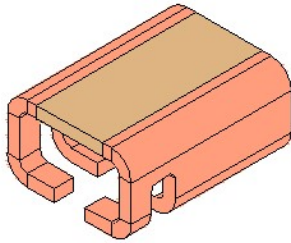


**SBI - 1216Series**

Low Ohmic EB Welded SMD Precision Resistor

**Features**

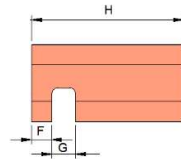
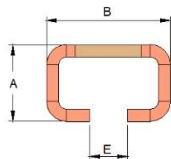
- 5-Watts Permanent Power
- Constant Current up to 100 amps (0.5 mΩ)
- Four Terminal Configuration
- Excellent Long Term Stability
- Max. Solder Temperature up to 350°C / 30 sec
- RoHS and REACH Compliant
- AEC-Q200 Compliant

**Applications**

- Current Sensing/ Feedback
- Automotive Applications
- Power Modules
- Frequency Convertors

**Technical Data**

Resistance Values	0.3 0.5 1.0	mΩ
Tolerance	1,3, 5	(%)
Applicable Temperature Range	-65 to +170	°C
Load Capacity	See table -2	
Inductance	< 2	nH
Stability Deviation	< 0.5 after 2000 Hours, $T_t = 100^\circ\text{C}$	%
* $T_t$ = Terminal Temperature		
Stability Deviation	< 1.0 after 2000 Hours, $T_t = 130^\circ\text{C}$	%
* $T_t$ = Terminal Temperature		



Type	Resistance (mΩ)	A (+0,-0.35)	B (±0.2)	E (±0.20)	F (±0.10)	G (±0.15)	H (±0.20)
SBI-CM4-R0003	0.3	2.0	3.10	0.85	0.50	0.60	3.80
SBI-CM4-R0005	0.5	1.90	3.10	0.85	0.50	0.60	3.80
SBI-CM1-R0001	1.0	1.90	3.10	0.85	0.50	0.60	3.80

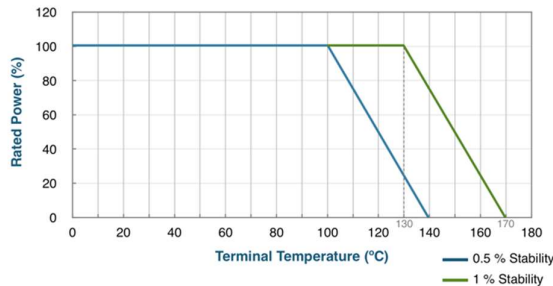
Table 1



# SBI - 1216Series

Low Ohmic EB Welded SMD Precision Resistor

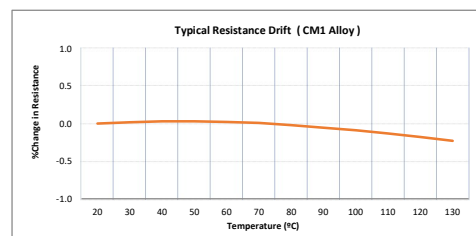
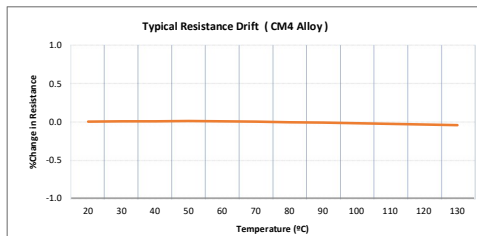
**Power Derating Curve**



Type	Resistance (mΩ)	Material	TCR (ppm)	P <sub>100°C</sub> (W) <sub>At Ambient</sub>
SBI-CM4-R0003	0.3	Copper Manganese Tin Alloy	< 100	5
SBI-CM4-R0005	0.5	Copper Manganese Tin Alloy	< 50	5
SBI-CM1-R001	1.0	Copper Manganese Alloy	< 50	3

Table 2

**Resistance Change vs Temperature**



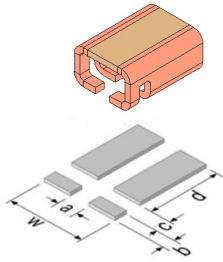
## Performance:

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 +/-0.1%



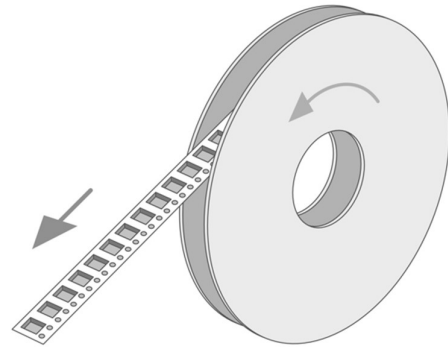
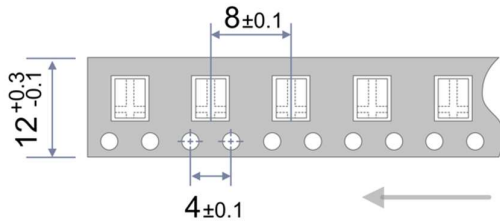
# SBI – 1216Series

Low Ohmic EB Welded SMD Precision Resistor



Solder Pad Dimensions					
Type	w	a	b	c	d
SBI-CM4-R0005	3.6	0.6	0.7	0.5	2.95

Reel Information	
Reference Standard	DIN EN 60286-3
Width of Reel	12 mm
Number of parts per Reel	3000 pcs
Diameter of Reel	330 mm / 13"



### Example of Ordering Code

#### SBI-CM4-R0005-3-TR

