	<b>Low Resistance Current Sensor</b> <b>CSLR Series</b>	Document No	CSLR-107CS001
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### 1. Scope :

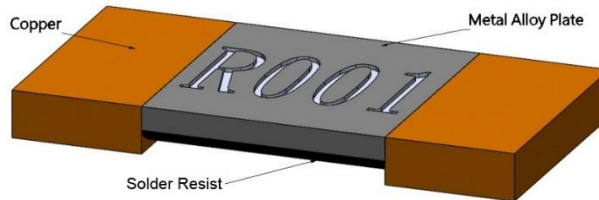
This specification applies to the products of CSLR series manufactured by HEYEH ELECTRONICS INDUSTRY CO., LTD.

### 2. Type Designation :

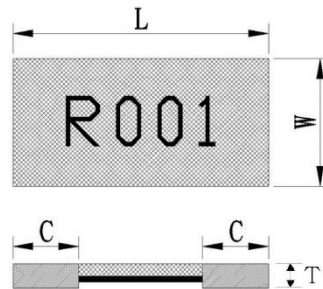
<b>CSLR</b>	<b>12</b>	<b>E</b>	<b>E</b>	<b>B</b>	<b>M</b>	<b>R002</b>
Item	Series	Resistance Tolerance	Packaging Material	Rated Power	Material	Resistance
08:0805		F:±1%	P:Paper	A=1W	M=CuMn	e.g:
12:1206		G:±2%	E: Emboss	B=2W	N=CuMnNi	R0005=0.5mΩ
25:2512		J:±5%		C=3W	S=CuMnSn A=NiCrAlSi	R001=1mΩ R010=10mΩ 0L5=0.5mΩ 1L0=1mΩ

### 3. Construction and Dimension :

#### 3.1 Construction:




#### 3.2 Dimension:



UNIT : mm

Style	mm	inch	L	W	C	T	Material
CSLR08	2012	0805	2.10±0.20	1.30±0.20	0.30±0.20	0.58±0.25	Strip : Ni Alloy
CSLR12	3216	1206	3.10±0.20	1.50±0.20	0.70±0.25	0.58±0.25	Over Coating :
CSLR25	6432	2512	6.35±0.25	3.10±0.25	2.00±0.25	0.60±0.25	epoxy

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#### 4. Features :


Type	CSLR08	CSLR12	CSLR25
Size (mm)	2012	3216	6432
(inch)	0805	1206	2512
Rated Power	1 ~1.5 W	2 W	3 W
Resistance Range	1 ~ 5 mΩ	0.5 ~ 5 mΩ	0.5 ~ 10 mΩ
Operating Temperature Range	-55°C to +155°C		
Temperature Coefficient	±100* ppm/°C		
Component temperature coefficient (including terminal) (1) ppm/°C 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		
Element TCR (2) ppm/°C	< 20		
Resistance Tolerance	F:±1% G:±2% J:±5%		

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

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

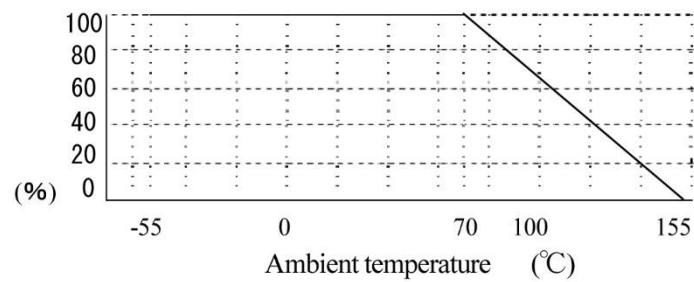
#### 5. Tests and Requirements :

Test	Procedure	Test Limits
Temperature Coefficient	+25°C ~ +125°C	Refer 4.0
Life / Endurance	1000 hours at 70±5°C, 1.5 hours ON, 0.5 hour OFF, still air required	< ±1%
Short Time Overload	2.5 X rated power for 5sec	< ±0.5% No visible damage
Moisture no Load	85°C, 85%RH, 1000hrs	< ±1%
Temperature cycle	-55°C & +155°C, 300cycle, 15min per extreme condition	< ±1%
Resistance to Soldering Heat	260±5°C for 10±1 seconds immersion time	< ±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	155±5°C, 1000hrs, unpowered	< ±1%

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Low Temperature Storage	-55℃, 1000hrs	<±0.5%
Board Flex / Substrate Bending	2mm bending Bending time: 60±1 seconds	< ±1%
Insulation Resistance	100V DC for 1 minute	>100 MΩ

### 5.1 Rated Power - Derating Curve



### 5.2 Rated Voltage, Rated Current

Rated Voltage and current are determined from the following :

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

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

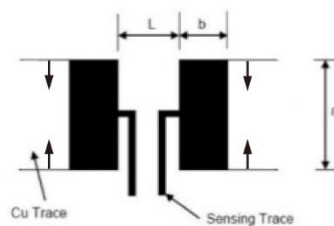
E:Rated Voltage (V)

I :Rated Current(A)

P:Rated Power (W)


R:Resistance (Ω)

### 6. Recommended Solder Pad Dimension



Type	a	b	L
CSLR08	1.30	0.30	1.50
CSLR12	1.50	0.70	1.70
CSLR25	3.10	2.00	2.35

Unit: mm

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### 7. Number of Package :

4000 pcs / reel or 5000 pcs / reel

CSLR08: 7+7=14 reel / box (Package Size: 205 x 205 x 215 cm at about 2.0 kg)

CSLR12: 7+7=14 reel / box (Package Size: 205 x 205 x 215 cm at about 2.4 kg)

CSLR25: 5+5=10 reel / box (Package Size: 205 x 205 x 215 cm at about 4.8 kg)

### 8. Label :

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

  
www.heyeh.com.tw

訂單號碼: A 107080 1-0 1  
 客戶名稱: XXX有限公司  
 品名規格: CSLR1206 ± 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

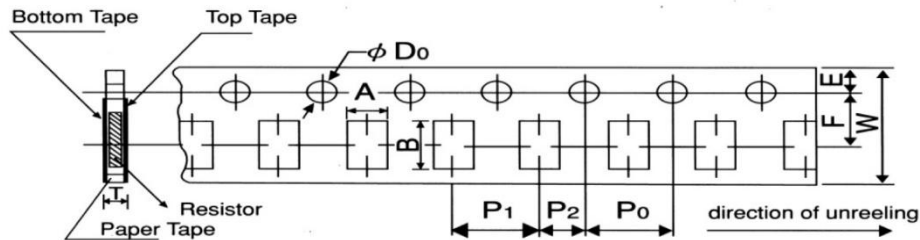


**CSLR1206 ±1% 2W MR001 4000 pcs**

Series    Tolerance    Rated Power    Material    Resistance    Qty

### 9. Taped and Reel Package


#### 9.1 Carrier Tape Dimension



Type	A	B	W	F	E
CSLR08	1.42±0.10	2.25±0.10	8.00±0.10	3.50±0.05	1.75±0.10
CSLR12	1.85±0.10	3.50±0.10	8.00±0.10	3.50±0.05	1.75±0.10
CSLR25	3.50±0.10	6.80±0.10	12.00±0.10	5.50±0.05	1.75±0.10

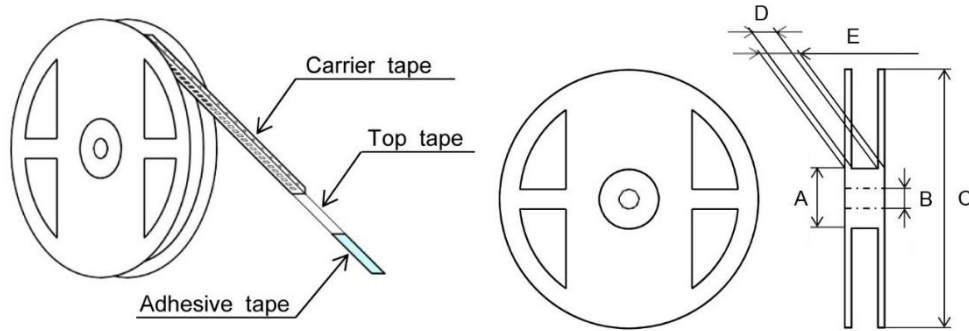
Type	P1	P2	P0	φD0	T
CSLR08,12,25	4.00±0.10	2.00±0.05	4.00±0.10	+0.10 Φ 1.50 -0.00	0.23±0.05 0.60±0.25

Unit: mm

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## 9.2 Physical Dimensions

Structure and dimensions of reel shall be as shown in the figure below.

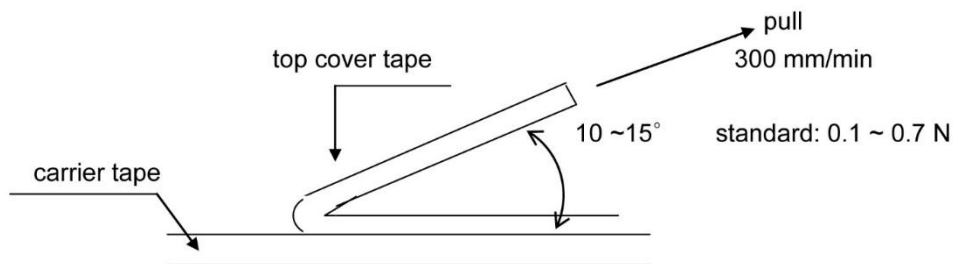


Type	A	B	C	D	E
CSLR08,12	+0.5 Φ60.0 -0.0	Φ13.0±0.2	Φ178.0±1.0	9.0±0.5	12.0±0.5
CSLR25	Φ60.2±0.5	Φ13.0±0.5	Φ178.0±1.0	13.2±1.5	16.0±0.5

Unit: mm

## 9.3 Peeling Strength of Top Cover Tape

Peel – off force of paper and blister tape is in accordance with “JIS ” that is , 0.1 to 0.7 N at a peel-off speed of 300 mm / minute.




## 10. Storage Conditions:

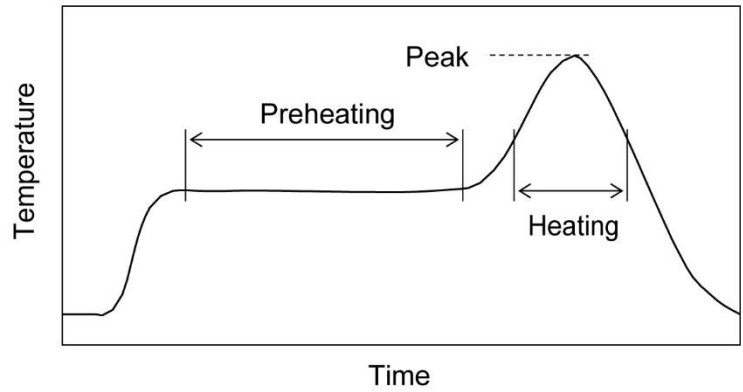
Temperature: 5°C~35°C, Humidity: 40%~75%

## 11. Shelf Life:

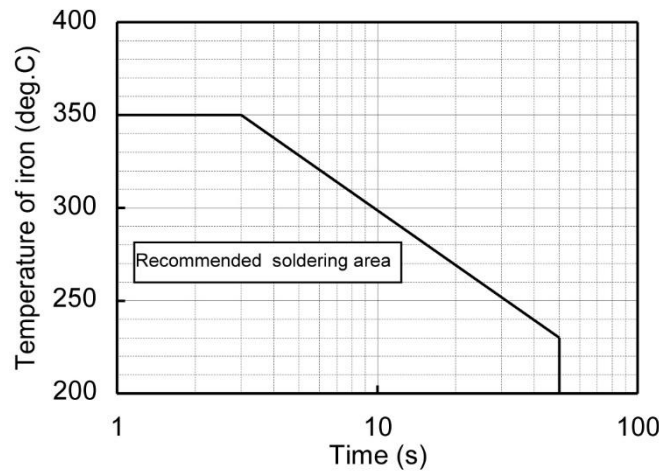
2 years from manufacturing date.

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



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



**SolderIron : 350±10°C , 3+1/-0 sec**

**13. Manufacturing Country & City:**

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