CLOUDUPPER

东莞市亿彩电子科技有限公司

产品规格书

SPECIFICATION

客户名称customer name：	
客户编码CustomerNo.	
产品类型ProductName ：	贴片发射管
产品型号 PartNo.：	YC-3528IRC/D14A80-A
版本 Version：	V1.2
发布日期 Date:	2018-3-25

客户承认 APPROVED BY CUSTOMER			亿彩承认 APPROVED BY CLOUDUPPER		
确认意见 COMMENTS	审核 CHECKED BY	批准 APPROVED BY	编写 PREPARED BY	审核 CHECKED BY	批准 APPROVED BY
			丁煜城	钟永成	田勇
判定: Judge outcome:			判定: Judge outcome:		OK



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SMD Reflector Infrared LED



Features

- Compact emitter size
- High luminous efficiency
- Luminous angle: 80°
- Suitable for vapor-phase reflow, Infrared reflow and wave solder processes
- Computable with automatic placement equipment
- Available on tape and reel
- Electrically neutral thermal path
- RoHS-compliant

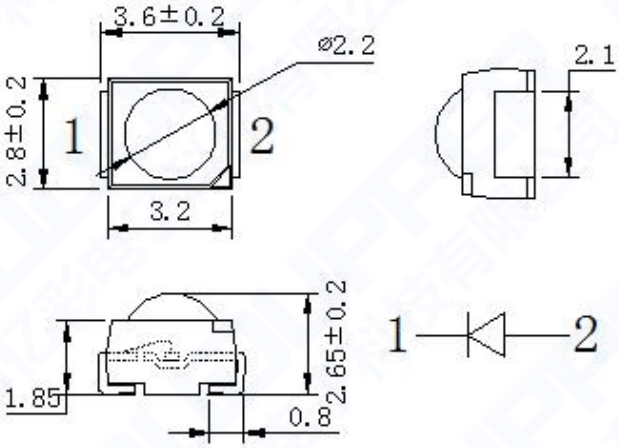
Applications

- Infrared illumination for cameras
- Surveillance system
- Machine vision system
- CCTV
- Wireless communication

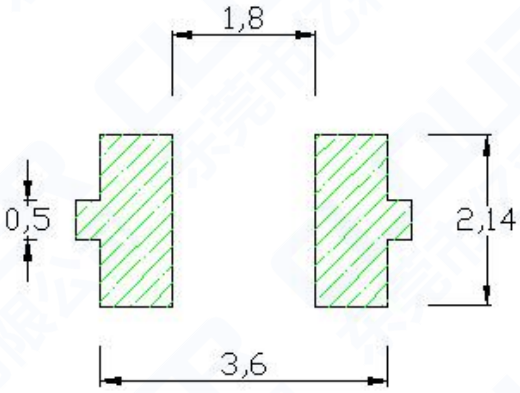
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Package Dimension

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Recommended pad



Notes：1、All dimensions are in millimeters.

2、Tolerance is ±0.25mm unless otherwise noted.

Device Selection Guide

Chip Materials	Lens Color
GaAlAs	Water clear

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Absolute Maximum Ratings at Ta=25℃

Parameter	Symbol	MAX	Unit
Power Dissipation at(or below) 25℃ free air temperature	P_d	180	mW
Peak Forward Current (1/10 Duty Cycle,0.1ms Pulse Width)	I_{FP}	1.0	A
Continuous Forward Current	I_F	100	mA
Reverse Voltage	V_R	5	V
Operating Temperature Range	T_{opr}	-40℃ to +85℃	
Storage Temperature Range	T_{stg}	-40℃ to +100℃	
Reflow soldering temperature Max	T_{sol}	260℃ for ≤10 seconds	

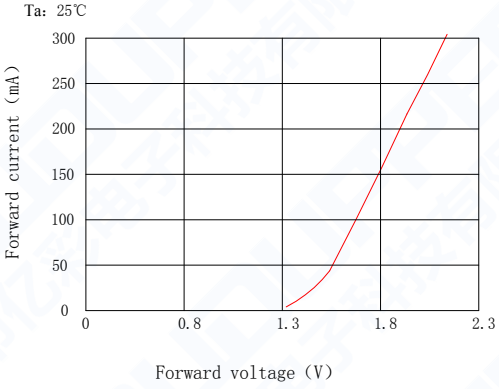
Electrical Optical Characteristics at Ta=25℃

Parameter	Symbol	Min	Typ	Max	Uni	Test Condition
Radiant Intensity	Ee	16	24	-----	Mw/sr	I_F=80mA
Viewing Angle	$2\theta_{1/2}$	----	75	-----	Deg	
Peak Emission Wavelength	λp	840	855	870	nm	I_F=80mA
Spectral Line Half-Width	Δλ	----	40	----	nm	I_F=80mA
Forward Voltage	V_F	1.4	1.6	1.8	V	I_F=80mA
Reverse Current	I_R	----	----	10	μA	V_R=5V

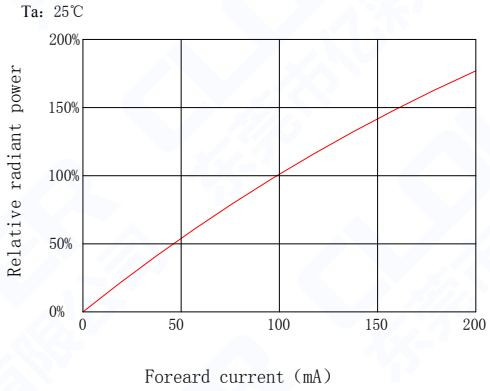
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Typical Electro-Optical Characteristics Curve

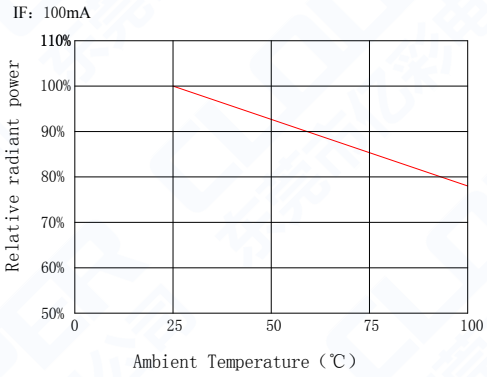
Forward current Vs.
Forward voltage



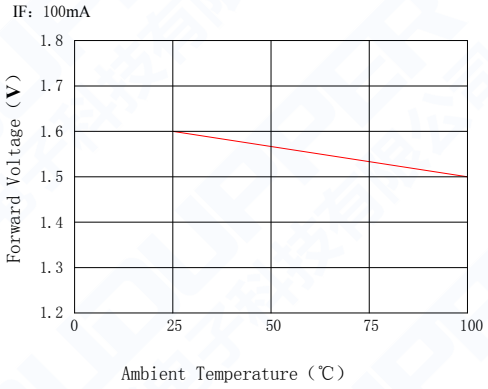
Relative Radiant power
vs. Forward Current



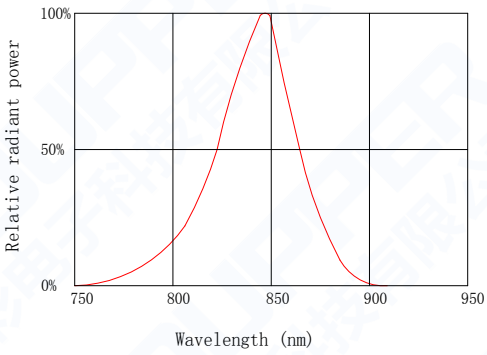
Relative Radiant power
vs. Ambient Temperature



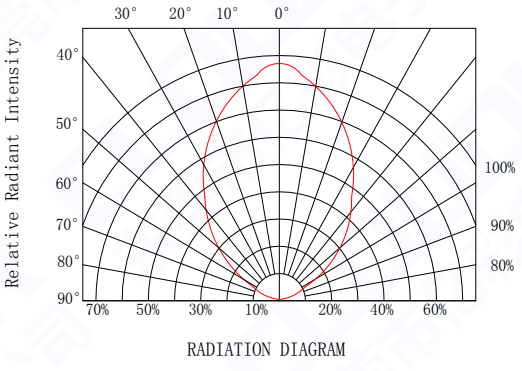
Forward Voltage vs.
Ambient Temperature



Spectral Distribution



Relative Radiant Intensity
vs. Angular Displacement

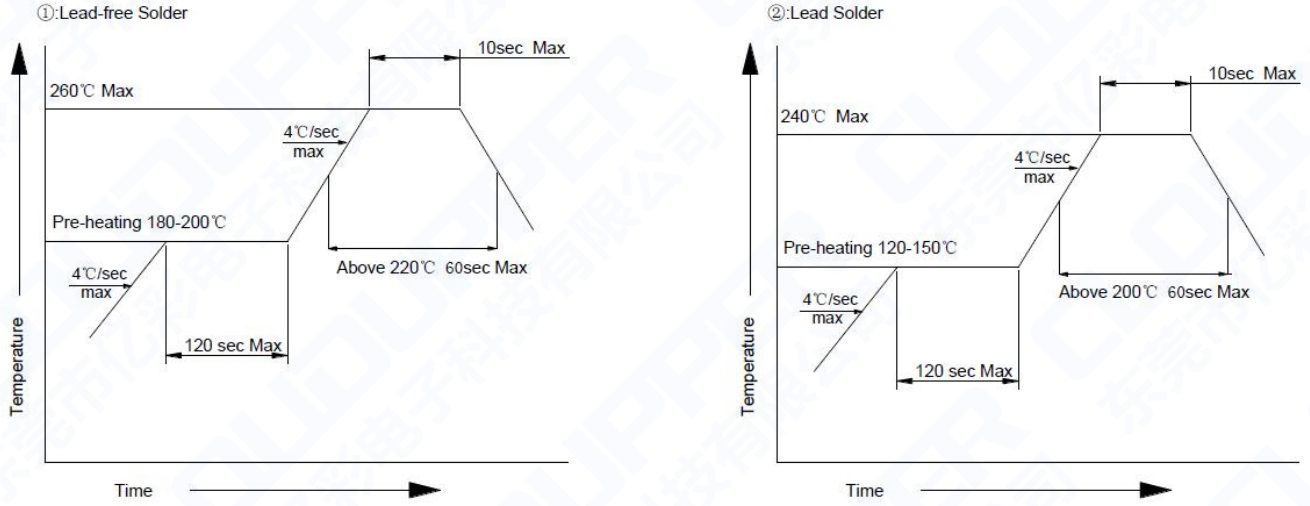


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Reflow Soldering Characteristics

For Reflow Process

1. 3528 series are suitable for SMT processes.
2. Curing of glue in oven must be according to standard operation flow processes.



3. Although the recommended soldering conditions are specified in the table above, a lower soldering temperature is desirable for the LEDs;
4. The cooling of the LEDs from the peak temperature should not too fast;
5. Reflow soldering should not be done more than twice.
6. In soldering process, stress on the LEDs during heating should be avoided.
7. 350℃(max), 3sec(max) for manual soldering (just one time only);

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Reliability test items and test conditions

The reliability of products shall be satisfied with items listed below.
Confidence level：90%
LTPD (group of permitted defect rate): 10%

No.	Item	Test Conditions	Test Hours/ Cycles	Sample Sizes	Ac/Re	Reference Standard
1	REFLOW Soldering	Temp. : 225℃±5℃	5secs	22PCS	0/1	JEITA ED-4701 300 302
2	Temperature Cycle	H : +100℃ 15min ～5 min L : -40℃ 15min	100Cycles	22PCS	0/1	JEITA ED-4701 100 305
3	Thermal Shock	H : +100℃ 5min ～ 10 sec L : -40℃ 5min	100Cycles	22PCS	0/1	MIL-STD-202G
4	High Temperature Storage	Temp. : 100℃	1000Hrs	22PCS	0/1	JEITA ED-4701 200 201
5	Low Temperature Storage	Temp. : -40℃	1000Hrs	22PCS	0/1	JEITA ED-4701 200 202
6	DC Operating Life	IF = 100 mA	1000Hrs	22PCS	0/1	Tested with CGX standard
7	High Temperature/ High Humidity	85℃/RH85%	1000Hrs	22PCS	0/1	JEITA ED-4701 100 103

Notes: Failure Judgement Criteria: IR≥U×2 Ie≤L×0.8 VF≥U×1.2

U: Upper Specification Limit L: Lower Specification Limit

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Handling Precautions

Compare to epoxy encapsulant that is hard and brittle, As a result, special handling precautions need to be observed during assembly using epoxy encapsulated LED products. Failure to comply might lead to damage and premature failure of the LED.

1. Handle the component along the side surfaces by using forceps or appropriate tools.



2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.





3. Do not stack together assembled PCBs containing exposed LEDs. Impact may scratch the silicone lens or damage the internal circuitry.



4.1. The inner diameter of the SMD pickup nozzle should not exceed the size of the LED to prevent air leaks.

4.2. A pliable material is suggested for the nozzle tip to avoid scratching or damaging the LED surface during pickup.

4.3. The dimensions of the component must be accurately programmed in the pick-and-place machine to insure precise pickup and avoid damage during production.



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