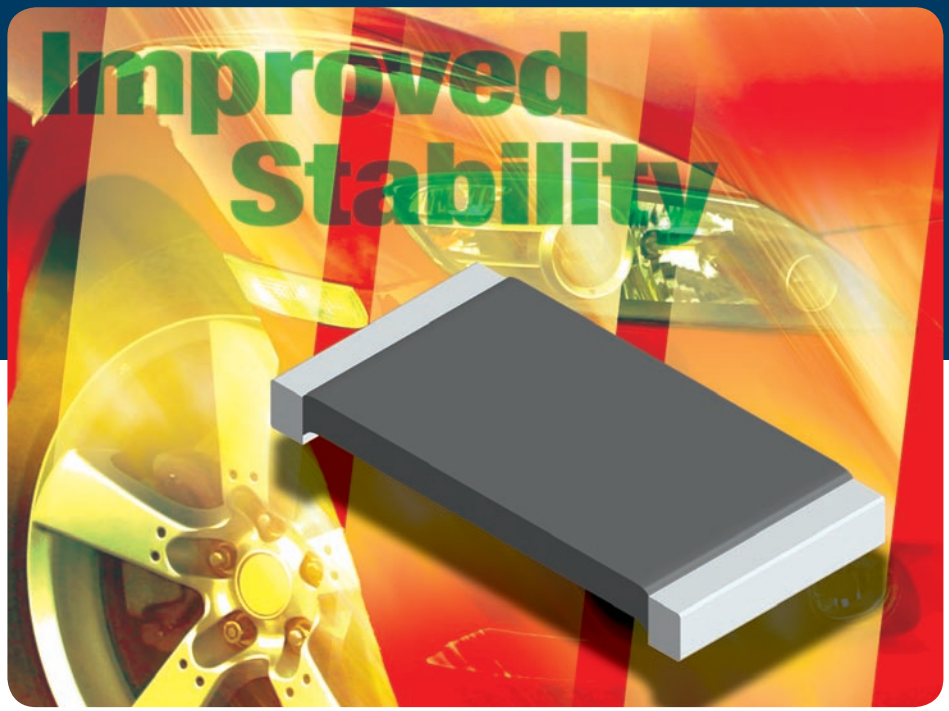
POWER METAL STRIP® RESISTOR

WSLS2512xxxxxxGxx



Improved Stability (0.25 %) Surface-Mount Power Metal Strip® 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

RESISTIVE PRODUCTS

PRODUCT SHEET

Datasheet is available on our web site at www.vishay.com
for WSLS2512xxxxxxGxx - http://www.vishay.com/doc?30123

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)

Pb-free

e3

RoHS COMPLIANT

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	POWER RATING $P_{70\,°C}$ W	RESISTANCE RANGE Ω ± 1.0 %	WEIGHT (typical) g/1000 pieces
WSLS2512	1.0	0.01 - 0.1	63.6

Note
- Part Marking: Value, RTC/Stability code

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	WSLS2512 RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/°C	± 75
Operating Temperature Range	°C	- 65 to + 170
Maximum Working Voltage	V	$(P \times R)^{1/2}$

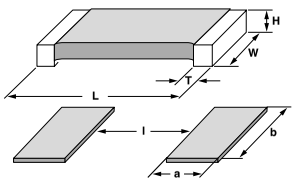
GLOBAL PART NUMBER INFORMATION

NEW GLOBAL PART NUMBERING: WSLS2512R0100FHEA

W	S	L	S	2	5	1	2	R	0	1	0	0	F	H	E	A	

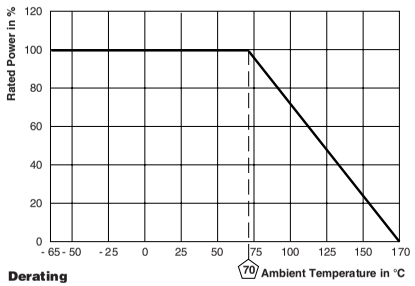
GLOBAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	RTC/STABILITY	PACKAGING CODE	SPECIAL
WSLS2512	**L** = mΩ* **R** = Decimal **5L000** = 0.005 Ω **R0100** = 0.01 Ω * use "**L**" for resistance value < 0.01 Ω	**D** = ± 0.5 % **F** = ± 1.0 % **J** = ± 5.0 %	**G** = 75 ppm, 0.25 % stability **H** = 75 ppm, 0.5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

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
WSLS2512	0.065 [1.65]	0.145 [3.68]	0.160 [4.06]



PERFORMANCE

TEST	CONDITIONS OF TEST	TEST LIMITS 0.25 %	TEST LIMITS 0.5 %
Thermal Shock	- 55 °C to + 150 °C, 1000 cycles, 15 min at each extreme	± (0.5 % + 0.005 Ω) Δ*R*	
Short Time Overload	5 x rated power for 5 s for WSL2512 size or smaller	± (0.5 % + 0.005 Ω) Δ*R*	
Low Temperature Operation	- 65 °C for 45 min	± (0.5 % + 0.005 Ω) Δ*R*	
High Temperature Exposure	1000 h at + 170 °C	± (1.0 % + 0.005 Ω) Δ*R*	
Bias Humidity	+ 85 °C, 85 % RH, 10 % Bias, 1000 h	± (0.5 % + 0.005 Ω) Δ*R*	
Mechanical Shock	100 g's for 6 ms, 5 pulses	± (0.5 % + 0.005 Ω) Δ*R*	
Vibration	Frequency varied 10 to 2000 Hz in 1 min, 3 directions, 12 h	± (0.5 % + 0.005 Ω) Δ*R*	
Load Life	2000 h at 70 °C, 1.5 h "ON", 0.5 h "OFF"	± 0.25 % Δ*R*	± 0.5 % Δ*R*
Resistance to Solder Heat	+ 260 °C Solder, 10 to 12 s dwell, 25 mm/s emergence	± (0.5 % + 0.005 Ω) Δ*R*	
Moisture Resistance	MIL-STD-202, Method 106, 0 % power, 7b not required	± (0.5 % + 0.005 Ω) Δ*R*	

PACKAGING

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

Note
- Embossed Carrier Tape per EIA-481-2

Revision 06-Oct-06