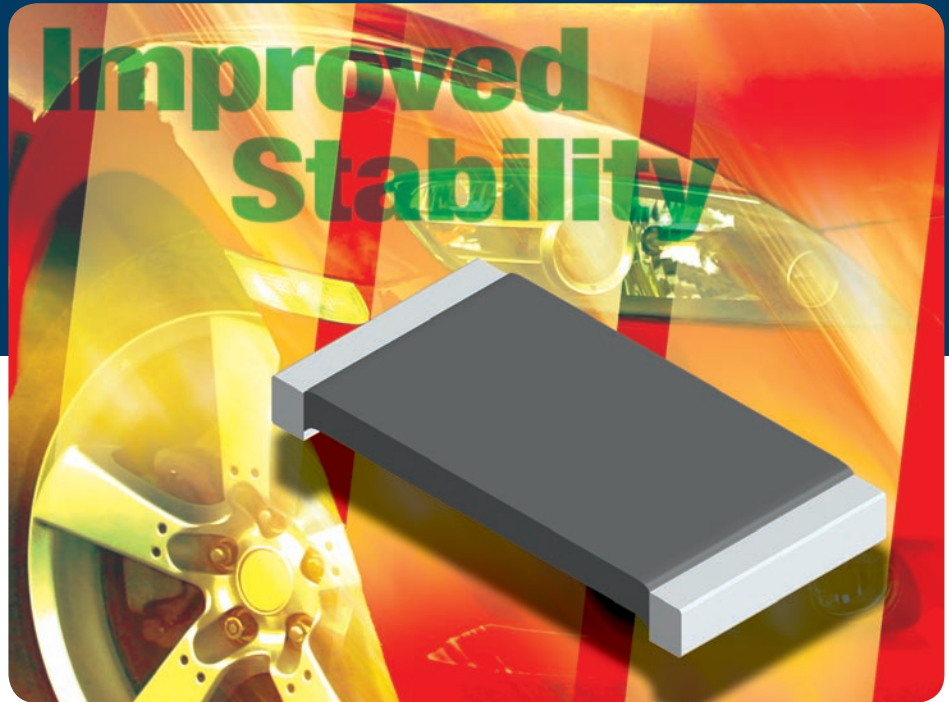




# POWER METAL STRIP<sup>®</sup> RESISTOR

WSLS2512xxxxxxGxx



## Improved Stability (0.25 %) Surface-Mount Power Metal Strip<sup>®</sup> Resistor

### KEY BENEFITS

- Current sensing in high-temperature (+ 125 °C) applications
- Improved resistance stability during operation (resistance change of 0.25 % through a 2000-hour workload)
- Very low resistance values: 10 mΩ to 100 mΩ resistance
- Durable with all-welded construction and a solid metal nickel-chrome alloy resistive element with low TCR (< 20 ppm/°C)

### APPLICATIONS

- Automotive
- Industrial



## Improved Stability (0.25 % and 0.5 %), Power Metal Strip® Resistors Low Value (0.01 Ω to 0.1Ω), Surface Mount

### FEATURES

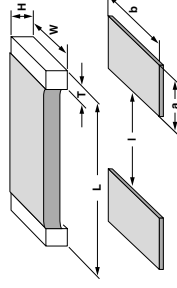
- Current sensing in high-temperature (+ 125 °C) applications
- Greater stability with maximum resistance change of 0.25 % or 0.5 % through 2000 h workload
- Ideal for all types of current sensing, voltage division and pulse applications including switching and linear power supplies, instruments, power amplifiers and shunts
- Proprietary processing technique produces extremely low resistance values (0.01 Ω to 0.1 Ω)
- All welded construction
- Solid metal Nickel-Chrome resistive element with low TCR (< 20 ppm/°C)
- Lead (Pb)-free construction is RoHS compliant
- Very low inductance 0.5 nH to 2 nH
- Excellent frequency response to 50 MHz
- Low thermal EMF (< 3 μV/°C)



RoHS compliant

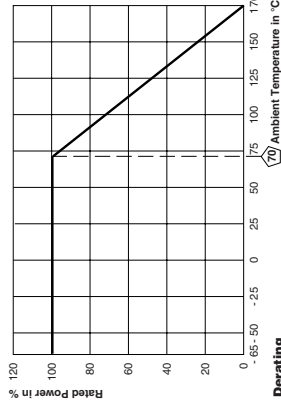


### DIMENSIONS



MODEL	DIMENSIONS in inches [millimeters]			
	L	W	H	T
WSLS2512	0.250 ± 0.010 [6.35 ± 0.254]	0.125 ± 0.010 [3.18 ± 0.254]	0.025 ± 0.010 [0.635 ± 0.254]	0.030 ± 0.010 [0.762 ± 0.254]

MODEL	SOLDER PAD DIMENSIONS in inches [millimeters]			
	a	b	l	i
WSLS2512	0.065 [1.65]	0.145 [3.68]	0.160 [4.06]	



STANDARD ELECTRICAL SPECIFICATIONS			
GLOBAL MODEL	POWER RATING $P_{70}^c$ W	RESISTANCE RANGE	WEIGHT (typical)
		Ω	g/1000 pieces
WSLS2512	1.0	± 1.0 % 0.01 - 0.1	63.6

Note  
• Part Marking: Value, RTC/Stability code

TECHNICAL SPECIFICATIONS	
PARAMETER	UNIT
Temperature Coefficient	ppm/°C
Operating Temperature Range	°C
Maximum Working Voltage	V

WSLS2512 RESISTOR CHARACTERISTICS

± 75

- 65 to + 170  
( $P \times R$ )<sup>1/2</sup>

GLOBAL PART NUMBER INFORMATION			
NEW GLOBAL PART NUMBERING: WSLS2512R0100FHEA			
W	S	L	S
2	5	1	2
R	0	1	0
0	0	0	0
F	H	E	A

GLOBAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	RTC/STABILITY	PACKAGING CODE	SPECIAL
WSLS2512	L = mΩ R = Decimal 5L000 = 0.005 Ω R0100 = 0.01 Ω Use L for resistors < 0.01 Ω	D = ± 0.5 % F = ± 1.0 % J = ± 5.0 %	G = 75 ppm, 0.25 % stability H = 75 ppm, 0.5 % stability	EA = Lead (Pb)-free, tape/reel EK = Lead (Pb)-free, bulk	(Dash Number) (up to 2 digits) From 1 - 99 as applicable

TEST	CONDITIONS OF TEST	TEST LIMITS	
		0.25 %	0.5 %
Thermal Shock	- 55 °C to + 150 °C, 1000 cycles, 15 min at each extreme	± (0.5 % + 0.005 Ω) ΔR	
Short Time Overload	5 x rated power for 5 s for WSLS2512 size or smaller	± (0.5 % + 0.005 Ω) ΔR	
Low Temperature Operation	- 65 °C for 45 min	± (0.5 % + 0.005 Ω) ΔR	
High Temperature Exposure	1000 h at + 170 °C	± (1.0 % + 0.005 Ω) ΔR	
Bias Humidity	+ 85 °C, 85 % RH, 10 % Bias, 1000 h	± (0.5 % + 0.005 Ω) ΔR	
Mechanical Shock	100 gs for 6 ms, 5 pulses	± (0.5 % + 0.005 Ω) ΔR	
Vibration	Frequency varied, 10 to 2000 Hz in 1 min, 3 directions, 12 h	± (0.5 % + 0.005 Ω) ΔR	
Load Life	2000 h at 70 °C, 1.5 h "ON", 0.5 h "OFF"	± 0.25 % ΔR	± 0.5 % ΔR
Resistance to Solder Heat	+ 260 °C Solder, 10 to 12 s dwell, 25 mm/s emergence	± (0.5 % + 0.005 Ω) ΔR	
Moisture Resistance	MIL-STD-202, Method 106, 0 % power, 7 b not required	± (0.5 % + 0.005 Ω) ΔR	

PACKAGING			
MODEL	TAPE WIDTH	DIAMETER	PIECES/REEL
WSLS2512	12 mm/Embossed Plastic	178 mm/7"	2000

REEL

CODE EA

Note  
• Embossed Carrier Tape per EIA-481-2

Revision 06-Oct-06

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