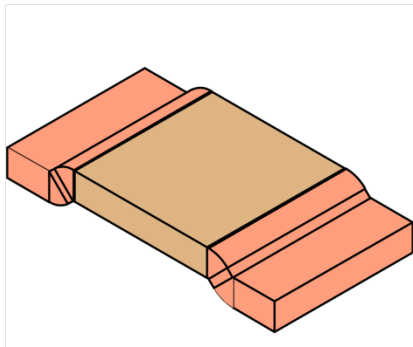




# SBF(S)-3920-R0002

Low Ohmic EB Welded SMD Precision Resistor



### Features

- 5 Watts Permanent Power
- High Conductivity Copper Connectors
- Excellent Long Term Stability
- High Application Temperature Range -55°C to +170°C
- Max. Solder Temperature up to 350°C / 30Sec
- Flame Resistant
- Solid Metal Construction
- RoHS and REACH Certified
- AEC-Q200 Qualified

### Applications

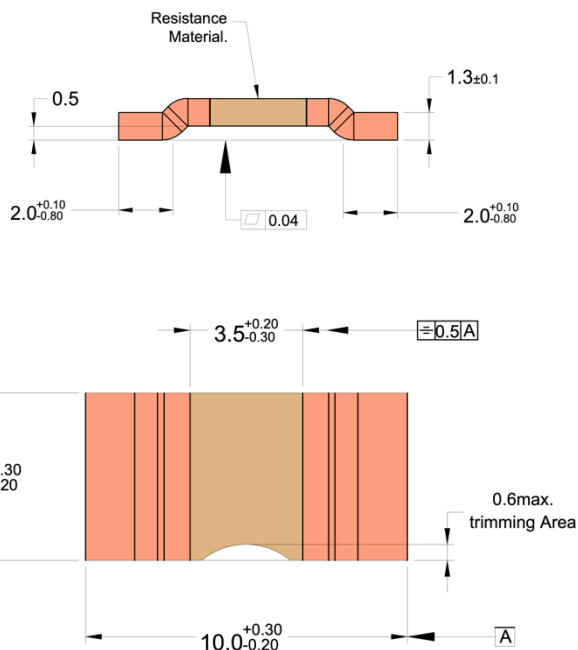
- Current Sensing/ Feedback
- Automotive Applications
- Power Modules
- Frequency Convertors
- Inverters
- Low Inductance Applications



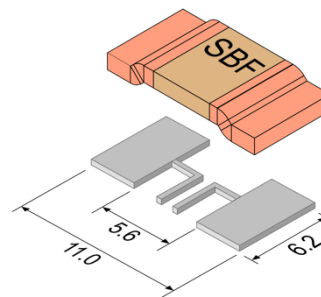
### Technical Data

Resistance Values	0.2	(mΩ)
Tolerance	1, 5	(%)
TCR - Temperature Coefficient (Resistive Alloy)	<±10(Copper Manganese Alloys)	(ppm/K)
TCR - Temperature Coefficient (Component)	<150	(ppm/K)
Applicable Temperature Range	-55 to +170	°C
Load Capacity P70°C / P100°C	12 / 5	W
Inductance	<3	nH
Stability Deviation	< 0.5 after 2000 Hours, T <sub>t</sub> *= 100°C	%
	< 1.0 after 2000 Hours, T <sub>t</sub> *= 130°C	%

\* T<sub>t</sub>= Terminal Temperature



### Proposed PCB Layout

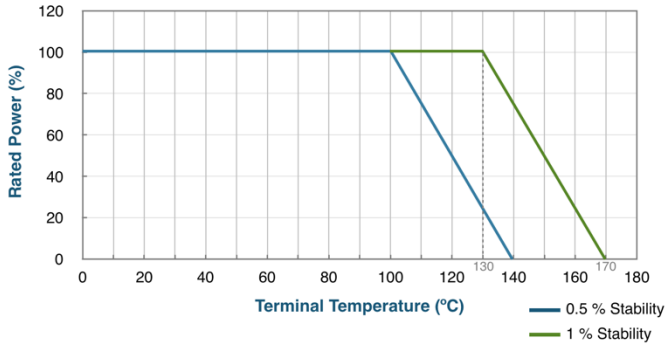




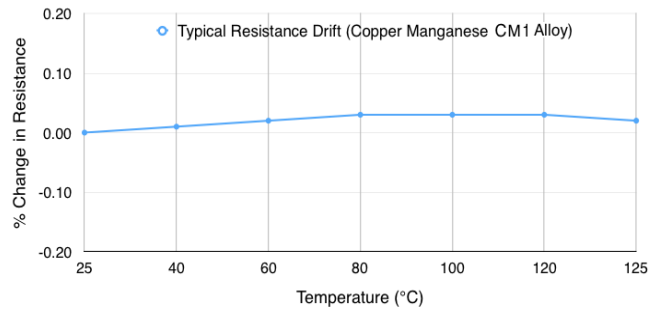
# SBF(S)-3920-R0002

Low Ohmic EB Welded SMD Precision Resistor

**Power Derating Curve**



**Resistance Change vs Temperature**



**Performance:**

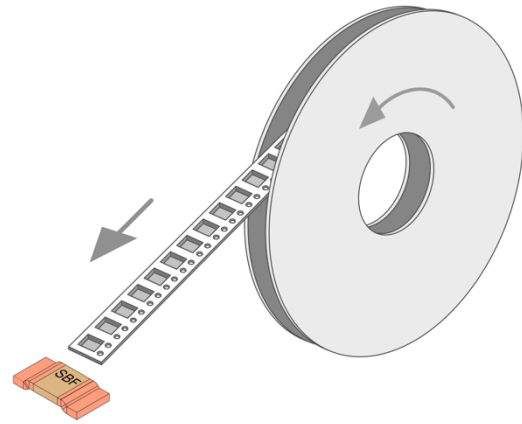
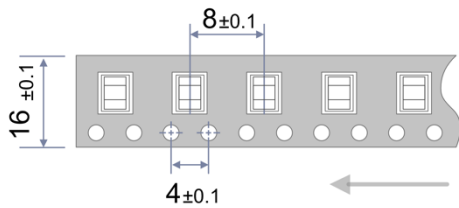
Type of Test	Reference STD	Test Specifications	Acceptance Criteria
High Temperature Exposure	MIL-STD-202 Method 108	1000Hrs. @ T=170°C.Unpowered.	ΔR +/-1%
Temperature Cycling	JESD22 Method JA-104	-55°C to 150°C, 1000Cycles, 30Mins at each extreme	ΔR +/-0.5%
Biased Humidity	MIL-STD-202 Method 103	85°C & 85RH with 10% operating power, 1000Hrs	ΔR +/-0.5%
Operational Life	MIL-STD-202 Method 108	125°C at rated power,1000Hrs	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 20Mins, 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 10Secs	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 5Secs	ΔR +/-1%
Low Temperature Storage	--	-65°C for 24Hrs	ΔR +/-0.2%



# SBF(S)-3920-R0002

Low Ohmic EB Welded SMD Precision Resistor

Reel Information	
Reference Standard	DIN EN 60286-3
Width of Reel	16 mm
Number of parts per Reel	3000 pcs



### Example of Ordering Code

#### SBF-CM1-R0002-1-TR

