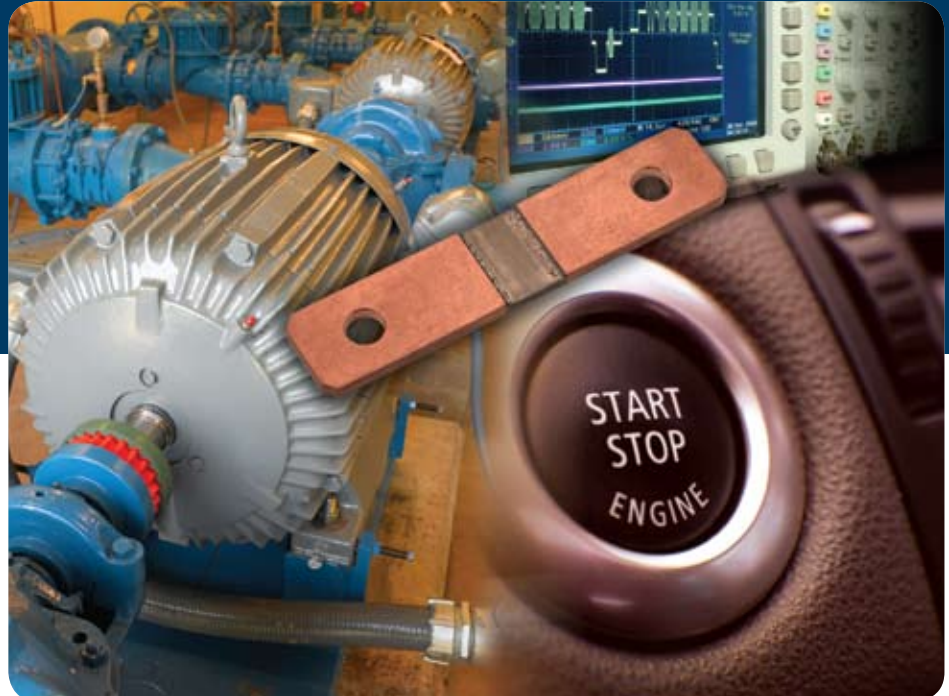




# RESISTORS

WSBS8518



## Power Metal Strip® Battery Shunt Resistor

### FEATURES

- Very low resistance values: 100  $\mu\Omega$  and 125  $\mu\Omega$
- 36-W (600 A) power capability in an 8518 package
- Very low inductance: < 5 nH
- Low thermal EMF: < 3  $\mu\text{V} / ^\circ\text{C}$
- All-welded construction
- RoHS-compliant, lead (Pb)-free construction

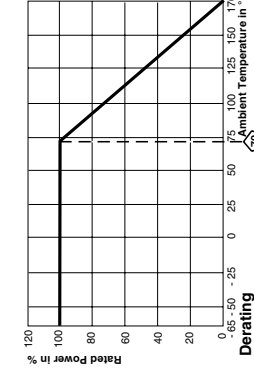
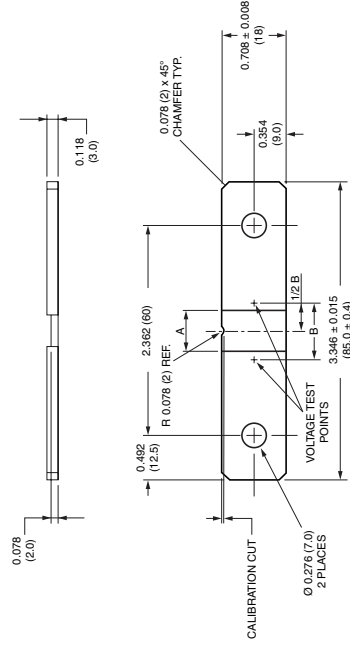
### APPLICATIONS

- Automotive battery management
- Automotive hybrid and electric vehicle power management
- Industrial high-power DC motor control
- Instrumentation high-current measurement

# Power Metal Strip® Battery Shunt Resistor, Very Low Value (100 μΩ, 125 μΩ and 250 μΩ)

**FEATURES**

- High power to resistor size ratio
- Proprietary processing technique produces extremely low resistance values
- All welded construction
- RoHS compliant, lead (Pb)-free construction
- Very low inductance (< 5 nH)
- Excellent frequency response to 50 MHz
- Low thermal EMF (< 3 μV/°C)


**DIMENSIONS in inches (millimeters)**


TOLERANCES ON DECIMALS  
XXX ± 0.005  
UNLESS OTHERWISE LISTED

RESISTANCE VALUE (μΩ)	ELEMENT MATERIAL	DIMENSION A	DIMENSION B
100	Mn-Cu	0.37	0.495 ± 0.005
125	Mn-Cu	0.48	0.605 ± 0.005
250	Mn-Cu	0.90	1.025 ± 0.005

TEST	CONDITIONS OF TEST	TEST LIMITS
Thermal Shock	-55 °C to +150 °C, 1000 cycles, 15 min at each extreme	± 0.5 % ΔR
Short Time Overload	5 x rated power for 5 s	± 0.5 % ΔR
Low Temperature Operation	-65 °C for 45 min	± 0.5 % ΔR
High Temperature Exposure	1000 h at +170 °C	± 1.0 % ΔR
Bias Humidity	+85 °C, 85 % RH, 10 % Bias, 1000 h	± 0.5 % ΔR
Mechanical Shock	100 g's for 6 ms, 5 pulses	± 0.5 % ΔR
Vibration	Frequency varied 10 to 2000 Hz in 1 min, 3 directions, 12 h	± 0.5 % ΔR
Load Life	1000 h at +70 °C, 1.5 h "ON", 0.5 h "OFF"	± 1.0 % ΔR
Moisture Resistance	MIL-STD-202, Method 106, 0 % power, 70 not required	± 0.5 % ΔR

Revision 28-Jan-09

STANDARD ELECTRICAL SPECIFICATIONS				
GLOBAL MODEL	POWER RATING P <sub>70</sub> °C W	TOLERANCE %	RESISTANCE VALUE μΩ	WEIGHT (Typical) g
WSBS8518	36	5.0	100, 125, 250	46.3

TECHNICAL SPECIFICATIONS	
PARAMETER	UNIT
Temperature Coefficient	ppm/°C
Operating Temperature Range	-65 to +170
Maximum Current Rating	A

GLOBAL PART NUMBER INFORMATION																
GLOBAL PART NUMBERING: WSBS8518L1250JK (WSBS8518, 0.000125 Ω, ± 5 %)																
W	S	B	S	8	5	1	8	L	1	2	5	0	J	K		
GLOBAL MODEL WSBS8518		RESISTANCE VALUE L = mΩ L1000 = 0.000100 Ω L1250 = 0.000125 Ω L2500 = 0.000250 Ω		TOLERANCE CODE J = ± 5.0 %		PACKAGING CODE K = Bulk pack		SPECIAL (Dash number) (up to 2 digits) From 1 - 99 as applicable								

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