

Technical Data Sheet

Top Infrared LED

SIR67-21C/TR8

Features

- Peak wavelength $\lambda_p=875\text{nm}$.
- Low forward voltage.
- Compatible with infrared and vapor phase reflow solder process.
- Package in 8mm tape on 7" diameter reels.
- Pb free
- The product itself will remain within RoHS compliant version.
- Compliance with EU REACH.
- Compliance Halogen Free .(Br <900 ppm ,Cl <900 ppm , Br+Cl < 1500 ppm)



Description

- SIR67-21C/TR8 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.

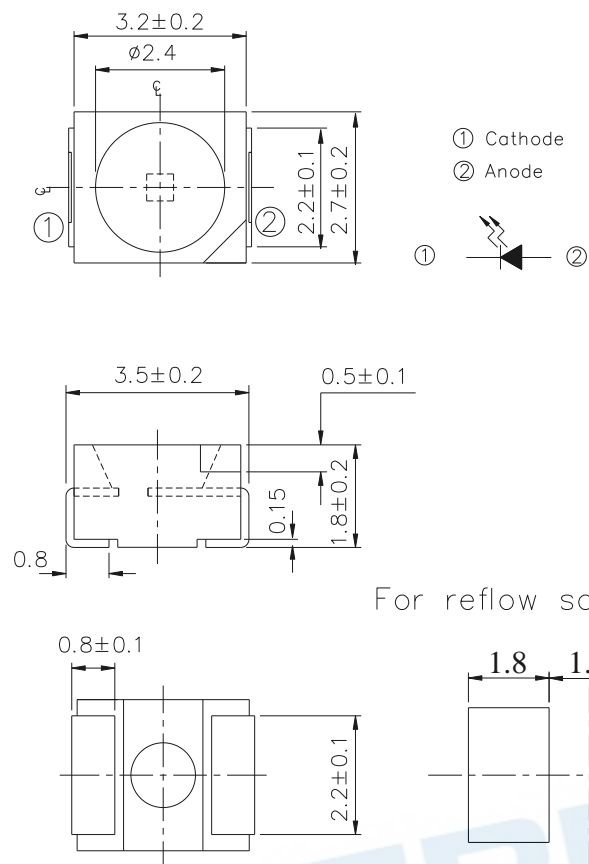
Applications

- Floppy disk drive
- Optoelectronic switch
- Camera
- VCR
- Video
- Smoke detector

Device Selection Guide

Device No.	Chip Material	Lens Color
SIR67-21C/TR8	GaAlAs	Water clear

Package Dimensions



- Notes:** 1.All dimensions are in millimeters
2.Tolerances unless dimensions $\pm 0.1\text{mm}$

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}	1.0	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 *2	T_{sol}	260	$^\circ\text{C}$
Power Dissipation at(or below) 25 $^\circ\text{C}$ Free Air Temperature	P_c	130	mW

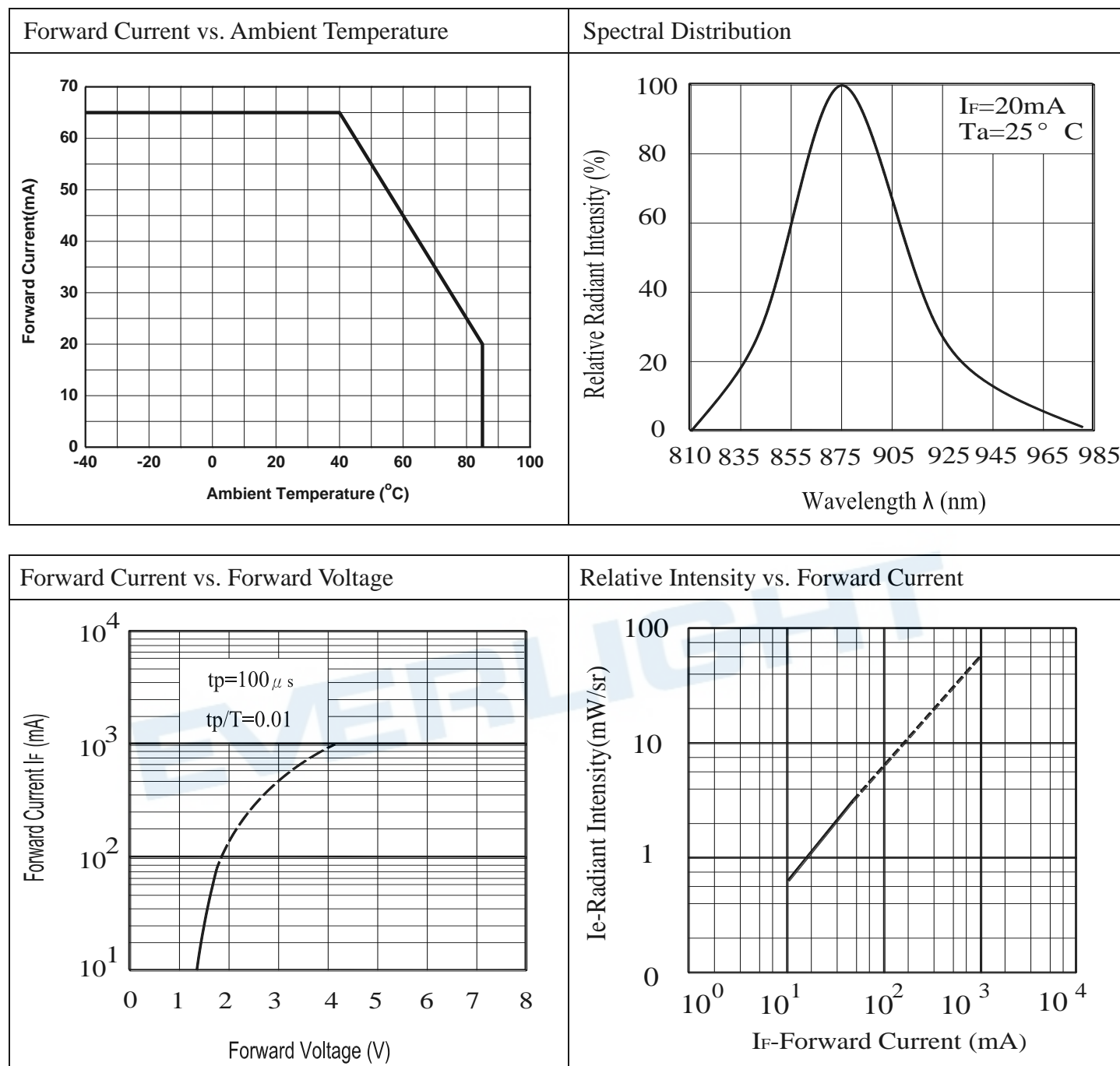
Notes: *1: I_{FP} Conditions--Pulse Width $\leq 100\mu\text{s}$ and Duty $\leq 1\%$.

*2: Soldering time ≤ 5 seconds.

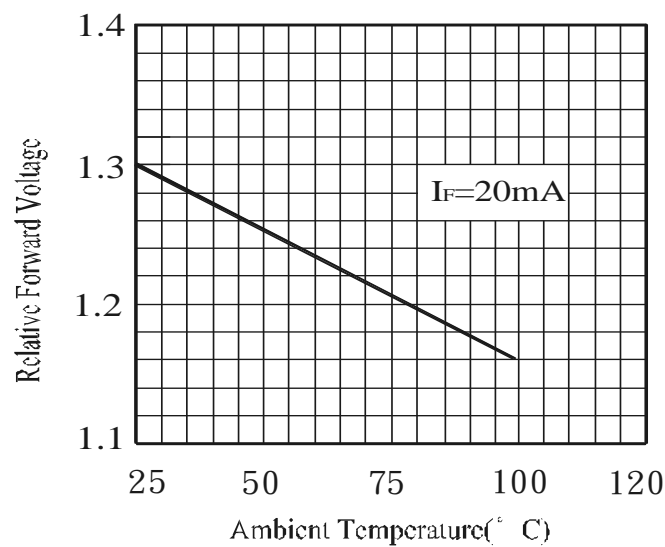
Electro-Optical Characteristics (Ta=25°C unless specified otherwise)

Parameter	Symbol	Min.	Typ.*	Max.	Unit	Condition
Radiant Intensity	I_E	0.5	1.1	--	mW/sr	$I_F=20mA$
		--	4.5	--	mW/sr	$I_F=100mA$
		--	--	--	--	Pulse Width $\leq 100\mu s$ Duty $\leq 1\%$
Peak Wavelength	λ_p	--	875	--	nm	$I_F=100mA$
Spectral Bandwidth	$\Delta\lambda$	--	80	--	nm	$I_F=100mA$
Forward Voltage	V_F	--	1.30	1.60	V	$I_F=20mA$
		--	1.40	1.80	V	$I_F=100mA$
		--	--	--	--	Pulse Width $\leq 100\mu s$ Duty $\leq 1\%$
Reverse Current	I_R	--	--	10	μA	$V_R=5V$
View Angle	$2\theta_{1/2}$	--	120	--	Deg.	$I_F=20mA$

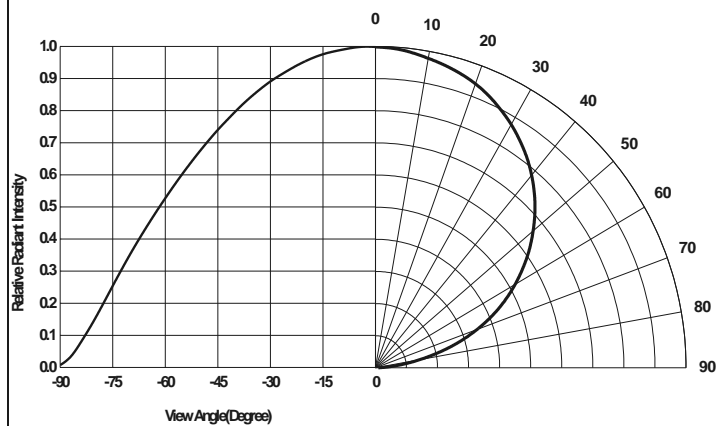
Typical Electro-Optical Characteristics Curves



Forward Voltage vs Ambient Temperature(°C)



Relative Radiant Intensity vs. Angular Displacement



EVERLIGHT

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 60%RH or less.

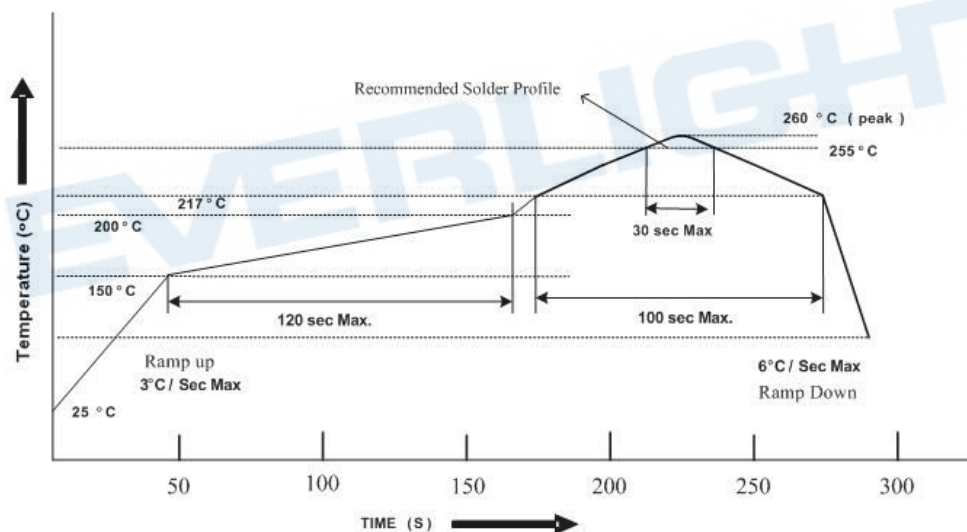
2.5 The LEDs should be used within 168 hours (7 days) after opening the package

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.

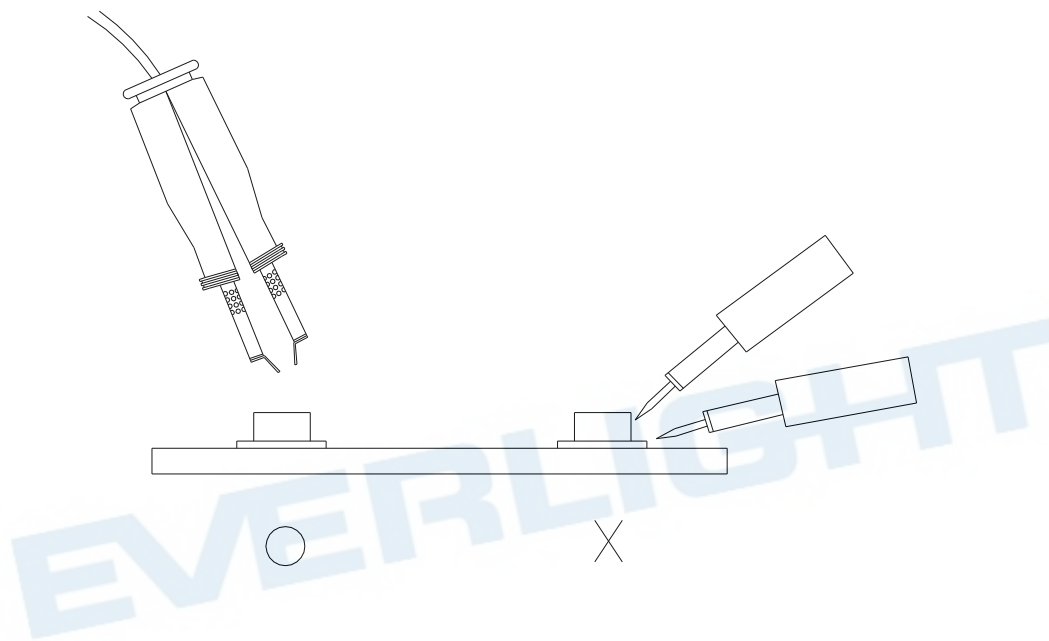
3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

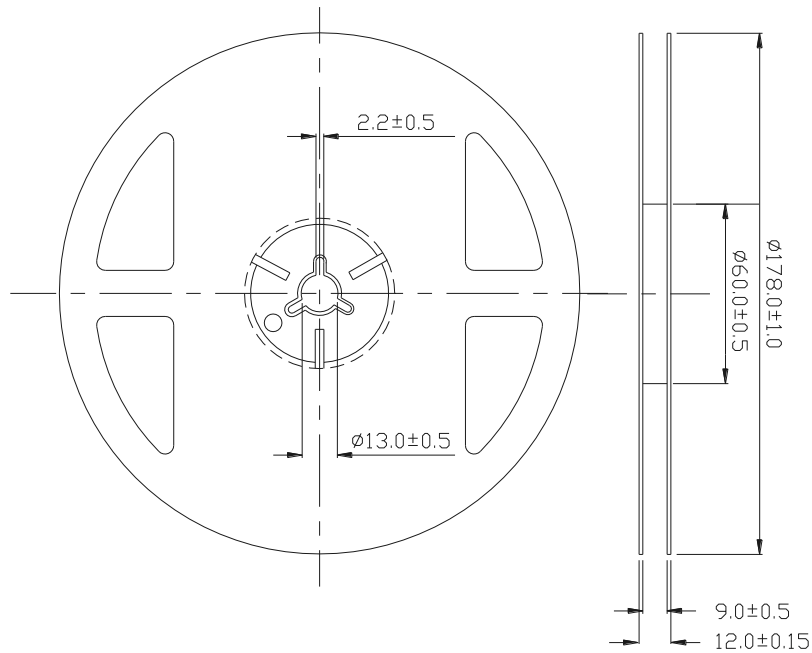
Each terminal is to go to the tip of soldering iron temperature less than 350°C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of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

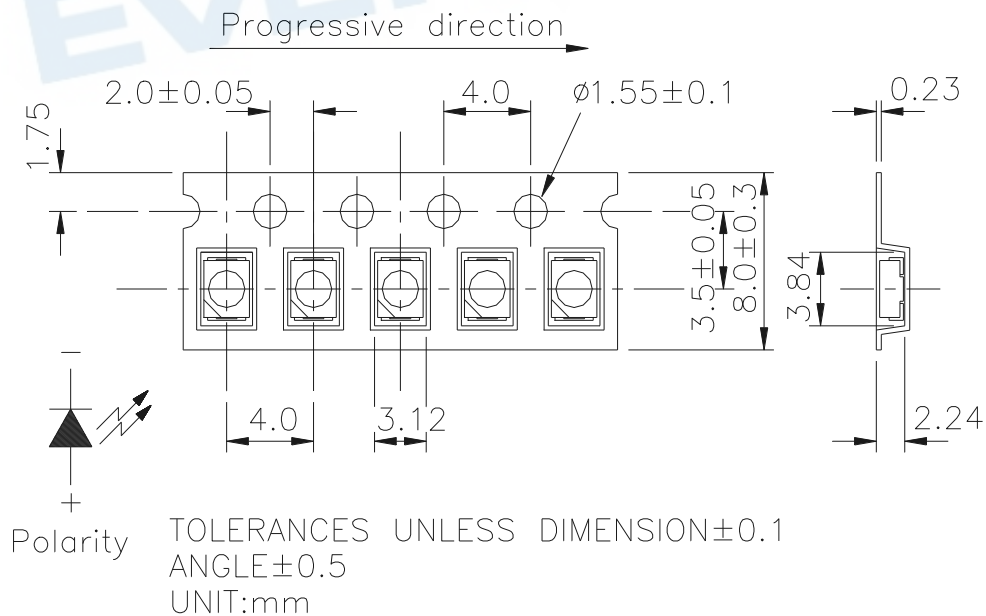


Package Dimensions



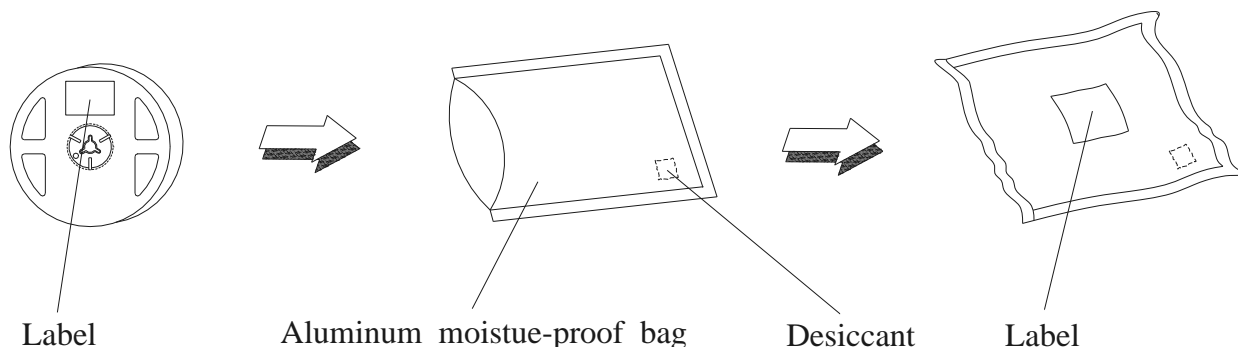
Note: The tolerances unless mentioned is ± 0.1 mm, Unit = mm

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



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

Packing Procedure



Label Form Specification

RoHS	Pb	EVERLIGHT	X
CPN: XXXXXXXXXXXXXXXXXXXX			
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX			
P/N: XXXXXXXXXXXX			
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX			
LOT NO: XXXXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX			
QTY: XXXXXXXXXXXX HUE: XXXXXXXXXXXX			
CAT: XXXXXXXXXXXX REF: XXXXXXXXXXXX			
REFERENCE: BTPYYMMDDXXXXX			
MSL-X MADE IN XXXXXX			

CPN: Customer's Production Number
P/N : Production Number
QTY: Packing Quantity
CAT: Ranks
HUE: Peak Wavelength
REF: Reference
LOT No: Lot Number
MADE IN XXXXXX: Production Place

DISCLAIMER

1. EVERLIGHT reserves the right(s) on the adjustment of product material mix for the specification.
2. The product meets EVERLIGHT published specification for a period of twelve (12) months from date of shipment.
3. The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
4. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT assumes no responsibility for any damage resulting from the use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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