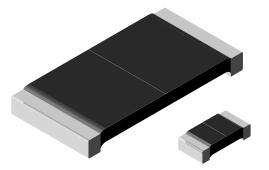
WSL

Vishay Dale



Power Metal Strip[®] Resistors, Low Value (down to 0.001 Ω), Surface Mount



FEATURES

· Ideal for all types of current sensing, voltage division and pulse applications including and linear switching power supplies. instruments, power amplifiers



e3

GREEN (5-2008)

- Proprietary processing technique produces extremely low resistance values (down to RoHS' 0.001 Ω) COMPLIANT
- All welded construction
- Solderable terminations
- Solid metal Nickel-Chrome or Manganese-Copper alloy resistive element with low TCR (< 20 ppm/°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

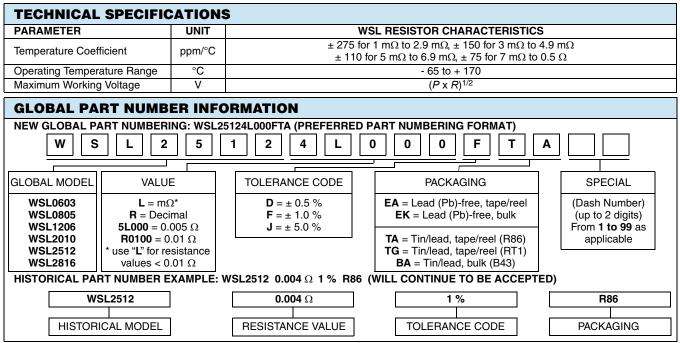
STANDARD ELECTRICAL	SPECIFICATIONS
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STANDARD ELECTRICAL SPECIFICATIONS				
GLOBAL MODEL	POWER RATING P _{70 °C}			WEIGHT (typical)
	Ŵ	± 0.5 %	± 1.0 %	g/1000 pieces
WSL0603	0.1	0.01 to 0.1	0.01 to 0.1	1.9
WSL0805	0.125	0.01 to 0.2	0.01 to 0.2	4.8
WSL1206	0.25	0.006 to 0.2	0.001 to 0.2	16.2
WSL2010	0.5	0.004 to 0.5	0.001 to 0.5	38.9
WSL2512	1.0 ⁽¹⁾	0.003 to 0.5	0.001 to 0.5	63.6
WSL2816	2.0	0.01 to 0.1	0.01 to 0.1	118

Notes

 $^{(1)}$ For values above 0.1 Ω derate linearly to 80 % rated power at 0.5 Ω

Part Marking: Value; Tolerance: Due to resistor size limitations some resistors will be marked with only the resistance value



* Pb containing terminations are not RoHS compliant, exemptions may apply ** Please see document "Vishay Material Category Policy": <u>www.vishay.com/doc?99902</u>

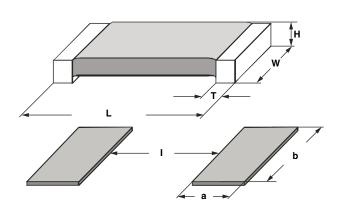


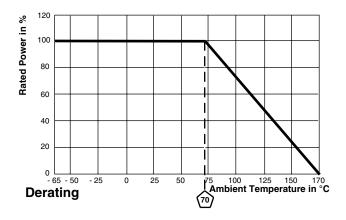
Power Metal Strip[®] Resistors, Low Value (down to 0.001 Ω), Surface Mount

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DIMENSIONS





	DIMENSIONS in inches [millimeters]				s]
MODEL	$\begin{array}{c} \textbf{RESISTANCE} \\ \textbf{RANGE} \ \Omega \end{array}$	L	w	н	т
WSL0603	0.01 to 0.1	0.060 ± 0.010 [1.52 ± 0.254]	$\begin{array}{c} 0.030 \pm 0.010 \\ [0.76 \pm 0.254] \end{array}$	0.013 ± 0.005 [0.330 ± 0.127]	0.015 ± 0.010 [0.381 ± 0.254]
WSL0805	0.01 to 0.2	0.080 ± 0.010 [2.03 ± 0.254]	0.050 ± 0.010 [1.27 ± 0.254]	0.013 ± 0.005 [0.330 ± 0.127]	0.015 ± 0.010 [0.381 ± 0.254]
	0.001 to 0.0019	$\begin{array}{c} 0.126 \pm 0.010 \\ [3.20 \pm 0.254] \end{array}$	$\begin{array}{c} 0.063 \pm 0.010 \\ [1.60 \pm 0.254] \end{array}$	$\begin{array}{c} 0.025 \pm 0.010 \\ [0.635 \pm 0.254] \end{array}$	0.041 ± 0.010 [1.04 ± 0.254]
WSL1206	0.002 to 0.0059	0.126 ± 0.010 [3.20 ± 0.254]	0.063 ± 0.010 [1.60 ± 0.254]	$\begin{array}{c} 0.025 \pm 0.010 \\ [0.635 \pm 0.254] \end{array}$	$\begin{array}{c} 0.025 \pm 0.010 \\ [0.635 \pm 0.254] \end{array}$
	0.006 to 0.20	0.126 ± 0.010 [3.20 ± 0.254]	$\begin{array}{c} 0.063 \pm 0.010 \\ [1.60 \pm 0.254] \end{array}$	$\begin{array}{c} 0.025 \pm 0.010 \\ [0.635 \pm 0.254] \end{array}$	0.020 ± 0.010 [0.508 ± 0.254]
WSL2010	0.001 to 0.0069	$\begin{array}{c} 0.200 \pm 0.010 \\ [5.08 \pm 0.254] \end{array}$	$\begin{array}{c} 0.100 \pm 0.010 \\ [2.54 \pm 0.254] \end{array}$	$\begin{array}{c} 0.025 \pm 0.010 \\ [0.635 \pm 0.254] \end{array}$	0.058 ± 0.010 [1.47 ± 0.254]
WSLZUIU	0.007 to 0.5	0.200 ± 0.010 [5.08 ± 0.254]	$\begin{array}{c} 0.100 \pm 0.010 \\ [2.54 \pm 0.254] \end{array}$	$\begin{array}{c} 0.025 \pm 0.010 \\ [0.635 \pm 0.254] \end{array}$	0.020 ± 0.010 [0.508 ± 0.254]
	0.001 to 0.0049	0.250 ± 0.010 [6.35 ± 0.254]	$\begin{array}{c} 0.125 \pm 0.010 \\ [3.18 \pm 0.254] \end{array}$	$\begin{array}{c} 0.025 \pm 0.010 \\ [0.635 \pm 0.254] \end{array}$	0.087 ± 0.010 [2.21 ± 0.254]
WSL2512	0.005 to 0.0069	0.250 ± 0.010 [6.35 ± 0.254]	$\begin{array}{c} 0.125 \pm 0.010 \\ [3.18 \pm 0.254] \end{array}$	$\begin{array}{c} 0.025 \pm 0.010 \\ [0.635 \pm 0.254] \end{array}$	0.047 ± 0.010 [1.19 ± 0.254]
	0.007 to 0.5	0.250 ± 0.010 [6.35 ± 0.254]	$\begin{array}{c} 0.125 \pm 0.010 \\ [3.18 \pm 0.254] \end{array}$	$\begin{array}{c} 0.025 \pm 0.010 \\ [0.635 \pm 0.254] \end{array}$	0.030 ± 0.010 [0.762 ± 0.254]
WSL2816	0.01 to 0.1	0.280 ± 0.010 [7.1 ± 0.254]	$\begin{array}{c} 0.165 \pm 0.010 \\ [4.2 \pm 0.254] \end{array}$	$\begin{array}{c} 0.025 \pm 0.010 \\ [0.635 \pm 0.254] \end{array}$	0.062 ± 0.010 [1.57 ± 0.254]

SOLDER PAD DIMENSIONS in inches [millime				[millimeters]
MODEL	$\begin{array}{c} \textbf{RESISTANCE} \\ \textbf{RANGE} \ \Omega \end{array}$	а	b	I
WSL0603	0.01 to 0.1	0.040 [1.01]	0.040 [1.01]	0.020 [0.50]
WSL0805	0.01 to 0.2	0.040 [1.02]	0.050 [1.27]	0.020 [0.50]
WSL1206	0.001 to 0.2	0.062 [1.57]	0.070[1.78]	0.030 [0.76]
WSL2010	0.001 to 0.0069	0.093 [2.36]	0.120 [3.05]	0.055 [1.40]
	0.007 to 0.5	0.055 [1.40]	0.120 [3.05]	0.130 [3.30]
	0.001 to 0.0049	0.120 [3.05]	0.145 [3.68]	0.050 [1.27]
WSL2512	0.005 to 0.0069	0.083 [2.11]	0.145 [3.68]	0.125 [3.18]
	0.007 to 0.5	0.065 [1.65]	0.145 [3.68]	0.160 [4.06]
WSL2816	0.01 to 0.1	0.096 [2.45]	0.185 [4.7]	0.125 [3.20]

PERFORMANCE			
TEST	CONDITIONS OF TEST	TEST LIMITS	
Thermal Shock	- 55 °C to + 150 °C, 1000 cycles, 15 min at each extreme	\pm (0.5 % + 0.0005 Ω) Δ <i>R</i>	
Short Time Overload	5 x rated power for 5 s	\pm (0.5 % + 0.0005 Ω) Δ <i>R</i>	
Low Temperature Operation	- 65 °C for 24 h	\pm (0.5 % + 0.0005 Ω) Δ <i>R</i>	
High Temperature Exposure	1000 h at + 170 °C	± (1.0 % + 0.0005 Ω) Δ <i>R</i>	
Bias Humidity	+ 85 °C, 85 % RH, 10 % Bias, 1000 h	\pm (0.5 % + 0.0005 Ω) Δ <i>R</i>	
Mechanical Shock	100 g's for 6 ms, 5 pulses	\pm (0.5 % + 0.0005 Ω) ΔR	
Vibration	Frequency varied 10 Hz to 2000 Hz in 1 min, 3 directions, 12 h	\pm (0.5 % + 0.0005 Ω) Δ <i>R</i>	
Load Life	1000 h at rated power, + 70 °C, 1.5 h "ON", 0.5 h "OFF"	± (1.0 % + 0.0005 Ω) Δ <i>R</i>	
Resistance to Solder Heat	+ 260 °C Solder, 10 s to 12 s dwell, 25 mm/s emergence	\pm (0.5 % + 0.0005 Ω) Δ <i>R</i>	
Moisture Resistance	MIL-STD-202, Method 106, 0 % power, 7a and 7b not required	\pm (0.5 % + 0.0005 Ω) Δ <i>R</i>	

PACKAGING

MODEL		REEL			
	TAPE WIDTH	DIAMETER	PIECES/REEL	CODE	
WSL0603	8 mm/Punched Paper	178 mm/7"	5000	EA	
WSL0805	8 mm/Punched Paper	178 mm/7"	5000	EA	
WSL1206	8 mm/Embossed Plastic	178 mm/7"	4000	EA	
WSL2010	12 mm/Embossed Plastic	178 mm/7"	4000	EA	
WSL2512	12 mm/Embossed Plastic	178 mm/7"	2000	EA	
WSL2816	16 mm/Embossed Plastic	330 mm/13"	5000	EA	

Note

Embossed carrier tape per EIA-481-1A



Vishay

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