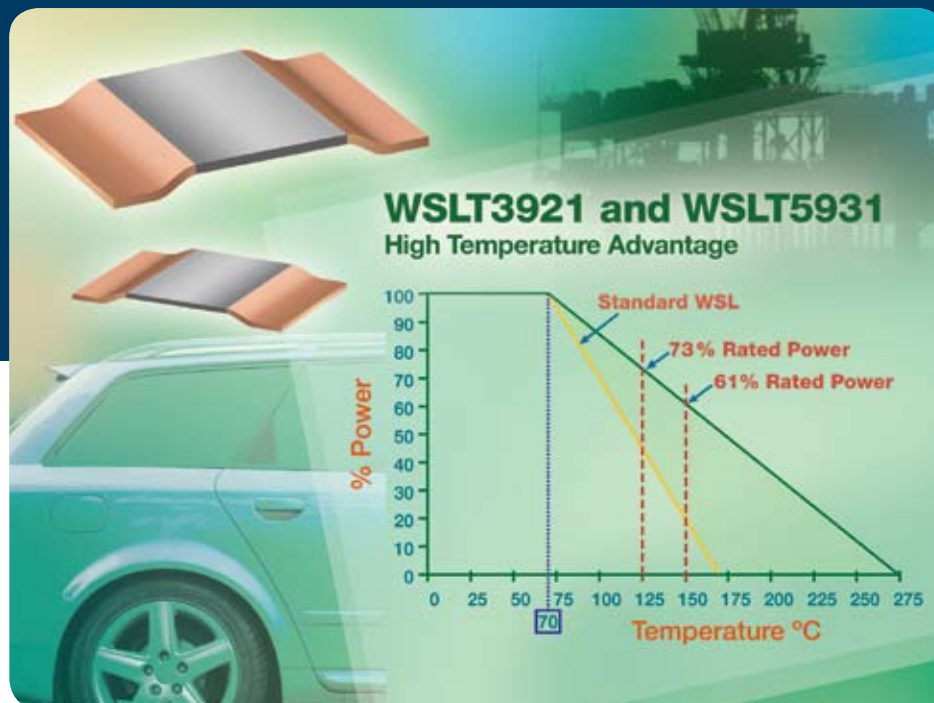




POWER METAL STRIP[®] RESISTORS

WSLT3921/5931



WSLT3921 and WSLT 5931

High-Temperature (+275 °C) 3-W and 5-W Surface-Mount Power Metal Strip[®] Resistors

FEATURES

- Ideal for use in harsh, high temperature environments (to +275 °C)
- Enables use in high-temperature environments with less derating required: for example, 61 % rated power at 150 °C
- Operating temperature range of -65 °C to +275 °C
- Very low resistance values: down to 0.001 Ω
- Low TCR: < 20 ppm/°C
- Very low inductance: < 5 nH
- Excellent frequency response to 50 MHz
- Low thermal EMF: < 3 μV/°C
- Lead (Pb)-free construction is RoHS-compliant

APPLICATIONS

- Automotive electronic controls: engine controls, audio electronics, climate controls, anti-lock brakes, etc.
- Oil/gas well drilling: down-hole test and measurement equipment

Datasheet is available on our web site at www.vishay.com
for WSLT3921/5931 - <http://www.vishay.com/doc?30136>



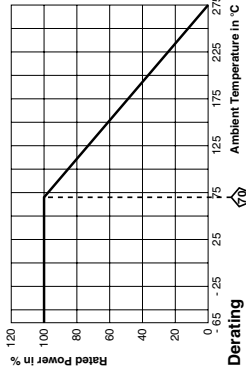
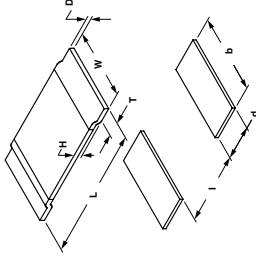
Power Metal Strip® Resistors, High Temperature (275 °C) Low Value (down to 0.001 Ω), Surface Mount



FEATURES

- Ideal for all types of current sensing, voltage division and pulse applications including switching and linear power supplies, instruments and power amplifiers
- Proprietary processing technique produces extremely low resistance values, down to 0.001 Ω
- Specially selected and stabilized materials allow for high temperature derating (to + 275 °C)
- All welded construction
- Solid metal nickel-chrome alloy resistive element with low TCR (< 20 ppm/°C)
- Very low inductance (< 5 nH)
- Excellent frequency response to 50 MHz
- Low thermal EIMF (< 3 μV/°C)

DIMENSIONS



STANDARD ELECTRICAL SPECIFICATIONS			
GLOBAL MODEL	POWER RATING P ₇₀ °C	TOLERANCE %	WEIGHT (typical) g/1000 pieces
WSLT3921	3.0	1.0 and 5.0	281
WSLT5931	5.0	1.0 and 5.0	398

Note

- Part Marking: no part marking on these parts

TECHNICAL SPECIFICATIONS	
PARAMETER	UNIT
Temperature Coefficient	WSLT3921 AND WSLT5931 ± 75
Operating Temperature Range	- 65 to + 275
Maximum Working Voltage	(P/R) ^{1/2}

GLOBAL PART NUMBER INFORMATION															
GLOBAL PART NUMBERING: WSLT3921L000FEA															
W	S	L	T	3	9	2	1	2	L	0	0	0	F	E	A
GLOBAL MODEL	RESISTANCE VALUE														
WSLT3921	L = mΩ														
WSLT5931	2L000 = 0.0002 Ω														
TOLERANCE CODE										PACKAGING CODE					
F = ± 1.0 %										EA = Lead (Pb)-free, tape/reel					
J = ± 5.0 %										EK = Lead (Pb)-free, bulk					
SPECIAL										RESERVED FOR FUTURE SPECIALS					

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]	0.395 ± 0.010 [10.0 ± 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]

GLOBAL MODEL	RESISTANCE VALUE mΩ	"D" THICKNESS	ELEMENT MATERIAL
WSLT3921	2.0	0.0270	Fe-Cr
WSLT3921	3.0	0.0170	Fe-Cr
WSLT3921	4.0	0.0130	Fe-Cr
WSLT5931	1.0	0.0330	Fe-Cr
WSLT5931	2.0	0.0155	Fe-Cr
WSLT5931	3.0	0.0105	Fe-Cr

TEST	CONDITIONS OF TEST	TEST LIMITS	
			REEL
Thermal Shock	- 55 °C to + 150 °C, 1000 cycles, 15 min at each extreme	± (1.0 % + 0.0005 Ω) ΔR	± (0.5 % + 0.0005 Ω) ΔR
Short Time Overload	5 x rated power for 5 s		
Low Temperature Storage	- 65 °C for 45 min		
High Temperature Exposure	1000 h at + 275 °C		
Bias Humidity	+ 85 °C, 85 % RH, 10 % Bias, 1000 h		
Mechanical Shock	100 gs for 6 ms, 5 pulses		
Vibration	Frequency varied 10 to 2000 Hz in 1 min, 3 directions, 12 h		
Load Life	1000 h at 70 °C, 1.5 h "ON", 0.5 h "OFF"		
Resistance to Solder Heat	260 °C solder, 10 - 12 s dwell, 25 mm/s emergence		
Moisture Resistance	MIL-STD-202, method 106, 0 % power, 7a and 7b not required		

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

Note

- Embossed carrier tape per EIA-481-2

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