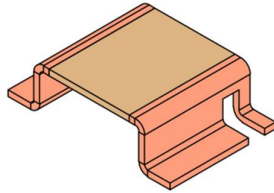




SBC - 4026Series

Low Ohmic EB Welded SMD Precision Resistor



Features

- Power Rating up to 12W (0.2mΩ)
- Constant Current up to 245 amps (0.2 mΩ)
- Four Terminal Configuration
- Excellent Long Term Stability
- Max. Solder Temperature up to 350°C / 30Sec
- RoHS and REACH Compliant
- AEC-Q200 Compliant

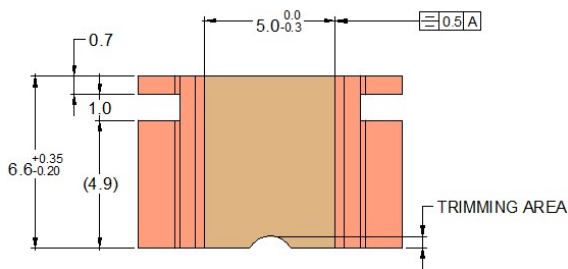
Applications

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

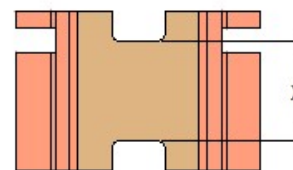
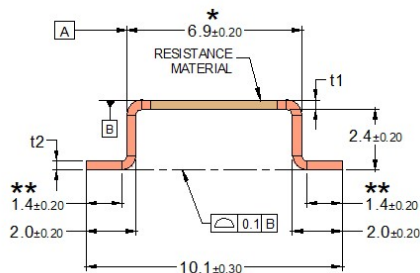


Technical Data		
Resistance Values	0.2,0.3,0.5, 0.7, 1, 2, 3, 4, 5	(mΩ)
Tolerance	1, 2, 5	(%)
TCR - Temperature Coefficient of Resistive Alloy (20 to 60°C)	<+20 (Copper Manganese Alloys), < -35 (FeCrAl Alloy) <+/-20 (NiCr Alloy)	(ppm/°C)
TCR - Temperature Coefficient of Component (20 to 60°C)	See Table 2	(ppm/°C)
Applicable Temperature Range	-65 to +170	°C
Load Capacity	See Table 2	-
Inductance	< 3	nH
Stability Deviation	< 0.5 after 2000 Hours, T _t '= 100°C	%
* T _t = Terminal Temperature	< 1.0 after 2000 Hours, T _t '= 130°C	%

Table 1



Resistance Value (mΩ)	X ±0.5
4.0	4.15
5.0	3.15



For 4.0 & 5.0m-ohm

* 7.42+/-0.2 for SBC-NC-R001
** 1.30+/-0.2 for SBC-NC-R001

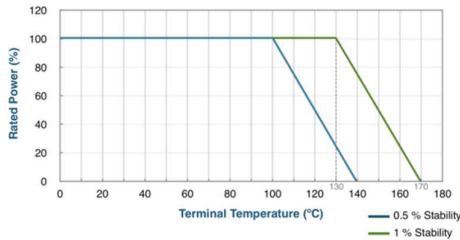
Dimensions are in mm, See table 2 for thickness.



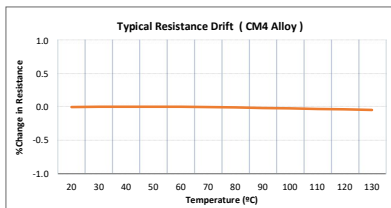
SBC - 4026 Series

Low Ohmic EB Welded SMD Precision Resistor

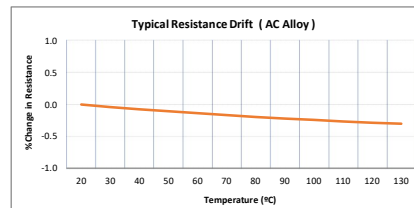
Power Derating Curve at 70°C
(SBC-CM4-R0005)



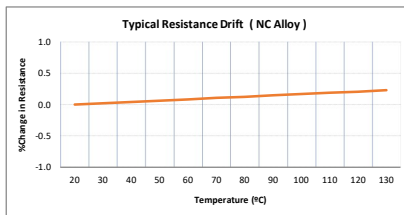
Resistance Change vs Temperature
(Resistance Alloy)



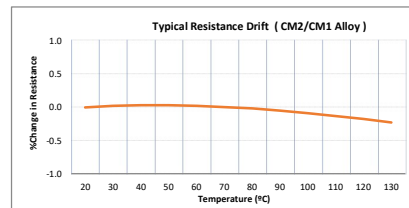
Resistance Change vs Temperature
(Resistance Alloy)



Resistance Change vs Temperature
(Resistance Alloy)



Resistance Change vs Temperature
(Resistance Alloy)



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%

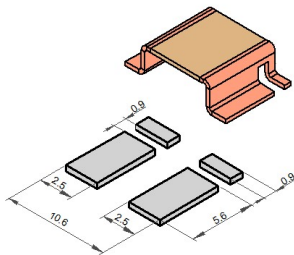


SBC - 4026 Series

Low Ohmic EB Welded SMD Precision Resistor

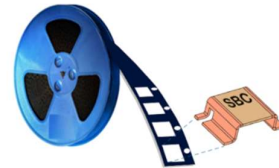
Type	Resistance Value (mΩ)	Material	t1+/-0.1 (mm)	t2+/-0.1 (mm)	TCR (ppm/°C)	P _{70°C} (W) At Ambient	R _{thi} (°C/W)	Wt. (nom. gm)		
SBC-CM4-R0002	0.2	Copper Manganese Tin Alloy	1.42	0.40	< 25	12	4	0.60		
SBC-CM1-R0003	0.3	Copper Manganese Alloy	1.06	0.40	< 50	11	5	0.49		
SBC-CM4-R0003	0.3	Copper Manganese Tin Alloy	0.80	0.40	< 25	11	5	0.42		
SBC-CM2-R0005	0.5	Copper Manganese Alloy	0.65	0.40	< 50	9	8	0.37		
SBC-CM4-R0005	0.5	Copper Manganese Tin Alloy	0.45	0.40	< 25	9	8	0.32		
SBC-CM2-R0007	0.7	Copper Manganese Alloy	0.47	0.40	< 25	8	12	0.32		
SBC-CM2-R001	1.0	Copper Manganese Alloy	0.35	0.40	< 50	7	14	0.29		
SBC-NC-R001	1.0	NiCrAlloy	1.10	0.66	< 50	8	9	0.63		
SBC-AC-R002	SBC-NC-R002	2.0	FeCrAl Alloy	NiCrAlloy	0.50	0.40	< 50	7	14	0.33
SBC-AC-R003	SBC-NC-R003	3.0	FeCrAl Alloy	NiCr Alloy	0.34	0.40	< 50	5	21	0.29
SBC-AC-R004	SBC-NC-R004	4.0	FeCrAl Alloy	NiCr Alloy	0.34	0.40	< 50	4	28	0.29
SBC-AC-R005	SBC-NC-R005	5.0	FeCrAl Alloy	NiCr Alloy	0.34	0.40	< 50	3	33	0.29

Table 2



Solder Pad Layout

Reel Information	
Reference Standard	DIN EN 60286-3
Width of Reel	24 mm
Reel Diameter (OD)	330mm (13")
Number of parts per Reel	1500 pcs *



*For SBC-CM4-R0002 number of parts per reel 1200Pcs

Note:

- 1) Recommended Solder Reflow Profile:

<http://www.shivalikbimetals.com/SRP-01.pdf>

- 2) FeCrAl is ferro -magnetic and is not recommended for AC applications. For AC applications use NiCr(NC) variant .



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Example of Ordering Code

