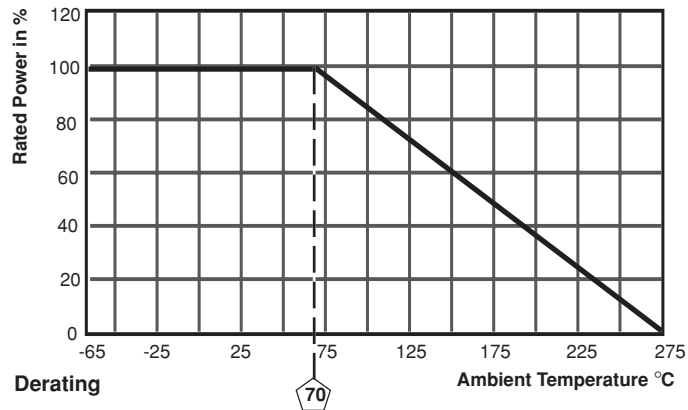
**ORDERING INFORMATION**

WSR2 MODEL	0.01Ω RESISTANCE Ω	1.0% TOLERANCE ± %	R86 PACKAGING B43 = Bulk Pack R86 = Tape and Reel
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**DIMENSIONS**


MODEL	DIMENSIONS in inches [millimeters]				
	L	H	T	W	W <sub>1</sub>
WSR2	0.455 ± 0.032	0.095 ± 0.005	0.100 ± 0.010	0.275 ± 0.005	0.215 ± 0.005
WSR3	[11.56 ± 0.813]	[2.41 ± 0.127]	[2.54 ± 0.254]	[6.98 ± 0.127]	[5.46 ± 0.127]

MODEL	SOLDER PAD DIMENSIONS in inches [millimeters]		
	a	b	l
WSR2	0.155	0.230	0.205
WSR3	[3.94]	[5.84]	[5.21]


**PERFORMANCE**

TEST	CONDITIONS OF TEST	TEST LIMITS	
		WSR2	WSR3
Thermal Shock	- 55°C to + 150°C, 1000 cycles, 15 minutes at each extreme	± (0.5% + 0.0005Ω) ΔR	± (0.5% + 0.0005Ω) ΔR
Short Time Overload	WSR2: 5 x rated power for 5 sec. WSR3: 4 x rated power for 5 sec.	± (0.5% + 0.0005Ω) ΔR	± (2.0% + 0.0005Ω) ΔR
Low Temperature Storage	- 65°C for 24 hours	± (0.5% + 0.0005Ω) ΔR	± (0.5% + 0.0005Ω) ΔR
High Temperature Exposure	1000 hours @ + 275°C	± (1.0% + 0.0005Ω) ΔR	± (1.0% + 0.0005Ω) ΔR
Bias Humidity	+ 85°C, 85% RH, 10% Bias, 1000 hours	± (0.5% + 0.0005Ω) ΔR	± (0.5% + 0.0005Ω) ΔR
Mechanical Shock	100g's for 6 milliseconds, 5 pulses	± (0.5% + 0.0005Ω) ΔR	± (0.5% + 0.0005Ω) ΔR
Vibration	Frequency varied 10 to 2000Hz in one minute, 3 directions, 12 hours	± (0.5% + 0.0005Ω) ΔR	± (0.5% + 0.0005Ω) ΔR
Load Life	1000 hours @ rated power, + 70°C, 1.5 hours "ON", 0.5 hours "OFF"	± (1.0% + 0.0005Ω) ΔR	± (2.0% + 0.0005Ω) ΔR
Resistance to Solder Heat	+ 260°C Solder, 10 -12 second dwell, 25mm/second emergence	± (0.5% + 0.0005Ω) ΔR	± (0.5% + 0.0005Ω) ΔR
Moisture Resistance	MIL-STD-202 Method 106, 0% power, 7a and 7b not required	± (0.5% + 0.0005Ω) ΔR	± (0.5% + 0.0005Ω) ΔR

**PACKAGING**

MODEL	REEL			
	TAPE WIDTH	DIAMETER	PIECES/REEL	CODE
WSR2 & WSR3	24mm/Embossed Plastic	330mm/13"	1500	R86

Embossed Carrier Tape per EIA-481-2.