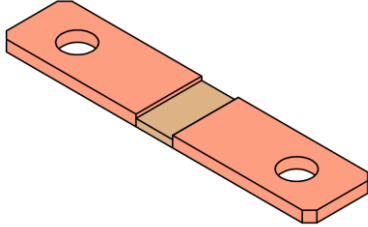




# SBZ – 8420 / 8518 Series

Low Ohmic EB Welded Precision Resistor



### Features

- High Conductivity Copper Terminals
- Custom made Shunts available
- Excellent Long Term Stability
- Tinned Terminals available on request
- RoHS and REACH Certified
- AEC-Q200 Qualified

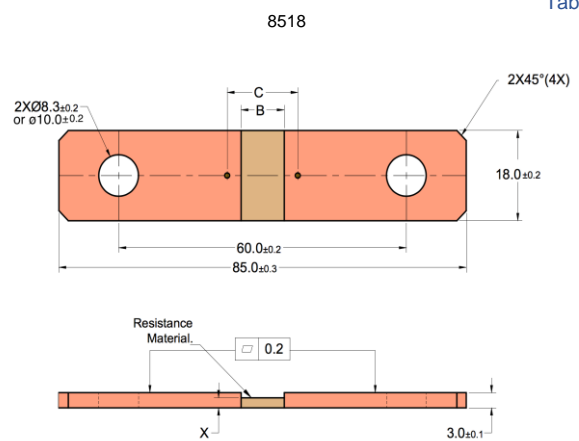
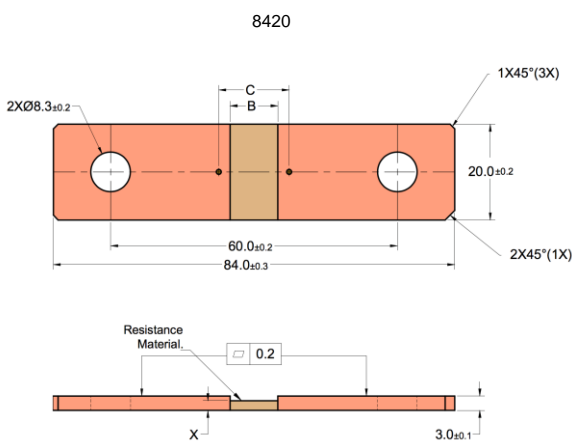
### Applications

- Current Sensing for BMS (Battery Management Systems)
- Bus bars and Welding Equipment



Technical Data		
Resistance Values	0.05, 0.1, 0.125, 0.2, 0.25, 0.5, 1.0	(mΩ)
Tolerance	5	(%)
TCR - Temperature Coefficient (Resistive Alloy)	< ±10 (Copper Manganese Alloys), < -25 (Aluchrom Alloy)	(ppm/K)
Applicable Temperature Range	-55 to +170	°C
Power Rating ( $P_{70°C}$ / $P_{100°C}$ ) for 0.1 mΩ	36 / 15	W
Inductance	< 1	nH
Thermal EMF	< 1 (< 3 for 0.5 mΩ and 1mΩ)	μV/°C
Stability Deviation	< 0.5 after 2000 Hours, $T_t^* = 110°C$	%
* $T_t$ = Terminal Temperature	< 1.0 after 2000 Hours, $T_t^* = 140°C$	%

Table 1

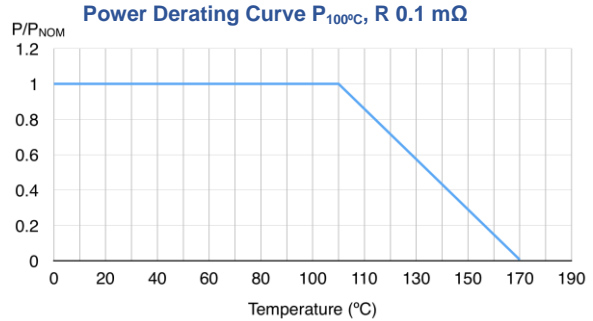
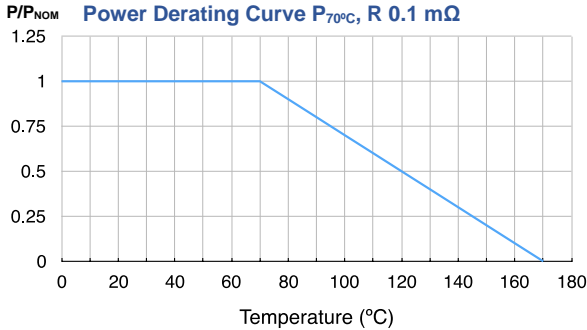


Dimensions are in mm, See table 2(a) and 2(b) for thickness.

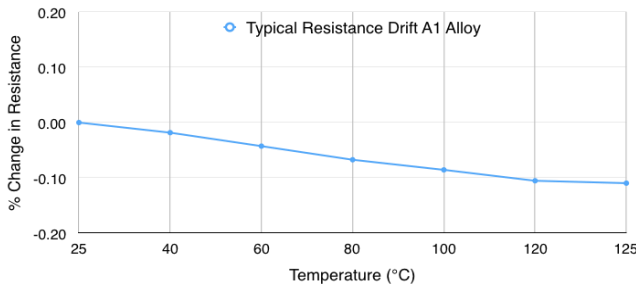


# SBZ – 8420 / 8518 Series

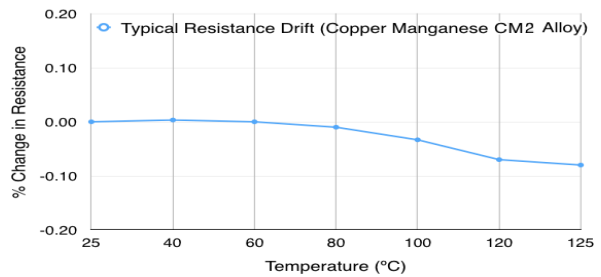
Low Ohmic EB Welded Precision Resistor



**Resistance Change vs Temperature**



**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 +/-1%
Low Temperature Storage	--	-65°C for 24 hrs.	ΔR +/-0.2%

# SBZ – 8420 / 8518 Series

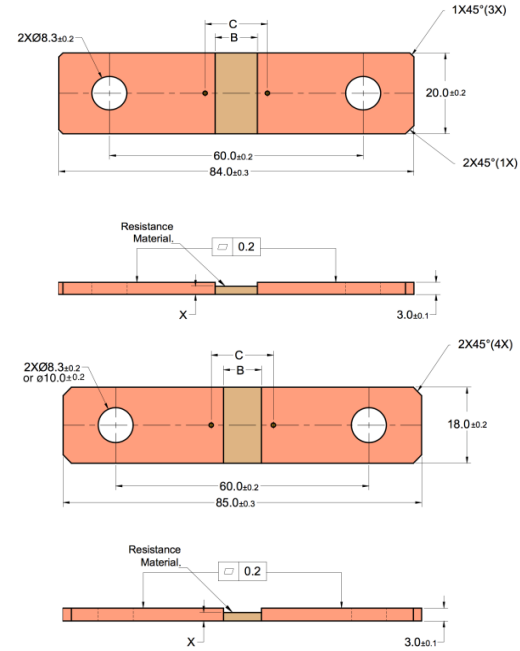
Low Ohmic EB Welded Precision Resistor

SBZ 8420					
Resistance Value (mΩ)	Dimension X (+/-0.20)	Dimension B (+/-0.50)	Dimension C (+/-0.20)	Resistance Alloy	Ordering Code
0.05	2.20	5.00	8.20	Copper Manganese Alloy	SBZ-CM2-R00005-8420
0.10	2.20	10.00	13.20	Copper Manganese Alloy	SBZ-CM2-R0001-8420
0.20	2.00	18.00	21.20	Copper Manganese Alloy	SBZ-CM2-R0002-8420
0.25	2.00	23.00	26.20	Copper Manganese Alloy	SBZ-CM2-R00025-8420
0.50	2.00	14.00	17.20	Aluchrom Alloy	SBZ-A1-R0005-8420
1.00	2.00	28.00	31.20	Aluchrom Alloy	SBZ-A1-R001-8420

Table 2(a)

SBZ 8518					
Resistance Value (mΩ)	Dimension X (+/-0.20)	Dimension B (+/-0.50)	Dimension C (+/-0.20)	Resistance Alloy	Ordering Code
0.05	2.20	4.50	7.70	Copper Manganese Alloy	SBZ-CM2-R00005-8518
0.10	2.20	9.00	12.20	Copper Manganese Alloy	SBZ-CM2-R0001-8518
0.125	2.00	10.30	13.50	Copper Manganese Alloy	SBZ-CM2-R000125-8518
0.20	2.00	16.50	19.70	Copper Manganese Alloy	SBZ-CM2-R0002-8518
0.25	2.00	21.00	24.20	Copper Manganese Alloy	SBZ-CM2-R00025-8518

Table 2(b)



### Packing

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