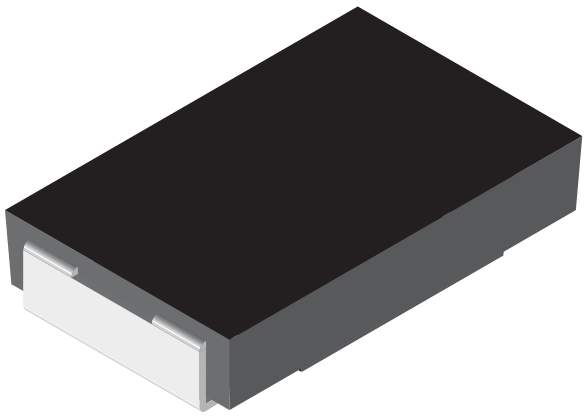
Power Metal Strip® Resistors, Low Value, Surface Mount



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 with low TCR (< 20 ppm°C)
- Solderable terminations
- Very low inductance 0.5ηH to 5ηH
- Excellent frequency response
- Low thermal EMF
- Lead (Pb)-Free version is RoHS Compliant

Pb-free Available

RoHS* COMPLIANT

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	SIZE	POWER RATING $P_{70°C}$ W	RESISTANCE RANGE Ω	
			± 0.5%	± 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_{AC}	> 500
Insulation Resistance	Ω	> 10^9
Operating Temperature Range	°C	- 65/+ 275
Maximum Working Voltage	V	$(P \times R)^{1/2}$
Weight/1000 pieces (typical)	g	440

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: WSR25L000FEA (preferred part numbering format)

W	S	R	2	5	L	0	0	0	F	E	A			

GLOBAL MODEL	VALUE	TOLERANCE	PACKAGING	SPECIAL
WSR2	**L** = Miliohm **R** = Decimal **5L000** = 0.005Ω **R0100** = 0.01Ω	**D** = ± 0.5% **F** = ± 1.0% **J** = ± 5.0%	**EA** = Lead Free, tape/reel **EK** = Lead Free, Bulk **TA** = Tin/Lead, tape/reel (R86) **BA** = Tin/Lead, bulk (B43)	(Dash Number) (up to 3 digits) From **1-999** as applicable

Historical Part Number example: WSR2 0.005Ω 1% EA (will continue to be accepted)

WSR2	0.005Ω	1%	EA
HISTORICAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING

* Pb containing terminations are not RoHS compliant, exemptions may apply

For technical questions contact: ww2bresistors@vishay.com
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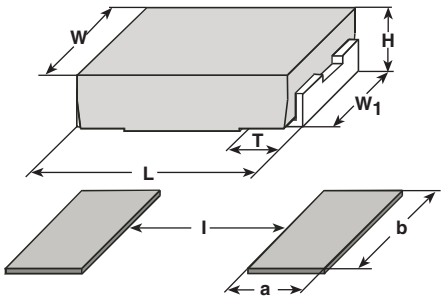
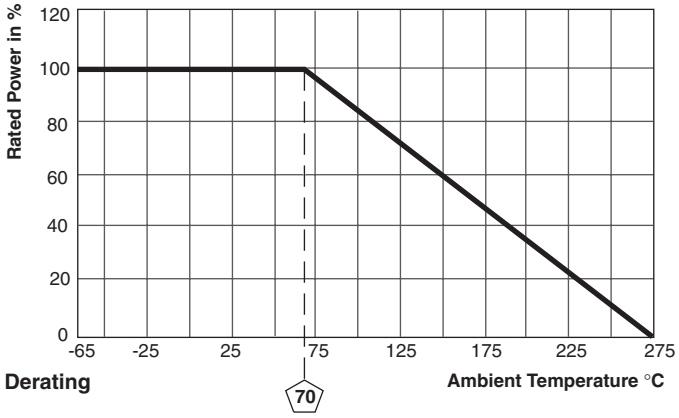
DIMENSIONS



MODEL	DIMENSIONS in inches [millimeters]				
	L	H	T	W	W_1
WSR2 WSR3	0.455 ± 0.032 [11.56 ± 0.813]	0.095 ± 0.005 [2.41 ± 0.127]	0.100 ± 0.010 [2.54 ± 0.254]	0.275 ± 0.005 [6.98 ± 0.127]	0.215 ± 0.005 [5.46 ± 0.127]

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

Embossed Carrier Tape per EIA-481-2.