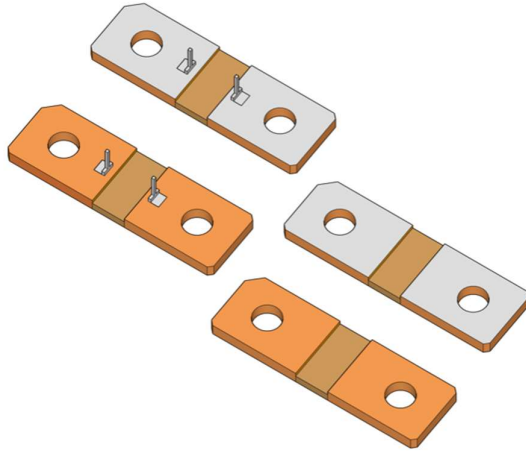




SBZ 5216 Series

Low Ohmic EB Welded Precision Resistor



Features

- High Conductivity Copper Terminals
- Excellent Long-Term Stability
- High Pulse Power Rating
- RoHS and REACH Compliant
- AEC-Q200 Compliant
- Customised versions available on request
- **Pin Variant** available on request
- **Tinned Terminals** available on request*

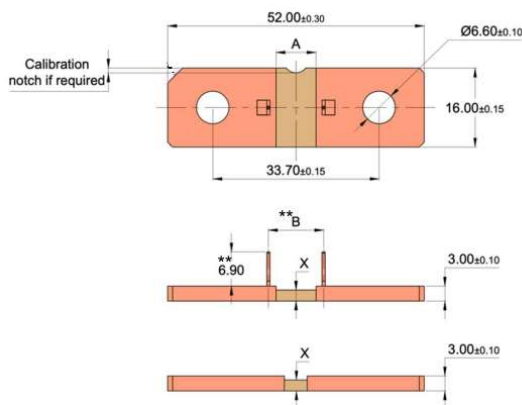


Applications

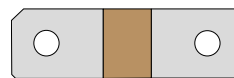
- Current sensing for BMS (Battery Management Systems) in hybrid and electric automotive applications
- Current sensing for bus bars
- Current sensing for welding equipment

Technical Data

Resistance Value	0.05, 0.1, 0.2	(mΩ)
Tolerance (R)	±5	(%)
TCR - Resistance Alloy (20-60°C)	< ±20 (Copper Manganese Alloys) < - 35 (FeCrAl Alloy)	(ppm/K)
TCR – Part (-40 to +170°C)	± 150 (For 0.05 & 0.1m-ohm) , ±50 (For 0.2m-ohm)	(ppm/K)
Applicable Temperature Range	- 65 to +170	°C
Power Rating	17	W
Inductance	< 5	nH
Thermal EMF	< 1 (For 0.1 & 0.05m-ohm) , < 3.0 (For 0.2m-ohm)	µV/°C
Stability Deviation	< 0.5 after 2000 Hours, T ₁ * = 100°C	%
* T ₁ = Terminal Temperature	< 1.0 after 2000 Hours, T ₁ * = 130°C	%



Resistance Value (mΩ)	X ±0.20	A ±0.50	B ±0.20	Type
0.05	2.20	4.50	7.60	SBZ-5216-CM1-R00005
0.10	2.20	8.10	11.20	SBZ-5216-CM2-R0001
0.20	2.00	4.50	7.60	SBZ-5216-AC-R0002



*Tinned Variant

- RoHS Compliant Plating
- Standard: Sn : 2.5 to 8 µm
Ni : 0.5 to 4 µm Inter-liner
- Base Material: Cu-OF Half-Hard
- Available **without Ni inter-liner** on request

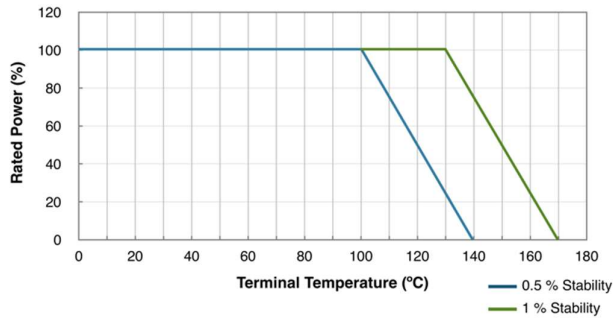
** - applicable for variants with sense pins
 - 8 mm & 11 mm pin height available on request
 - Custom pin height also possible



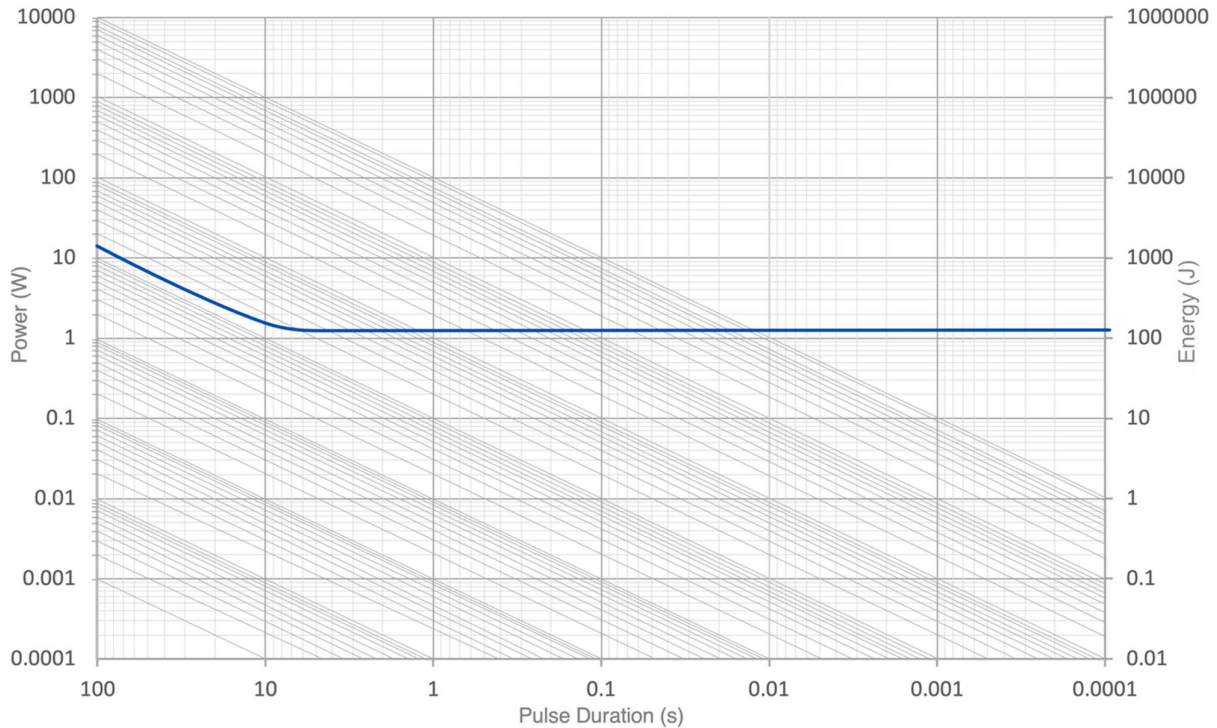
SBZ 5216 Series

Low Ohmic EB Welded Precision Resistor

Power Derating Curve



Maximum Pulse Energy Curve (0.1 mΩ)



Packing:

- 100 Shunts, vacuum packed in plastic bags
- Customised tray packing available on request
- Tube packing available on request (applicable to variants without sensing pins)



SBZ 5216 Series

Low Ohmic EB Welded Precision Resistor

Performance:

Type of Test	Reference Standard	Test Specifications	Acceptance Criteria
High Temperature Exposure	MIL-STD-202 Method 108	1000 hrs. @ T=170°C.Unpowered.	ΔR +/-1%
Temperature Cycling	JESD22 Method JA-104	-55°C to 150°C, 1000Cycles, 30 minutes at each extreme	ΔR +/-0.5%
Biased Humidity	MIL-STD-202 Method 103	85°C & 85RH with 10% operating power, 1000 hrs.	ΔR +/-0.5%
Operational Life	MIL-STD-202 Method 108	125°C at rated power,1000 hrs.	ΔR +/-1%
External Visual	MIL-STD-883 Method 2009	Visual inspection	Visual
Physical Dimension	JESD22 Method JB-100	Dimensional inspection as per SBCL Specifications	Shall confirm within tolerance limits
Resistance to Solvents	MIL-STD-202 Method 215	Clean with Aqueous chemical	Marking shall be legible
Mechanical Shock	MIL-STD-202 Method 213	100g for 6ms, Half sine	ΔR +/-0.2%
Vibration	MIL-STD-202 Method 204	5g for 20 minutes, 12 cycles each of 3orientations. 10-2000Hz	ΔR +/-0.2%
Resistance to Soldering Heat	MIL-STD-202 Method 210	Solder Temp. 260°C, Time 10 seconds	ΔR +/-0.5%
Solderability	J-STD-002	As per J-STD-002	>95% Coverage in 10x Magnification
Electrical Characterization	User Spec.	Resistance as defined	Shall confirm within tolerance limits
Short Time Over Load	--	5x Rated Power for 5 seconds	ΔR +/-0.5%
Low Temperature Storage	--	-65°C for 24 hrs.	ΔR +/-0.2%

Example of Ordering Code: **SBZ-5216-CM2-R0001-5-U-NP-BK**

(Example: 0.1mΩ SBZ 5216 without sense pins on un-plated terminals, shipped in bulk packing)

