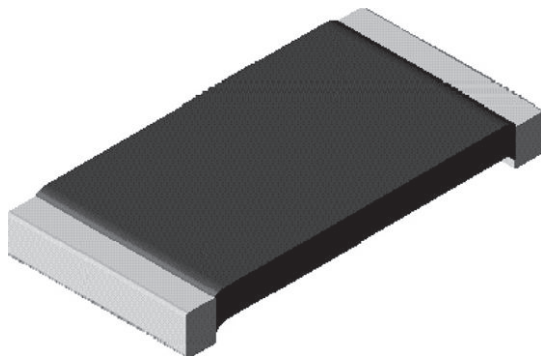


Power Metal Strip® Resistors, Very High Power (3 W) Low Value (down to 0.0005 Ω), Surface Mount



FEATURES

- Very high power to foot print size ratio (3 W in 2512 package)
- Ideal for all types of current sensing and pulse applications including switching and linear power supplies, instruments, power amplifiers and shunts
- Proprietary processing technique produces extremely low resistance values (down to 0.0005 Ω)
- All welded construction
- Solid metal nickel-chrome or manganese-copper alloy resistive element with low TCR (< 20 ppm/°C over temperature range of 20 °C to 60 °C)
- Very low inductance 0.5 nH to 5 nH
- Excellent frequency response to 50 MHz
- Low thermal EMF (< 3 μV/°C)
- Compliant to RoHS Directive 2002/95/EC
- AEC-Q200 qualified available ⁽¹⁾


**RoHS
COMPLIANT**
**GREEN
(5-2008)****
Available

Note

⁽¹⁾ Flame retardance test may not be applicable to some resistor technologies.

Note

** Please see document “Vishay Material Category Policy”: www.vishay.com/doc?99902

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	SIZE	POWER RATING $P_{70\text{ }^{\circ}\text{C}}$ W	RESISTANCE VALUE RANGE Ω		WEIGHT (typical) g/1000 pieces
			TOL. ± 0.5 %	TOL. ± 1.0 %	
WSLP2512	2512	3.0	0.003 to 0.01	0.0005 to 0.01	63.6

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Temperature coefficient	ppm/°C	± 275 for 1 mΩ to 2.9 mΩ, ± 150 for 3 mΩ to 4.9 mΩ ± 110 for 5 mΩ to 9.9 mΩ, ± 75 for 10 mΩ
Operating temperature range	°C	- 65 to + 170
Maximum workin voltage	V	$(P \times R)^{1/2}$

GLOBAL PART NUMBER INFORMATION

GLOBAL PART NUMBERING EXAMPLE: WSLP25125L000FEA

W	S	L	P	2	5	1	2	5	L	0	0	0	F	E	A		
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	--	--

GLOBAL MODEL
WSLP2512
RESISTANCE VALUE

L = mΩ*
R = Decimal
L5000 = 0.0005 Ω
5L000 = 0.005 Ω
R0100 = 0.01 Ω

* Use “L” for resistance values < 0.01 Ω

TOLERANCE CODE

D = ± 0.5 %
F = ± 1.0 %

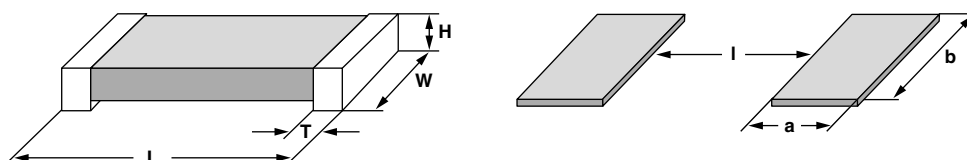
PACKAGING CODE

EA = Lead (Pb)-free, tape/reel
EK = Lead (Pb)-free, bulk

SPECIAL

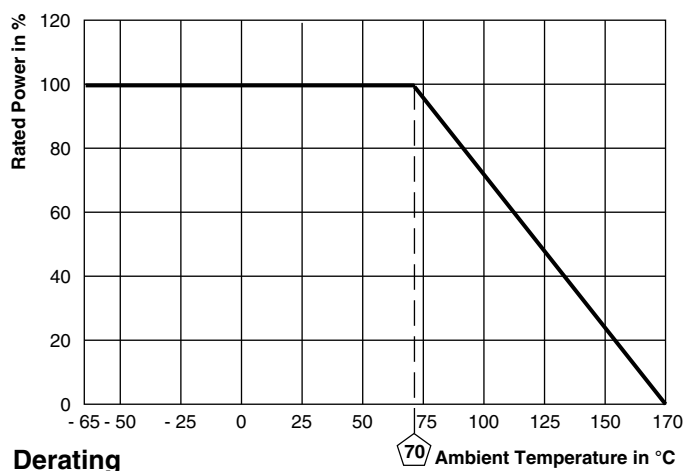
Reserved for future specials

DIMENSIONS



MODEL	RESISTANCE RANGE (Ω)	DIMENSIONS in inches (millimeters)				SOLDER PAD DIMENSIONS in inches (millimeters)		
		L	W	H	T	a	b	l
WSLP2512	0.0005 to 0.00099	0.250 ± 0.010 (6.35 ± 0.254)	0.125 ± 0.010 (3.18 ± 0.254)	0.025 ± 0.010 (0.635 ± 0.254)	0.107 ± 0.010 (2.72 ± 0.254)	0.120 (3.05)	0.145 (3.68)	0.050 (1.27)
	0.001 to 0.0049				0.087 ± 0.010 (2.21 ± 0.254)			
	0.005 to 0.0069				0.047 ± 0.010 (1.19 ± 0.254)	0.083 (2.11)		0.125 (3.18)
	0.006 to 0.01				0.030 ± 0.010 (0.762 ± 0.254)	0.065 (1.65)		0.160 (4.06)

DERATING



PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST LIMITS
Thermal shock	- 55 °C to + 150 °C, 1000 cycles, 15 min at each extreme	± (0.5 % + 0.0005 Ω) ΔR
Low temperature operation	- 65 °C for 45 min	± (0.5 % + 0.0005 Ω) ΔR
High temperature exposure	1000 h at + 170 °C	± (1.0 % + 0.0005 Ω) ΔR
Bias humidity	+ 85 °C, 85 % RH, 10 % bias, 1000 h	± (0.5 % + 0.0005 Ω) ΔR
Mechanical shock	100 g's for 6 ms, 5 pulses	± (0.5 % + 0.0005 Ω) ΔR
Vibration	Frequency varied 10 Hz to 2000 Hz in 1 min, 3 directions, 12 h	± (0.5 % + 0.0005 Ω) ΔR
Load life	1000 h at 70 °C, 1.5 h "ON", 0.5 h "OFF"	± (1.0 % + 0.0005 Ω) ΔR
Resistance to solder heat	+ 260 °C solder, 10 s to 12 s dwell, 25 mm/s emergence	± (0.5 % + 0.0005 Ω) ΔR
Moisture resistance	MIL-STD-202, method 106, 0 % power, 7b not required	± (0.5 % + 0.0005 Ω) ΔR

PACKAGING				
MODEL	REEL			
	TAPE WIDTH	DIAMETER	PIECES/REEL	CODE
WSLP2512	12 mm/embossed plastic	178 mm/7"	2000	EA

Note

- Embossed Carrier Tape per EIA-481.



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk and agree to fully indemnify and hold Vishay and its distributors harmless from and against any and all claims, liabilities, expenses and damages arising or resulting in connection with such use or sale, including attorneys fees, even if such claim alleges that Vishay or its distributor was negligent regarding the design or manufacture of the part. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.