	<b>Low Resistance Current Sensor</b> <b>CSLR Series</b>	Document No	CSLR-107CS003
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**1. Scope :**

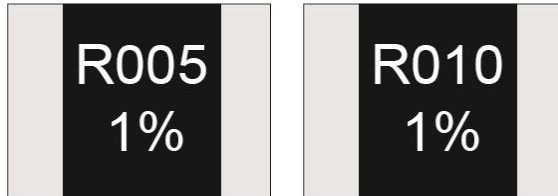
This specification applies to the products of CSLR series manufactured by HEYEH ELECTRONICS INDUSTRY CO., LTD.

**2. Type Designation :**

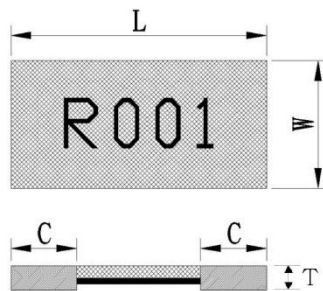
<b>CSLR</b>	<b>45</b>	<b>E</b>	<b>E</b>	<b>E</b>	<b>A</b>	<b>R002</b>
Item	Series	Resistance Tolerance	Packaging Material	Rated Power	Material	Resistance
45:4527		F:±1%	P:Paper E: Emboss	E=5W G=7W J=10W	M=CuMn N=CuMnNi S=CuMnSn A=NiCrAlSi	e.g: R002=2mΩ R005=5mΩ

**3. Construction and Dimension :**

**3.1 Construction:**




**3.2 Dimension:**



UNIT : mm

Style	mm	inch	L	W	C	T	Material
CSLR45	11668	4527	116±0.25	6.8±0.25	2.5±0.25	0.6 max	Strip : NiAlloy Over Coating : epoxy

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#### 4. Features :


Type	CSLR45
Size (mm)	11668
(inch)	4527
Rated Power	5 ~ 10W
Resistance Range	2 mΩ ~ 20mΩ
Operating Temperature Range	-55℃ to +170℃
Temperature Coefficient	±100* ppm/℃
Component temperature coefficient (including terminal) (1) ppm/℃ TCR measured from -55 °C to 170 °C	± 75 for 7 mΩ to 0.5 Ω
	± 110 for 5 mΩ to 6.9 mΩ
	± 150 for 3 mΩ to 4.9 mΩ
	± 275 for 1 mΩ to 2.9 mΩ
	± 400 for 0.5 mΩ to 0.99 mΩ
Element TCR (2) ppm/℃	< 20
Resistance Tolerance	F:±1%

\*Resistance not included in the table could be available, please contact the factory.

\*Rated Power in the table indicates a normal rating.

#### 5. Tests and Requirements :

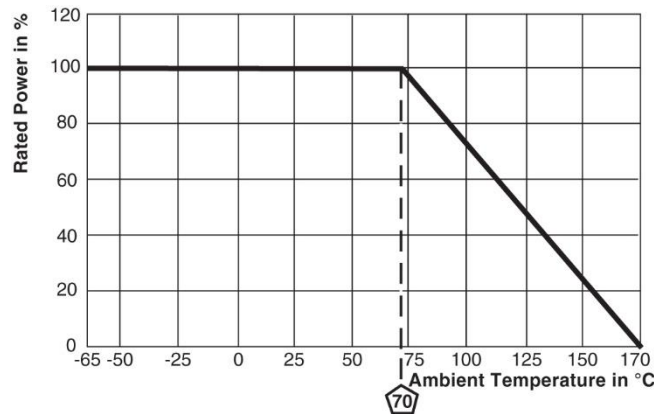
Test	Procedure	Test Limits
Temperature Coefficient	+25℃ ~ +125℃	Refer 4.0
Load life / Endurance	1000 h at 70 °C, 1.5 h "ON", 0.5 h "OFF", still air required	< ±1%
Short Time Overload	4 X rated power for 5sec	< ±0.5% No visible damage
Moisture no Load	85℃, 85%RH, 1000hrs	< ±1%
Thermal shock	-55 °C to +150 °C, 1000 cycles, 15 min at each extreme	<±0.5%
Mechanical shock	100 g' s for 6 ms, 5 pulses	<±0.5%
Temperature cycle	-55℃ & +155℃, 300cycle, 15min per extreme condition	< ±1%

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Resistance to Soldering Heat	+260 °C solder, 10 s to 12 s dwell, 25 mm/s emergence	< ±0.5% No visible damage
Solderability	245±3°C, Dipping time: 3±0.5seconds	Well tinned (At least 95% covered) No visible damage
High Temperature Exposure / Endurance at upper category temperature	1000 h at +170 °C, unpowered	< ±1%
Low Temperature Storage / Operation	-55°C, 1000hrs, -65 °C for 24 h	<±0.5%
Board Flex / Substrate Bending	2mm bending Bending time: 60±1 seconds	< ±1%
Bias humidity	+85 °C, 85 % RH, 10 % bias, 1000 h	<±0.5%
Vibration	Frequency varied 10 Hz to 2000 Hz in 1 min, 3 directions, 12 h	<±0.5%
Moisture resistance	MIL-STD-202, method 106, 0 % power, 7b not required	<±0.5%
Insulation Resistance	100V DC for 1 minute	>100 MΩ

\*The CSLR2818 is rated at 7W with maximum surface temperature of 180 °C based on 70 °C ambient temperature.

### 5.1 Rated Power - Derating Curve



### 5.2 Rated Voltage, Rated Current

Rated Voltage and current are determined from the following :

$$E = \sqrt{P \times R}$$

$$I = \sqrt{P / R}$$


E:Rated Voltage (V)

I :Rated Current(A)

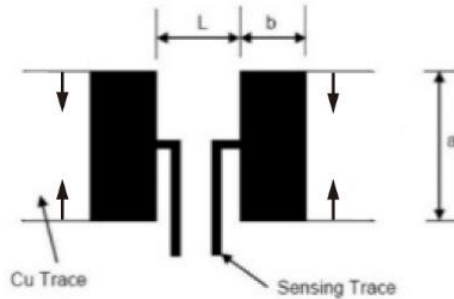
P:Rated Power (W)

R:Resistance (Ω)

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### 6. Recommended Solder Pad Dimension



Type	a	b	L
CSLR45	6.80	2.50	6.60

Unit: mm

### 7. Number of Package :

1000 Pieces / reel

### 8. Label :



**CSLR1206 +1% 2W MR001 4000 pcs**

Series    Tolerance    Rated Power    Material    Resistance    Qty

禾野電子工業有限公司  
Heyeh Electronics Industry Co., Ltd.



訂單號碼: A 107080 1-0 1  
 客戶名稱: XXX有限公司  
 品名規格: CSLR 1206 ± 1% 2W 1mΩ  
 料號: CSLR 12FEB MR00 1  
 批號: HY 18K30- 120 10  
 日期: 20 18/ 11/30  
 數量: 4000 PCS




### 9. Storage Conditions:

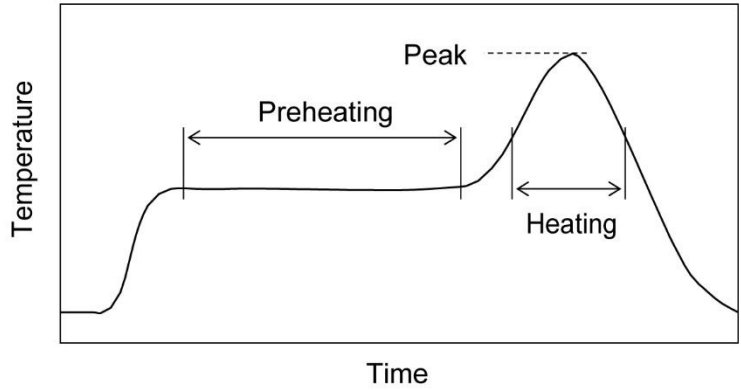
Temperature: 5°C~35°C, Humidity:40%~75%

### 10. Shelf Life:

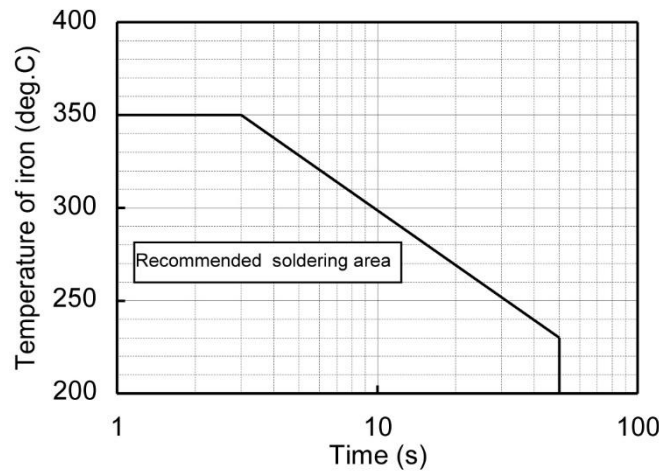
2 years from manufacturing date.

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**11. Recommend IR – Reflow profile :** (solder : Sn-3.0Ag-0.5Cu)



**Peak :Max. 260℃ ,Max. 10 sec**  
**Preheating :150 to 180 ℃, 60~120 sec**  
**Heating :Above 230℃, 30~40 sec**



**SolderIron : 350±10℃ , 3+1/-0 sec**

**12. Manufacturing Country & City:**

HEYEH ELECTRONICS INDUSTRY CO., LTD. ( Taoyuan City, Taiwan)

Tel : (+886)3-3811061 Fax : (+886)3-3811060