Vishay Dale

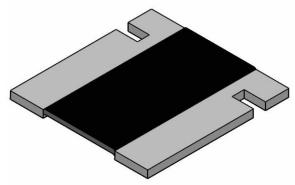


AUTOMOTIVE GRADE

COMPLIANT

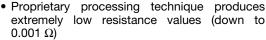
(5-2008)<sup>1</sup>

# Power Metal Strip<sup>®</sup> Resistors, Low Value (down to 0.001 $\Omega$ ), **Surface Mount, 4-Terminal**



## **FEATURES**

- 4-Terminal design allows for 0.5 % resistance tolerance down to 0.001  $\boldsymbol{\Omega}$
- · Ideal for all types of current sensing, voltage division and pulse applications including switching and linear power supplies, instruments and power amplifiers





- Solid metal nickel-chrome alloy resistive **GREEN** element with low TCR (< 20 ppm/°C)
- Solderable terminations
- Low thermal EMF (< 3 μV/°C)</li>
- Very low inductance, 0.5 nH to 5 nH
- Excellent frequency response to 50 MHz
- AEC-Q200 qualified <sup>(1)</sup>
- Compliant to RoHS Directive 2002/95/EC

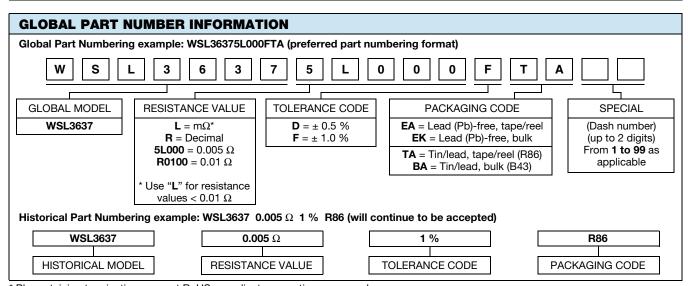
#### Note

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

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STANDARD ELECTRICAL SPECIFICATIONS						
GLOBAL MODEL	SIZE	POWER RATING  P <sub>70 °C</sub> W	TOLERANCE ± %	RESISTANCE VALUE RANGE $\Omega$	WEIGHT (typical) g/1000 pieces	
WSL3637	3637	3.0	0.5 and 1.0	0.001 to 0.01	274.3	

TECHNICAL SPECIFICATIONS				
PARAMETER	UNIT	RESISTOR CHARACTERISTICS		
Temperature coefficient	ppm/°C	$\pm$ 75 for 0.001 $\Omega$ to 0.0029 $\Omega,$ $\pm$ 50 for 0.003 $\Omega$ to 0.010 $\Omega$		
Operating temperature range	°C	- 65 to + 170		
Maximum working voltage	V	(P x R) <sup>1/2</sup>		

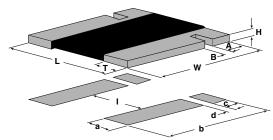


<sup>\*</sup> Pb containing terminations are not RoHS compliant, exemptions may apply
\*\* Please see document "Vishay Material Category Policy": <a href="www.vishay.com/doc?99902">www.vishay.com/doc?99902</a>



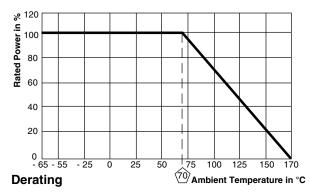
# Power Metal Strip® Resistors, Low Value (down to 0.001 $\Omega$ ), Vishay Dale Surface Mount, 4-Terminal

## **DIMENSIONS**



	DIMENSIONS in inches (millimeters)								
MODEL	RESISTANCE RANGE (Ω)	w	L	н	т	А	В		
WSL3637	0.002 to 0.01	0.370 ± 0.010 (9.40 ± 0.254)	0.360 ± 0.010 (9.14 ± 0.254)	0.025 ± 0.010 (0.635 ± 0.254)	0.086 ± 0.010 (2.18 ± 0.254)	0.061 ± 0.010 (1.55 ± 0.254)	0.032 ± 0.010 (0.813 ± 0.254)		
	0.001 to 0.0019				0.138 ± 0.010 (3.51 ± 0.254)				

	SOLDER PAD DIMENSIONS in inches (millimeters)							
MODEL	RESISTANCE RANGE (Ω)	а	b	С	d	1		
WSL3637	0.002 to 0.01	0.116 (2.95)	0.390 (9.91)	0.066 (1.68)	0.024 (0.610)	0.178 (4.52)		
WSL3037	0.001 to 0.0019	0.168 (4.27)	0.390 (9.91)	0.066 (1.68)	0.024 (0.610)	0.074 (1.88)		



PERFORMANCE					
TEST	TEST LIMITS				
Thermal shock	- 55 °C to + 150 °C, 1000 cycles, 15 min at each extreme	± (0.5 % + 0.0005 Ω) ΔR			
Short time overload	5 x rated power for 5 s	± (0.5 % + 0.0005 Ω) ΔR			
Low temperature storage	- 65 °C for 24 h	$\pm (0.5 \% + 0.0005 \Omega) \Delta R$			
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	$\pm (0.5 \% + 0.0005 \Omega) \Delta R$			
Vibration	Frequency varied 10 Hz to 2000 Hz in 1 min, 3 directions, 12 h	$\pm$ (0.5 % + 0.0005 $\Omega$ ) $\Delta R$			
Load life	1000 h at rated power, + 70 °C, 1.5 h "ON", 0.5 h "OFF"	± (1.0 % + 0.0005 Ω) ΔR			
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, 7a and 7b not required	± (0.5 % + 0.0005 Ω) ΔR			

PACKAGING						
MODEL	REEL					
	TAPE WIDTH	DIAMETER	PIECES/REEL	CODE		
WSL3637	16 mm/embossed plastic	330 mm/13"	4000	EA		

### Note

• Embossed Carrier Tape per EIA-481.



## **Legal Disclaimer Notice**

Vishay

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Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.

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