# WSBS8536...40



Vishay Dale

# Power Metal Strip<sup>®</sup> Battery Shunt Resistor With Three Sense Pins Very Low Value (25 $\mu\Omega$ , 50 $\mu\Omega$ , 100 $\mu\Omega$ , and 125 $\mu\Omega$ )



### LINKS TO ADDITIONAL RESOURCES



### **FEATURES**

- High power to resistor size ratio
- Proprietary processing technique produces extremely low resistance values
- All welded construction
- Solid metal manganese-copper alloy resistive FREE GREEN element with low TCR (< 20 ppm/°C) (5-2008)
- Very low inductance (< 5 nH)
- Low thermal EMF (< 3 μV/°C)</li>
- · Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

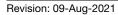
STANDARD ELECTRICAL SPECIFICATIONS							
GLOBAL MODEL	SIZE P <sub>70°C</sub> IOLERANCE RANGE CURRENTLY		RESISTANCE VALUES CURRENTLY AVAILABLE <sup>(1)</sup> Ω	WEIGHT (typical) g			
WSBS853640	8536	50	5, 10	25µ to 125µ	25µ, 50µ, 100µ, 125µ	25μ = 77.7, 50μ = 75.7, 100μ / 125μ = 71.7	

Note

(1) Other values may be available, contact factory

TECHNICAL SPECIFICATIONS					
PARAMETER	UNIT	RESISTOR CHARACTERISTICS			
		$\pm$ 200 for 25 $\mu\Omega$			
Temperature coefficient	ppm/°C	$\pm$ 175 for 50 $\mu\Omega$			
		$\pm$ 165 for 100 $\mu\Omega$ / 125 $\mu\Omega$			
Temperature coefficient (element material)	ppm/°C	± 20			
Operating temperature range	°C	-65 to +170			
Maximum current rating	А	(P/R) <sup>1/2</sup>			

GLOBAL PART NUMBER INFORMATION						
Global Part Numbering: WSBS8536L1000JT40 (WSBS853640, 0.000100 $\Omega$ , ± 5 %, tray pack)						
W S B S 8 5 3 6 L 1 0 0 0 J T 4	0					
GLOBAL MODEL RESISTANCE VALUE TOLERANCE CODE PACKAGING CODE SPECIAL						
WSBS8536     L = m $\Omega$ J = $\pm 5$ %     T = tray pack     40 = three sense       L0500 = 0.000050 $\Omega$ L1000 = 0.000100 $\Omega$ K = $\pm 10$ %     K = bulk pack     40 = three sense       L1250 = 0.000125 $\Omega$ L2500 = 0.000250 $\Omega$ 40 = three sense     10 = three sense						



1 For technical questions, contact: ww2cresistors@vishay.com Document Number: 30398

RoHS COMPLIANT

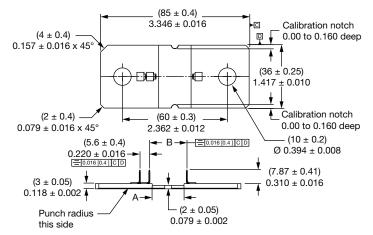
HALOGEN





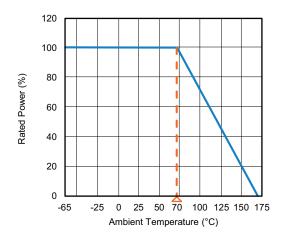
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#### **DIMENSIONS** in inches (millimeters)



RESISTANCE VALUE (μΩ)	ELEMENT MATERIAL	A REFERENCE	B ± 0.005 (± 0.13)
25	Mn-Cu	0.145 (3.683)	0.135 (3.429)
50	Mn-Cu	0.360 (9.144)	0.492 (12.496)
100	Mn-Cu	0.730 (18.542)	0.862 (21.894)
125	Mn-Cu	0.900 (22.860)	1.032 (26.212)

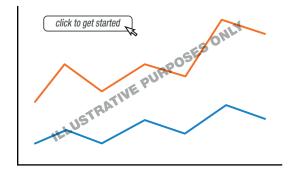
#### DERATING



### TOLERANCES ON DECIMALS .xxx ± 0.005 (.x ± 0.1)

UNLESS OTHERWISE LISTED

#### **PULSE CAPABILITY**



www.vishay.com/resistors/large-shunt-power-metal-strip-calculator/

PERFORMANCE				
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 storage	-65 °C for 24 h	± 0.5 % ΔR		
High temperature exposure	1000 h at +170 °C	± 1.0 % Δ <i>R</i>		
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 Hz 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 % Δ <i>R</i>		
Moisture resistance	MIL-STD-202, method 106, 0 % power, 7b not required	± 0.5 % ∆R		

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