

## Power Metal Strip® Battery Shunt Resistor, Very Low Value (100 $\mu\Omega$ )



### 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  $\mu\text{V}/^\circ\text{C}$ )
- 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)

### LINKS TO ADDITIONAL RESOURCES



3D Models

### STANDARD ELECTRICAL SPECIFICATIONS

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

#### Note

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

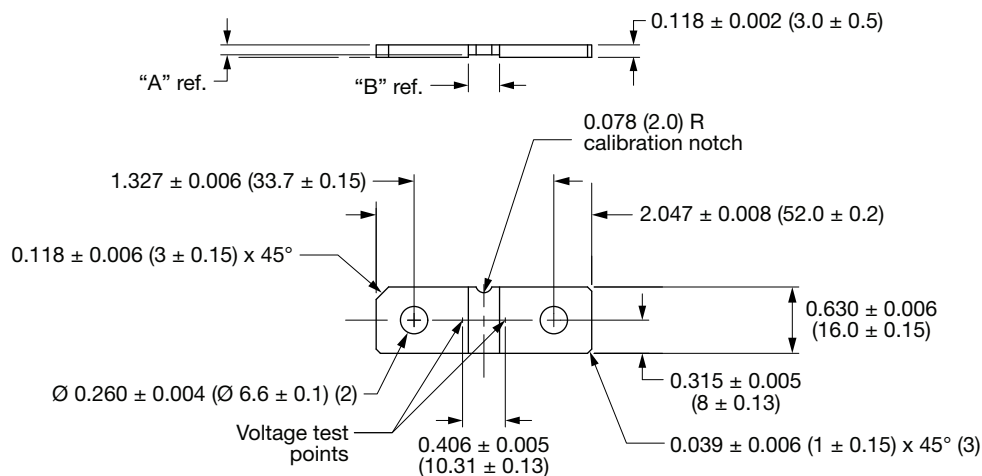
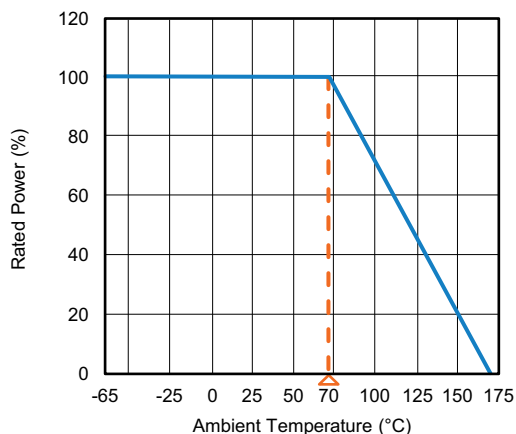
### TECHNICAL SPECIFICATIONS

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

### GLOBAL PART NUMBER INFORMATION

Global Part Numbering: WSBS5216L1000JT (WSBS5216, 0.000100  $\Omega$ ,  $\pm 5.0 \%$ , tray pack)

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

**DIMENSIONS** in inches (millimeters)

**DERATING**

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



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