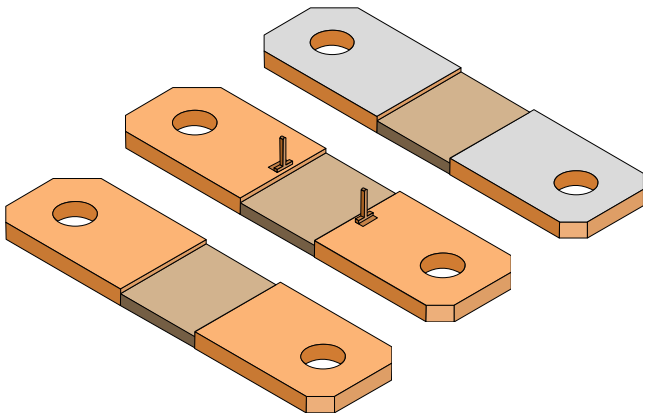
SBZ 6018 Series

Low Ohmic EB Welded Precision Resistor



Features

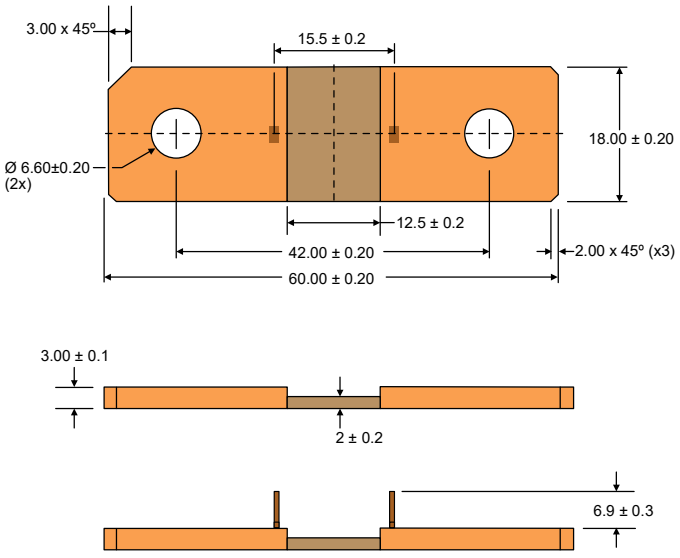
- High Conductivity Copper Terminals
- Custom made Shunts available
- Excellent Long-Term Stability
- High Pulse Power Rating
- RoHS and REACH Compliant
- AEC-Q200 Compliant
- Customised versions available on request
- **Pin Variant** available on request
- **Tinned Terminals** available on request *

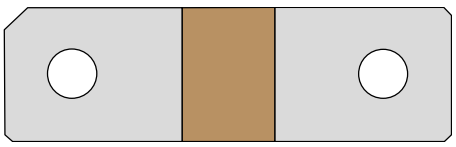
Applications

- 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	0.5	(mΩ)
Tolerance (R)	5	(%)
TCR - Resistance Alloy (20-60ºC)	< - 25 (FeCrAl Alloy)	(ppm/K)
TCR – Part (20-60ºC)	± 50	(ppm/K)
Applicable Temperature Range	-65 to +170	ºC
Power Rating	15	W
Inductance	< 1	nH
Thermal EMF	< 3	µV/ºC
Stability Deviation	< 0.5 after 2000 Hours, T_t^* = 100ºC	%
* T_t = Terminal Temperature	< 1.0 after 2000 Hours, T_t^* = 130ºC	%

Table 1





*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

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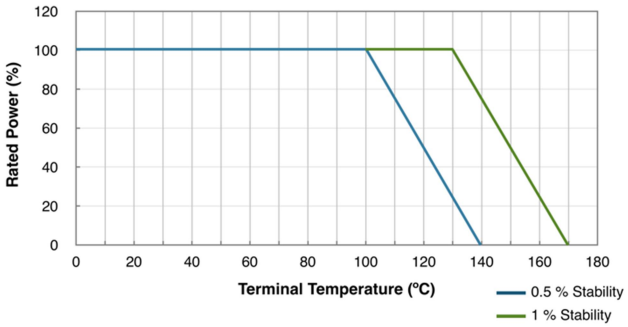
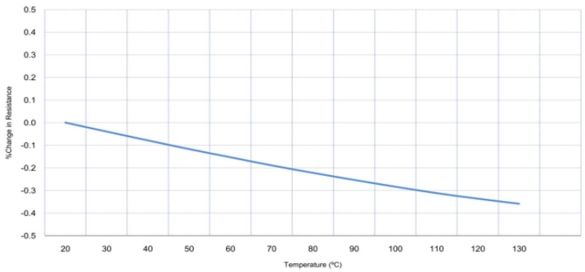
Power Derating Curve



Resistance Change Vs Temperature



Performance:

Type of Test	Reference STD	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 3 orientations. 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%

Packing:

- 100 Pieces vacuum packed in plastic bags
- Customised tray packing available on request

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Example of Ordering Code: SBZ-6018-AC-R0005-5-U-NP-BK

(Example: 0.5mΩ SBZ 6018 without sense pins on un-plated terminals, shipped in bulk packing)