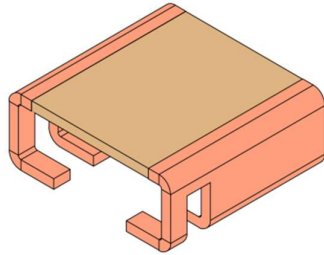




# SBG – 2726 Series

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

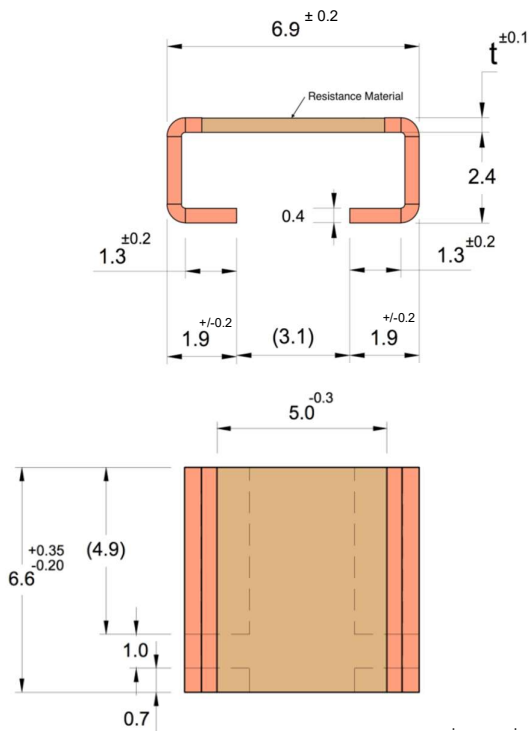
### Applications

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

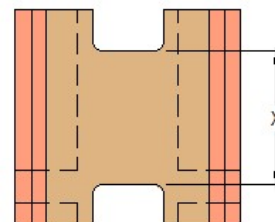


Technical Data										
Resistance Values	0.2	0.3	0.5	0.7	1	2	3	4	5	mΩ
Tolerance	1, 2, 5									(%)
TCR - Temperature Coefficient (Resistive Alloy)	< ±20 (Copper Manganese Alloys) < -35 (Aluchrom Alloy) <± 20 (Nickel Chromium Alloy)									(ppm/K)
Applicable Temperature Range	-55 to +170									°C
Load Capacity	See Table 2									-
Inductance	< 3									nH
Stability Deviation	< 0.5 after 2000 Hours, T <sub>t</sub> ' = 100°C									%
* T <sub>t</sub> = Terminal Temperature	< 1.0 after 2000 Hours, T <sub>t</sub> ' = 130°C									%

Table 1



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



For 4.0 & 5.0m-ohm

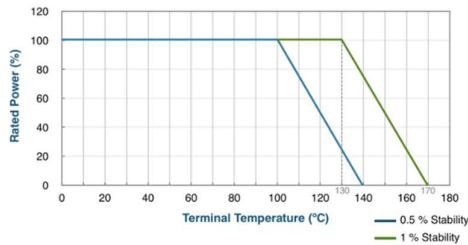
Dimensions are in mm, See table 2 for thickness.



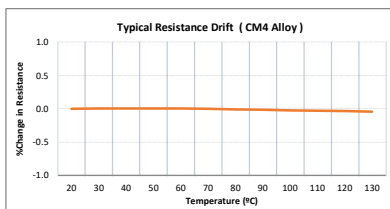
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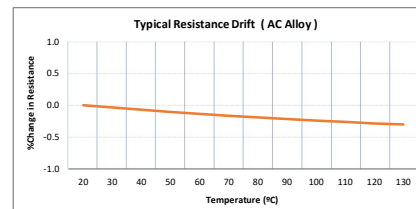
## Power Derating Curve



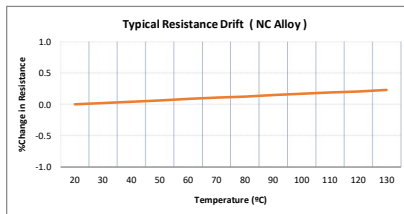
## Resistance Change vs Temperature



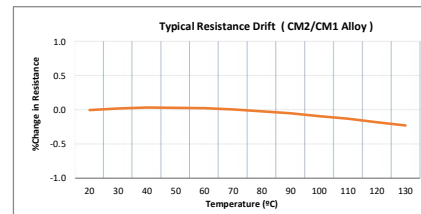
## Resistance Change vs Temperature



## 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	1000 hrs. @ T=170°C.Unpowered.	$\Delta R$ +/-1%
Temperature Cycling	JESD22 Method JA-104	-55°C to 150°C, 1000Cycles, 30 minutes at each extreme	$\Delta R$ +/-0.5%
Biased Humidity	MIL-STD-202 Method 103	85°C & 85RH with 10% operating power, 1000 hrs	$\Delta R$ +/-0.5%
Operational Life	MIL-STD-202 Method 108	125°C at rated power,1000 hrs.	$\Delta R$ +/-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	$\Delta R$ +/-0.2%
Vibration	MIL-STD-202 Method 204	5g for 20 minutes, 12 cycles each of 3orientations.10-2000Hz	$\Delta R$ +/-0.2%
Resistance to Soldering Heat	MIL-STD-202 Method 210	Solder Temp. 260°C, Time 10 seconds	$\Delta R$ +/-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	$\Delta R$ +/-1%
Low Temperature Storage	--	-65°C for 24 hrs.	$\Delta R$ +/-0.2%

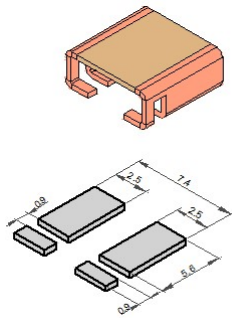


## SBG - 2726Series

Low Ohmic EB Welded SMD Precision Resistor

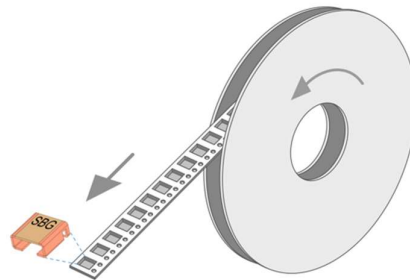
Type	Resistance Value (mΩ)	Material	t +/-0.1 mm	TCR (ppm)	P <sub>70°C</sub> (W)	P <sub>100°C</sub> (W)	
SBG-CM4-R0002	0.2	Copper Manganese Tin Alloy	1.42	< 50	12	5	
SBG-CM1-R0003	0.3	Copper Manganese Alloy	1.06	< 50	10	5	
SBG-CM4-R0003	0.3	Copper Manganese Tin Alloy	0.80	< 25	10	5	
SBG-CM2-R0005	0.5	Copper Manganese Alloy	0.65	< 50	9	5	
SBG-CM4-R0005	0.5	Copper Manganese Tin Alloy	0.45	< 25	9	5	
SBG-CM2-R0007	0.7	Copper Manganese Alloy	0.47	< 50	8	5	
SBG-CM2-R001	1.0	Copper Manganese Alloy	0.35	< 50	7	5	
SBG-AC-R002	SBG-NC-R002	Aluchrom Alloy	NiCr Alloy	0.50	< 50	7	4
SBG-AC-R003	SBG-NC-R003	Aluchrom Alloy	NiCr Alloy	0.34	< 50	5	3
SBG-AC-R004	SBG-NC-R004	Aluchrom Alloy	NiCr Alloy	0.34	< 50	4	2
SBG-AC-R005	SBG-NC-R005	Aluchrom Alloy	NiCr Alloy	0.34	< 50	3	2

Table 2



Solder Pad Layout

Reel Information	
Reference Standard	DIN EN 60286-3
Width of Reel	16 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

### SBG-CM2-R001-1-TR

