

## Power Metal Strip® Battery Shunt Resistor, Very Low Value (100 μΩ)


**DESIGN SUPPORT TOOLS**
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**FEATURES**

- High power to resistor size ratio
- Proprietary processing technique produces extremely low resistance values
- All welded construction
- Solid metal manganese-copper alloy resistive element with low TCR (< 20 ppm/°C)
- Very low inductance (< 5 nH)
- Low thermal EMF (< 1 μV/°C)
- AEC-Q200 qualified
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

**STANDARD ELECTRICAL SPECIFICATIONS**

GLOBAL MODEL	SIZE	POWER RATING $P_{70\text{ }^\circ\text{C}}$ W	TOLERANCE ± %	RESISTANCE VALUE RANGE Ω	RESISTANCE VALUES CURRENTLY AVAILABLE <sup>(1)</sup> Ω	WEIGHT (typical) g
WSBS5216	5216	12	5, 10	50μ to 250μ	100μ	19.2

**Note**
<sup>(1)</sup> Other values may be available, contact factory

**TECHNICAL SPECIFICATIONS**

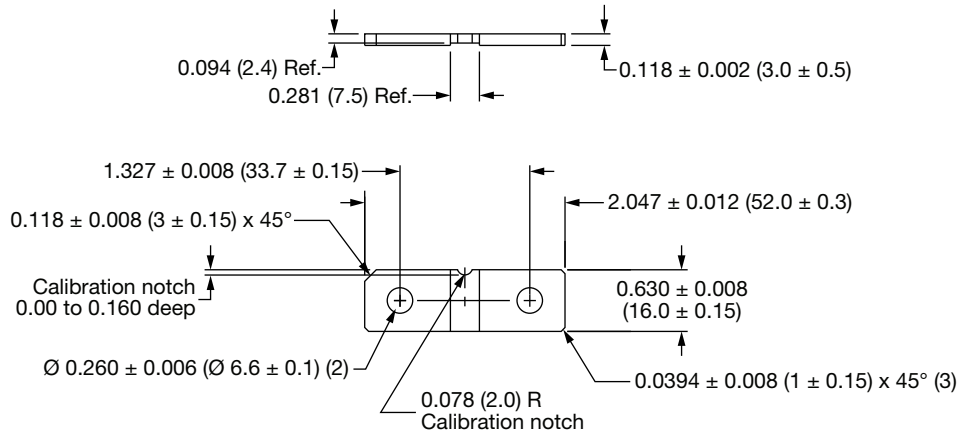
PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Temperature coefficient	ppm/°C	± 150
Temperature coefficient (element material)	ppm/°C	± 20
Operating temperature range	°C	-65 to +170
Thermal EMF	μV/°C	< 1 for 100 μΩ
Inductance	nH	< 5
Maximum continuous current rating	A	$(P/R)^{1/2}$

**GLOBAL PART NUMBER INFORMATION**
**GLOBAL PART NUMBERING: WSBS5216L1000JT (WSBS5216, 0.000100 Ω, ± 5.0 %, tray pack)**

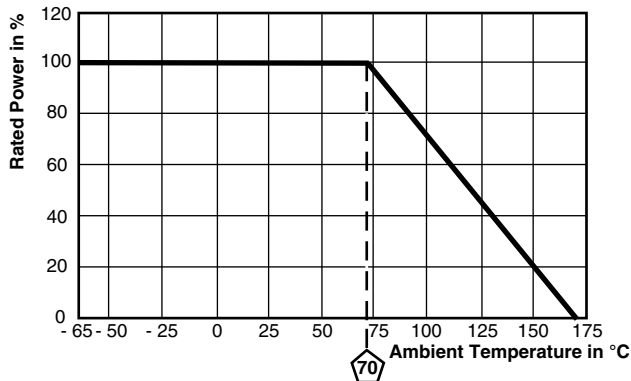
W	S	B	S	5	2	1	6	L	1	0	0	0	J	T		
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GLOBAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING CODE	SPECIAL
<b>WSBS5216</b>	<b>L</b> = mΩ <b>L1000</b> = 0.000100 Ω	<b>J</b> = ± 5 % <b>K</b> = ± 10 %	<b>K</b> = bulk pack <b>T</b> = tray pack	(dash number) (up to 2 digits) from <b>1</b> to <b>99</b> as applicable

**DIMENSIONS** in inches (millimeters)



**DERATING**



TOLERANCES ON DECIMALS  
XXX ± 0.005  
UNLESS OTHERWISE LISTED

RESISTANCE VALUE ( $\mu\Omega$ )	ELEMENT MATERIAL
100	Mn-Cu

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



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