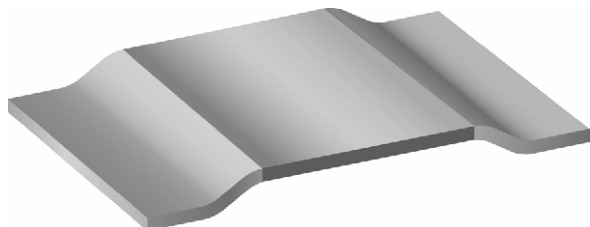


## Power Metal Strip<sup>®</sup> Resistors, High Temperature (275 °C), Low Value (Down to 0.0003 Ω), Surface Mount



### FEATURES

- Ideal for all types of current sensing, voltage division and pulse applications including switching and linear power supplies, instruments, power amplifiers
- Proprietary processing technique produces extremely low resistance values, down to 0.0003 Ω
- Specially selected and stabilized materials allow for high temperature derating (to + 275 °C)
- All welded construction
- Solid metal iron-chrome or manganese-copper alloy resistive element with low TCR (< 20 ppm/°C)
- Very low inductance (< 5 nH)
- Low thermal EMF (< 3 μV/°C)
- AEC-Q200 qualified available <sup>(1)</sup>
- Compliant to RoHS Directive 2002/95/EC

AUTOMOTIVE GRADE Available



RoHS COMPLIANT

GREEN (5-2008)\*\*

### Note

<sup>(1)</sup> Flame retardance test may not be applicable to some resistor technologies.

### STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	SIZE	POWER RATING $P_{70^{\circ}\text{C}}$ W	TOLERANCE %	RESISTANCE VALUE RANGE Ω	RESISTANCE VALUES CURRENTLY AVAILABLE <sup>(2)</sup> Ω	WEIGHT (typical) g/1000 pieces
WSLT3921	3921	3.0	1.0, 5.0	0.5 m to 4 m	0.5 m, 1 m, 2 m, 3 m, 4 m	281
WSLT5931	5931	5.0	1.0, 5.0	0.3 m to 3 m	0.3 m, 0.5 m, 1 m, 2 m, 3 m	398

### Notes

- Part marking: No part marking on these parts.
- <sup>(2)</sup> Other values may be available, contact factory.

### TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Temperature coefficient	ppm/°C	± 175 for 0.3 mΩ and 0.5 mΩ, ± 75 for 1 mΩ to 4 mΩ
Operating temperature range	°C	- 65 to + 275
Maximum working voltage	V	$(P \times R)^{1/2}$

### GLOBAL PART NUMBER INFORMATION

Global Part Numbering: WSLT39212L000FEA (WSLT3921, 0.002 Ω, ± 1 %)

W S L T 3 9 2 1 2 L 0 0 0 F E A

GLOBAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING CODE	SPECIAL
WSLT3921 WSLT5931	L = mΩ 2L000 = 0.002 Ω	F = ± 1.0 % J = ± 5.0 %	EA = Lead (Pb)-free, tape/reel EK = Lead (Pb)-free, bulk	Reserved for future specials

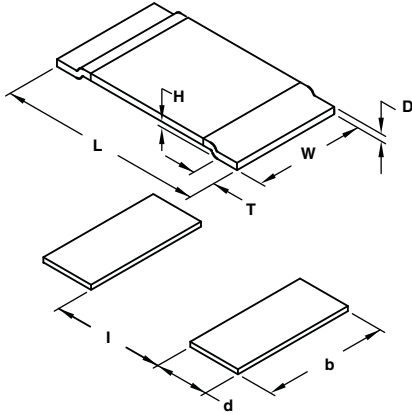
\*\* Please see document "Vishay Material Category Policy": [www.vishay.com/doc?99902](http://www.vishay.com/doc?99902)



# WSLT3921, WSLT5931

Power Metal Strip® Resistors, High Temperature (275 °C), Vishay Dale  
 Low Value (Down to 0.0003 Ω), Surface Mount

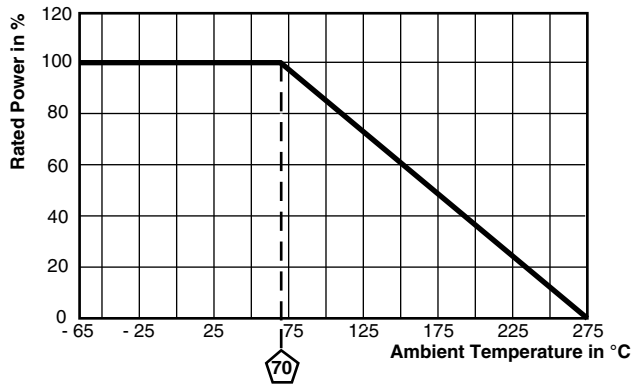
## DIMENSIONS



MODEL	DIMENSIONS in inches (millimeters)			
	L	W	H	T
WSLT3921	0.394 ± 0.010 (10.0 ± 0.254)	0.205 ± 0.010 (5.20 ± 0.254)	0.020 (0.5)	0.080 ± 0.010 (2.00 ± 0.254)
WSLT5931	0.591 ± 0.010 (15.0 ± 0.254)	0.305 ± 0.010 (7.75 ± 0.254)	0.020 (0.5)	0.157 ± 0.010 (4.00 ± 0.254)

MODEL	SOLDER PAD DIMENSIONS in inches (millimeters)		
	d	b	l
WSLT3921	0.106 ± 0.010 (2.70 ± 0.254)	0.244 ± 0.010 (6.20 ± 0.254)	0.220 ± 0.005 (5.60 ± 0.13)
WSLT5931	0.205 ± 0.010 (5.20 ± 0.254)	0.344 ± 0.010 (8.75 ± 0.254)	0.220 ± 0.005 (5.60 ± 0.13)

## DERATING



GLOBAL MODEL	RESISTANCE VALUE (mΩ)	"D" THICKNESS (inches)	ELEMENT MATERIAL
WSLT3921	0.5	0.0300	Mn-Cu
WSLT3921	1.0	0.0150	Mn-Cu
WSLT3921	2.0	0.0270	Fe-Cr
WSLT3921	3.0	0.0170	Fe-Cr
WSLT3921	4.0	0.0130	Fe-Cr
WSLT5931	0.3	0.0300	Mn-Cu
WSLT5931	0.5	0.0180	Mn-Cu
WSLT5931	1.0	0.0330	Fe-Cr
WSLT5931	2.0	0.0155	Fe-Cr
WSLT5931	3.0	0.0105	Fe-Cr

PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST LIMITS
Thermal shock	- 55 °C to + 150 °C, 1000 cycles, 15 min at each extreme	± (1.0 % + 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 45 min	± (0.5 % + 0.0005 Ω) ΔR
High temperature exposure	1000 h at + 275 °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, 7a and 7b not required	± (0.5 % + 0.0005 Ω) ΔR

PACKAGING				
MODEL	REEL			
	TAPE WIDTH	DIAMETER	PIECES/REEL	CODE
WSLT3921	16 mm/embossed plastic	330 mm/13"	3000	EA
WSLT5931	24 mm/embossed plastic	330 mm/13"	1500	EA

### Note

- Embossed carrier tape per EIA-481.



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