



ZIR-3528C-18-Z2

Technical Data Sheet

Top Infrared LED

Descriptions

ZIR-3528C-18-Z2 is an infrared emitting diode in miniature SMD package which is molded in a water clear plastic with flat top view lens.

The device is spectrally matched with silicon photodiode and phototransistor.

Features

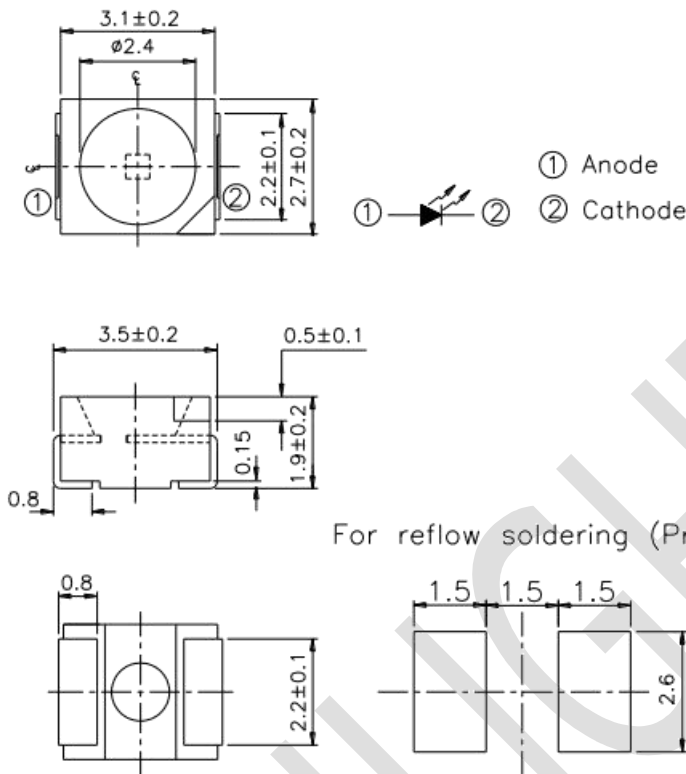
- Compatible with infrared and vapor phase reflow solder process.
- Low forward voltage.
- View angle 120°
- Pb free
- The product itself will remain within RoHS compliant version.

Applications

- Sensor
- Optoelectronic switch
- Camera
- VCR
- Video
- Smoke detector



Package Dimensions



- Notes: 1. All dimensions are in millimeters
2. Tolerances unless dimensions ± 0.1 mm

Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Continuous Forward Current	I_F	65	mA
Peak Forward Current *1	I_{FP}	1	A
Surge Forward Current *2	I_{FS}	2	A
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-40~+85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40~+100	$^\circ\text{C}$
Soldering Temperature *3	T_{sol}	260	$^\circ\text{C}$
Power Dissipation at(or below) 25 $^\circ\text{C}$ Free Air Temperature	P_d	130	mW
Temperature resistance junction ambient	R_{thj-a}	400	$^\circ\text{C}/\text{W}$

- Notes: *1: I_{FP} Conditions--Pulse Width $\leq 100\mu\text{s}$ and Duty $\leq 1\%$.
*2: I_{FS} Conditions--Pulse Width $\leq 100\mu\text{s}$
*3: Soldering time ≤ 5 seconds.



Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Radiant Intensity	I _E	I _F =20mA	1.0	2.0	3.5	mW /sr
		I _F =100mA Pulse Width ≤ 100μ s ,Duty ≤ 1%	4.0	8.0	--	
Total Radiated Power	P _O	I _F =100mA	--	20	--	mW
Peak Wavelength	λ _p	I _F =20mA	--	940	--	nm
Spectral Bandwidth	Δλ	I _F =20mA	--	50	--	nm
Forward Voltage	V _F	I _F =20mA	--	1.20	1.60	V
		I _F =100mA Pulse Width ≤ 100μ s ,Duty ≤ 1%	--	1.45	1.80	
Reverse Current	I _R	V _R =5V	--	--	10	μ A
View Angle	2θ 1/2	I _F =20mA	--	120	--	deg
Active chip area	A	----	0.122			mm ²
Dimensions of the active chip area	L×W	----	0.350*0.350			mm×mm

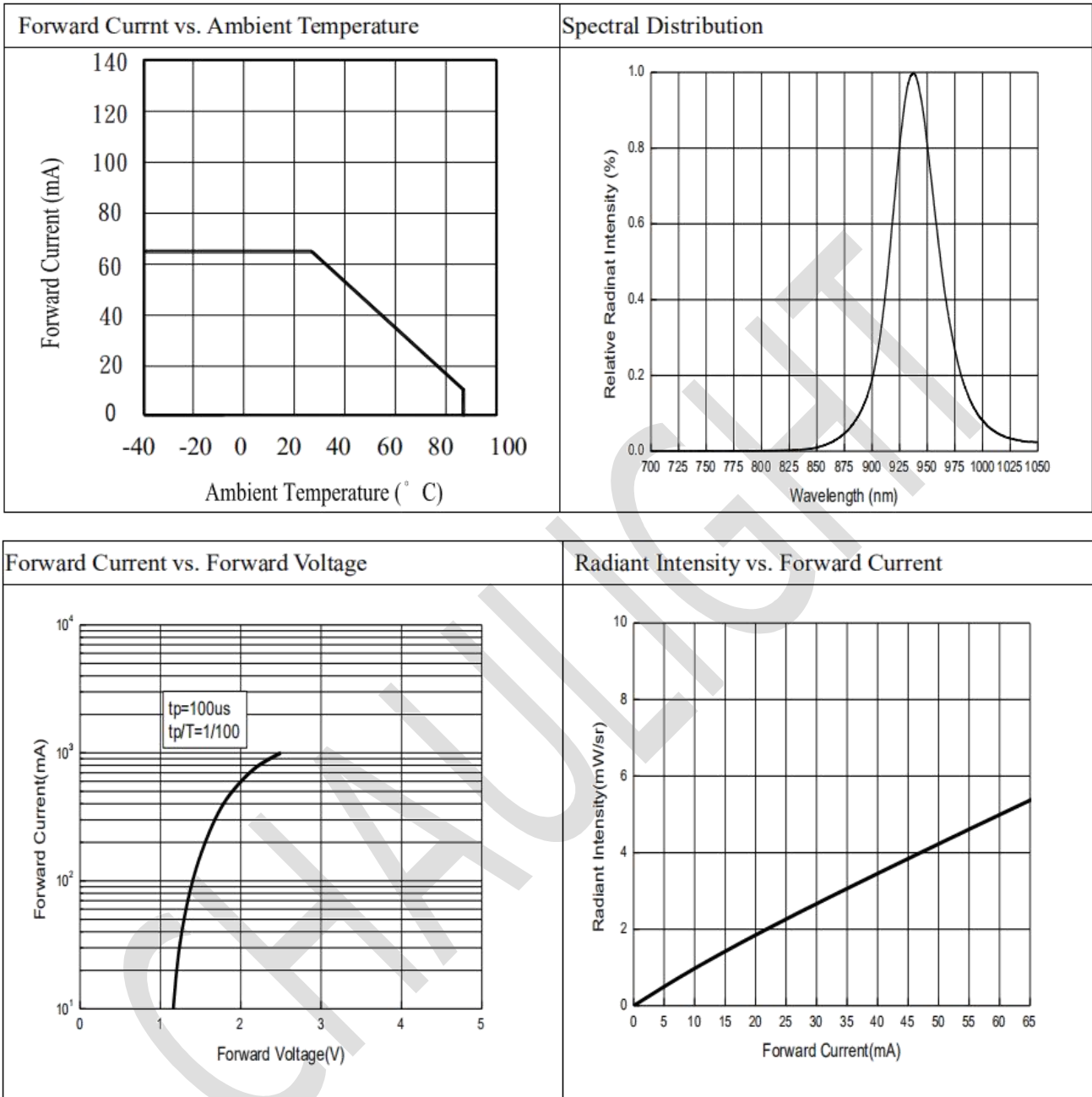
Rank

Condition: I_F=20mA Unit: mW/sr

Bin Number	G	H
Min	1.0	2.0
Max	2.5	3.5

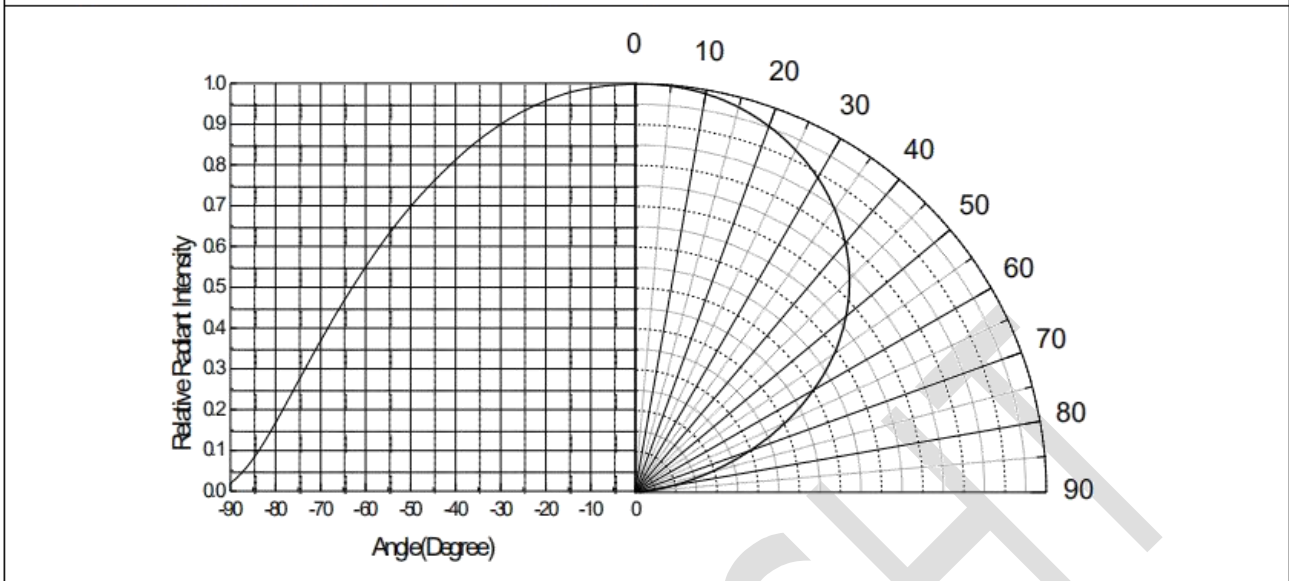


Typical Electrical/Optical/Characteristics Curves for IR





Relative Radiant Intensity vs. Angular Displacement



Precautions For Use

1. Over-current-proof

Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).

2. Storage

2.1 Do not open moisture proof bag before the products are ready to use.

2.2 Before opening the package, the LEDs should be kept at 30°C or less and 90%RH or less.

2.3 The LEDs should be used within a year.

2.4 After opening the package, the LEDs should be kept at 30°C or less and 70%RH or less.

2.5 The LEDs should be used within 168 hours (7 days) after opening the package.

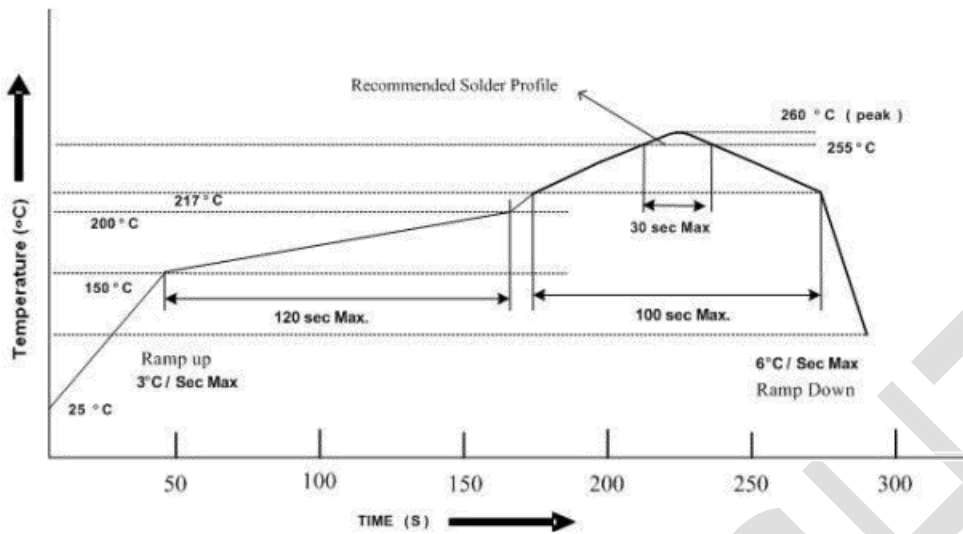
2.6 If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions.

Baking treatment : 60±5°C for 24 hours.



3. Soldering Condition

3.1 Pb-free solder temperature profile



3.2 Reflow soldering should not be done more than two times.

3.3 When soldering, do not put stress on the LEDs during heating.

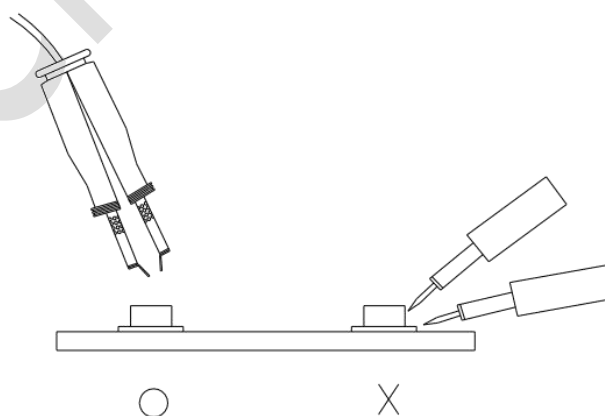
3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 350°C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

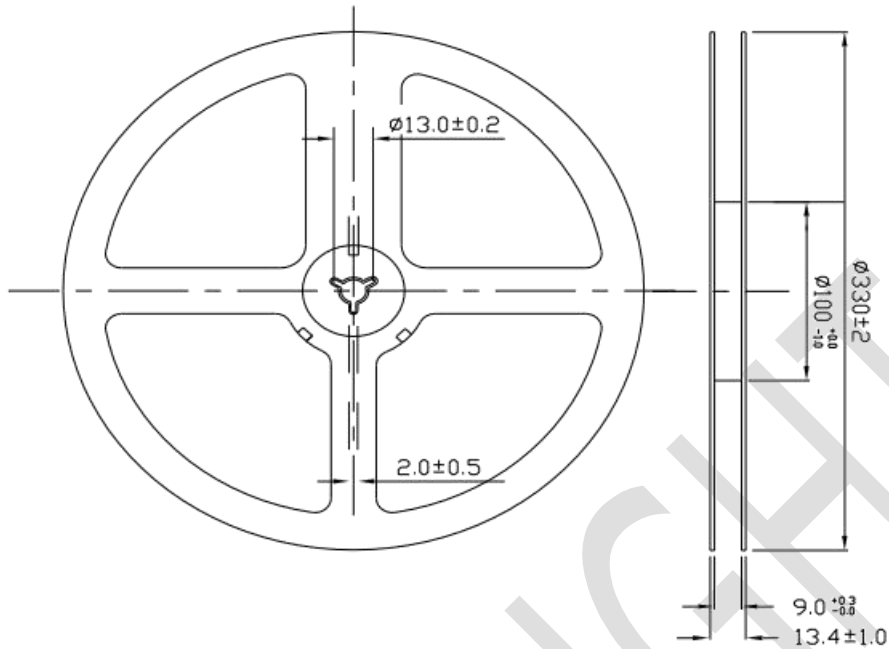
5. Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.



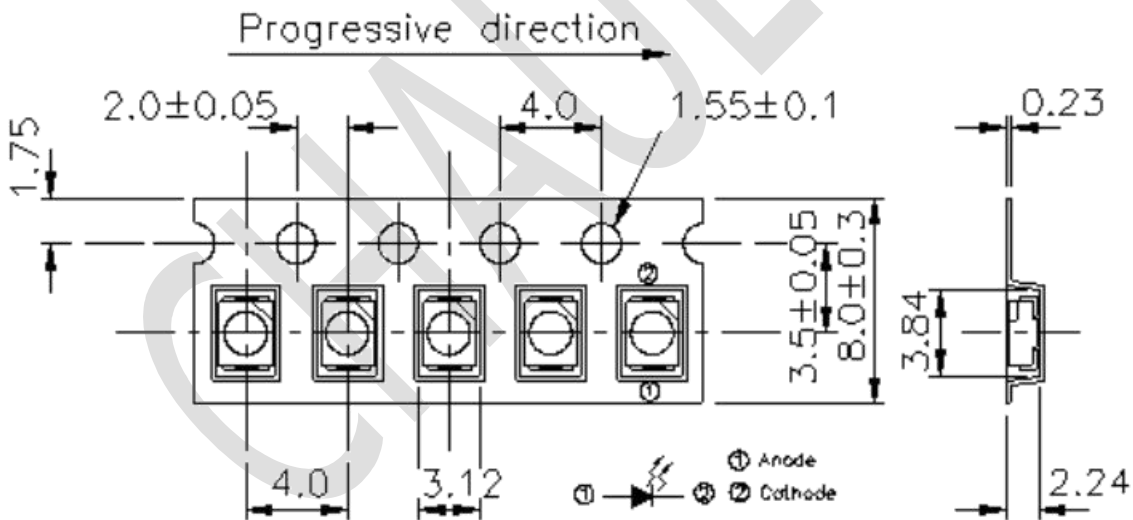


Package Dimensions



Note: The tolerances unless mentioned is ± 0.1 mm ,Unit = mm

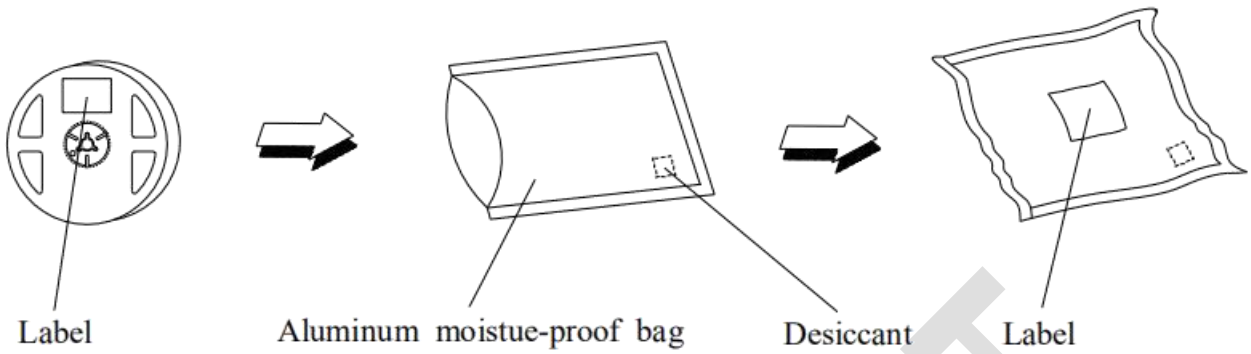
2. Carrier Tape Dimensions:(Quantity: 2000pcs/reel)



Note: The tolerances unless dimension is ± 0.1 mm ,Unit = mm



Packing Procedure



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