Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

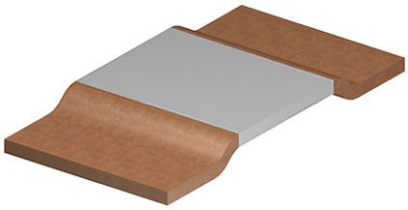
With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Power Metal Strip® Resistors, Low Value (Down to 0.0003 Ω), Surface-Mount



DESIGN TOOLS (click logo to get started)

3D Models Available

FEATURES

- Power Metal Strip® all-welded construction is ideal for all types of current sensing, voltage division, and pulse applications
- Proprietary processing technique produces extremely low resistance values, down to 0.0003 Ω
- Solid metal nickel-chrome, manganese-copper, or manganese-copper-tin alloy resistive element with low TCR (< 20 ppm/°C)
- Construction is unaffected by high sulfur environments
- Very low inductance (< 2 nH)
- Low thermal EMF (< 3 µV/°C)
- AEC-Q200 qualified (1)
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

AUTOMOTIVE GRADE

Pb-free

e3

RoHS COMPLIANT

HALOGEN FREE

GREEN (5-2008)

Notes

- Follow link to "Overview of Automotive Grade Products" for more details: www.vishay.com\doc?49924

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

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	SIZE	POWER RATING $P_{70\,°C}$ (1) W	POWER RATING $P_{100\,°C}$ (2) W	TOLERANCE %	RESISTANCE VALUE RANGE Ω	RESISTANCE VALUES CURRENTLY AVAILABLE (3) Ω	WEIGHT (typical) g/1000 pieces
WSLF2512	2512	6.0	3.0	1.0, 5.0	0.3m to 0.5m	0.3m, 0.5m	142
	2512	5.0	3.0	1.0, 5.0	1m to 2m	1m, 1.3m, 2m	142
	2512	4.0	2.0	1.0, 5.0	3m	3m	142

Notes

- Part marking: no part marking on these parts

(1) See "Ambient Temperature Derating" on next page, Fig. 1

(2) See "Terminal Temperature Derating" on next page, Fig. 2

(3) Other values may be available, contact factory

GLOBAL PART NUMBER INFORMATION

Global Part Numbering: WSLF25121L000FEA (WSLF2512, 0.001 Ω, ± 1 %)
(visit www.vishay.net Vishay Dale parts numbering manual for all options)

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

GLOBAL MODEL (8 digits)	RESISTANCE VALUE (5 digits)	TOLERANCE CODE (1 digit)	PACKAGING CODE (1) (2 digits)	SPECIAL (2 digits)
WSLF2512	**L** = mΩ **L5000** = 0.0005 Ω **1L000** = 0.0010 Ω	**F** = ± 1.0 % **J** = ± 5.0 %	**EA** = lead (Pb)-free, tape/reel **EK** = lead (Pb)-free, bulk	Reserved for future specials

Note

(1) Packaging code: EB (lead (Pb)-free) are non-standard packaging codes designating 1000 piece reels. These non-standard packaging codes are identical to our standard EA (lead (Pb)-free), except that they have a package quantity of 1000 pieces

For technical questions, contact: ww2bresistors@vishay.com

TECHNICAL SPECIFICATIONS		
PARAMETER	**UNIT**	**WSLF RESISTOR CHARACTERISTICS**
Component temperature coefficient (including terminal) (1)	ppm/°C	± 200 for 0.3 mΩ and 0.5 mΩ
		± 170 for 1.0 m
		± 70 for 2 mΩ and 3 mΩ
Element TCR (2)	ppm/°C	< 20
Operating temperature range	°C	-65 to +170
Maximum working voltage (3)	V	$(P \times R)^{1/2}$

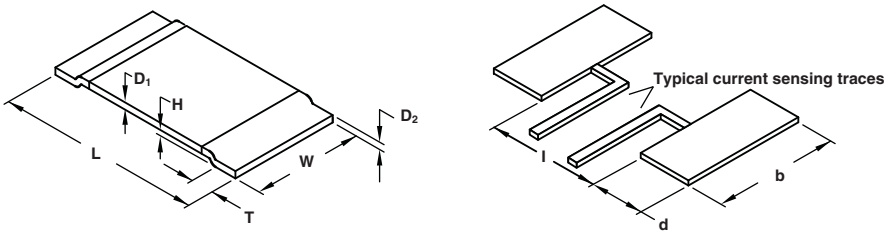
Notes

(1) Component TCR - total TCR that includes the TCR effects of the resistor element and the copper terminal

(2) Element TCR - only applies to the alloy used for the resistor element

(3) Maximum working voltage - the WSL is not voltage sensitive, but is limited by power / energy dissipation and is also not ESD sensitive

DIMENSIONS in inches (millimeters)



Notes

- 3D models available: www.vishay.com/doc?30335
- Surface mount solder profile recommendations: www.vishay.com/doc?31052

MODEL	DIMENSIONS				SOLDER PAD DIMENSIONS		
	L	W	H	T	a	b	l
WSLF2512	0.250 ± 0.010 (6.35 ± 0.254)	0.125 ± 0.010 (3.18 ± 0.254)	0.0138 ± 0.010 (0.35 ± 0.254)	0.045 ± 0.010 (1.14 ± 0.254)	0.71 (1.80)	0.13 (3.40)	0.13 (3.40)

GLOBAL MODEL	RESISTANCE VALUE (mΩ)	THICKNESS in Inches (millimeters)		ELEMENT MATERIAL
		D_1	D_2	
WSLF2512	0.3	0.040 (1.02)	0.040 (1.02)	Mn-Cu-Sn
	0.5	0.033 (0.84)	0.033 (0.84)	Mn-Cu
	1.0	0.017 (0.43)	0.017 (0.43)	Mn-Cu
	1.3	0.013 (0.33)	0.013 (0.33)	Mn-Cu
	2.0	0.028 (0.71)	0.028 (0.71)	Ni-Cr
	3.0	0.019 (0.48)	0.019 (0.48)	Ni-Cr

DERATING

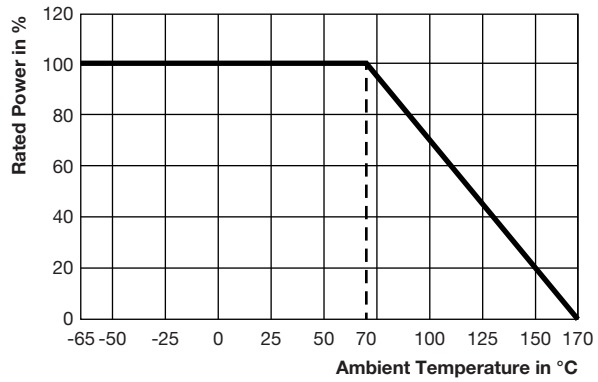


Fig. 1 - Ambient Temperature Derating
($P_{70\ °C}$ of Standard Electrical Specification Table)

DERATING - TERMINAL TEMPERATURE

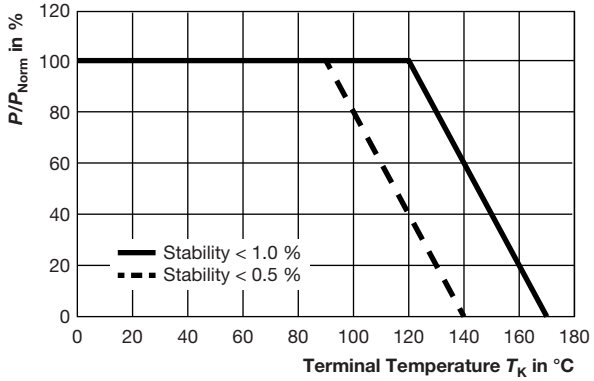


Fig. 2 - Terminal Temperature Derating
($P_{100°C}$ of Standard Electrical Specification Table

PERFORMANCE		
TEST	**CONDITIONS OF TEST**	**TEST LIMITS**
Thermal shock	-55 °C to +150 °C, 2000 cycles, 15 min at each extreme	± 0.5 %
Short time overload	5x rated power for 5 s	± 0.5 %
Low temperature storage	-65 °C for 24 h	± 0.1 %
High temperature exposure	2000 h at +170 °C	± 1.0 %
Bias humidity	+85 °C, 85 % RH, 10 % bias, 1000 h	± 0.5 %
Mechanical shock	100 *g*'s for 6 ms, 5 pulses	± 0.2 %
Vibration	Frequency varied 10 Hz to 2000 Hz in 1 min, 3 directions, 12 h	± 0.2 %
Load life	2000 h at +70 °C, 1.5 h "ON", 0.5 h "OFF"	± 1.0 %
Resistance to solder heat	+260 °C solder, 10 s to 12 s dwell, 25 mm/s emergence	± 0.5 %
Moisture resistance	MIL-STD-202, method 106, 0 % power, 7a and 7b not required	± 0.1 %

PACKAGING				
MODEL	**REEL**			
	TAPE WIDTH	**DIAMETER**	**PIECES/REEL**	**CODE**
WSLF2512	12 mm/embossed plastic	330 mm / 13"	4000	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. 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.