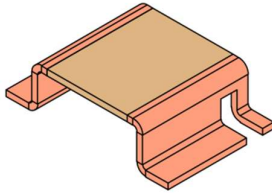




SBC - 4026Series

Low Ohmic EB Welded SMD Precision Resistor



Features

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

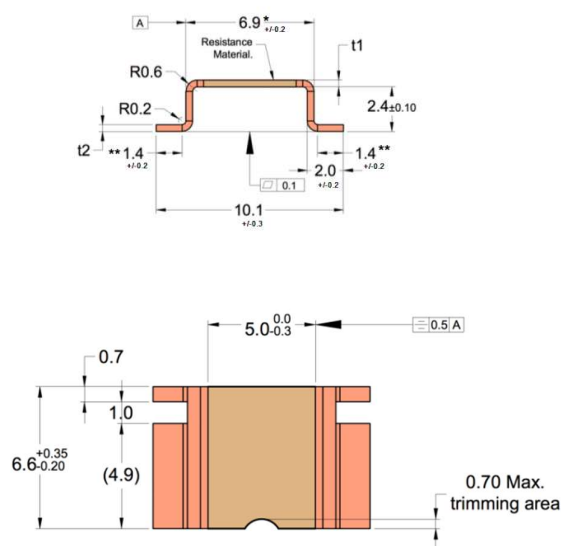
Applications

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

Technical Data

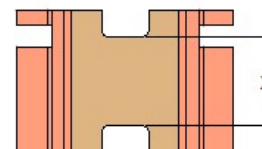
Resistance Values	0.2, 0.3, 0.5, 0.7, 1, 2, 3, 4, 5	(mΩ)
Tolerance	1, 2, 5	(%)
TCR - Temperature Coefficient (Resistive Alloy)	<+20 (Copper Manganese Alloys), < -35 (Aluchrom Alloy) <+/-20 (Nickel Chromium Alloy)	(ppm/K)
Applicable Temperature Range	-55 to +170	°C
Load Capacity	See Table 2	-
Inductance	< 3	nH
Stability Deviation	< 0.5 after 2000 Hours, $T_t = 100^\circ\text{C}$	%
* T_t = Terminal Temperature	< 1.0 after 2000 Hours, $T_t = 130^\circ\text{C}$	%

Table 1



* 7.42 ±0.2 for SBC-NC-R001
 ** 1.30 ±0.2 for SBC-NC-R001

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



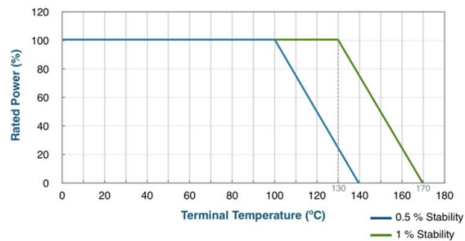
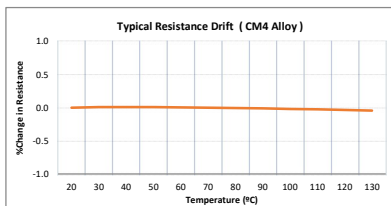
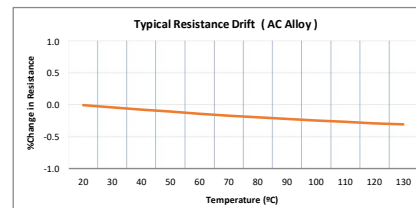
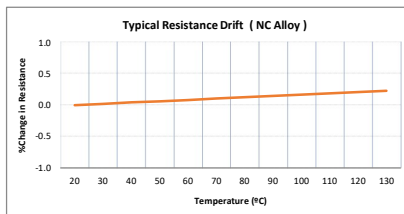
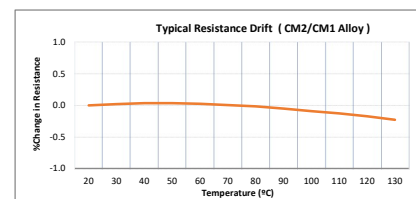
For 4.0 & 5.0m-ohm

Dimensions are in mm, See table 2 for thickness.



SBC - 4026 Series

Low Ohmic EB Welded SMD Precision Resistor

Power Derating Curve**Resistance Change vs Temperature****Resistance Change vs Temperature****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	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%

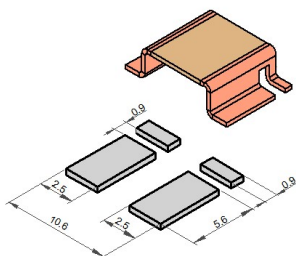


SBC - 4026 Series

Low Ohmic EB Welded SMD Precision Resistor

Type		Resistance Value (mΩ)	Material	t1+/-0.1 mm	t2+/-0.1 mm	TCR (ppm)	P70°C (W) At Ambient	P100°C (W) At Ambient	
SBC-CM4-R0002		0.2	Copper Manganese Tin Alloy	1.42	0.40	< 50	12	5	
SBC-CM1-R0003		0.3	Copper Manganese Alloy	1.06	0.40	< 50	10	5	
SBC-CM4-R0003		0.3	Copper Manganese Tin Alloy	0.80	0.40	< 25	10	5	
SBC-CM2-R0005		0.5	Copper Manganese Alloy	0.65	0.40	< 50	9	5	
SBC-CM4-R0005		0.5	Copper Manganese Tin Alloy	0.45	0.40	< 25	9	5	
SBC-CM2-R0007		0.7	Copper Manganese Alloy	0.47	0.40	< 50	8	5	
SBC-CM2-R001		1.0	Copper Manganese Alloy	0.35	0.40	< 50	7	5	
SBC-NC-R001		1.0	NiCrAlloy	1.10	0.66	< 50	8	5	
SBC-AC-R002	SBC-NC-R002	2.0	Aluchrom Alloy	NiCrAlloy	0.50	0.40	< 50	7	4
SBC-AC-R003	SBC-NC-R003	3.0	Aluchrom Alloy	NiCr Alloy	0.34	0.40	< 50	5	3
SBC-AC-R004	SBC-NC-R004	4.0	Aluchrom Alloy	NiCr Alloy	0.34	0.40	< 50	4	2
SBC-AC-R005	SBC-NC-R005	5.0	Aluchrom Alloy	NiCr Alloy	0.34	0.40	< 50	3	2

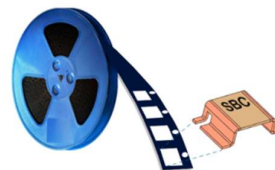
Table 2



Solder Pad Layout

Reel Information

Reference Standard	DIN EN 60286-3
Width of Reel	24 mm
Number of parts per Reel	1400 pcs



Note:

- 1) Recommended Solder Reflow Profile:

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

- 2) Aluchrom 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

