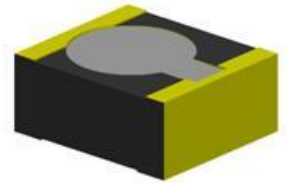


Technical Data Sheet Infrared MIDLED LED IR91-01C/L491/2R

Features

- Low forward voltage.
- View angle 40° (Typ.)
- Pb free
- The product itself will remain within RoHS compliant version.
- Compatible with infrared and vapor phase reflow solder process
- Taping as Top view.



Description

IR91-01C/L491/2R is an infrared emitting diode with miniature MIDLED package. The device is spectrally matched with silicon photodiode and phototransistor.

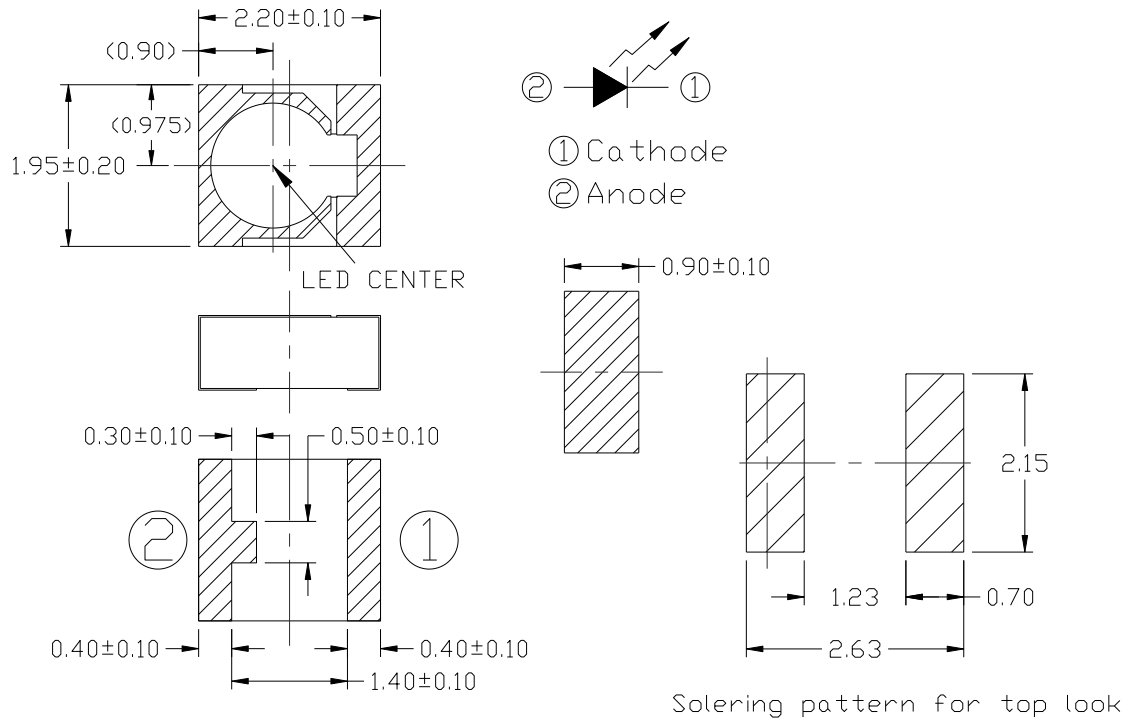
Applications

- Infrared applied system

Device Selection Guide

Device No.	Chip Material	Lens Color
IR91-01C/L491/2R	GaAlAs	Water Clear

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	70	mA
Peak Forward Current *1	I_{FP}	500	mA
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-25 ~ +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_d	130	mW

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

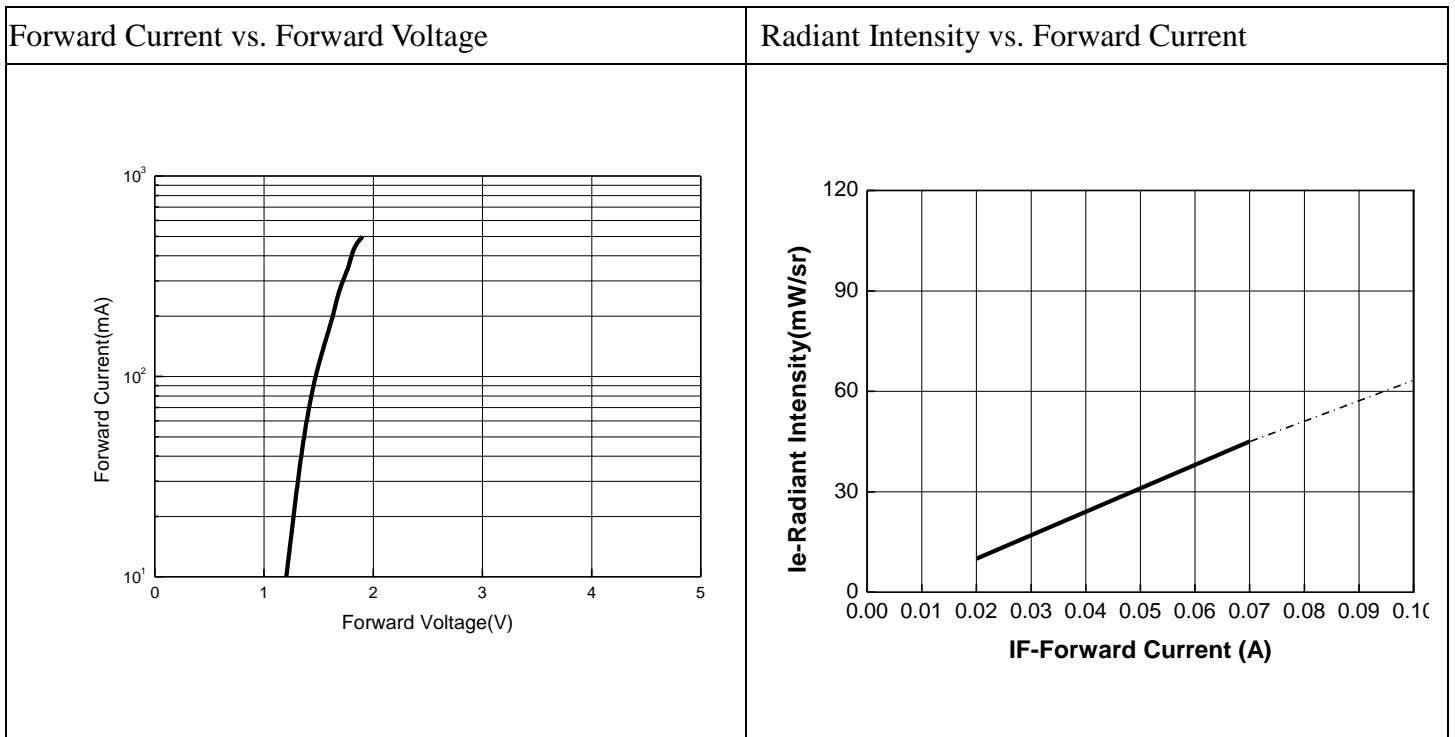
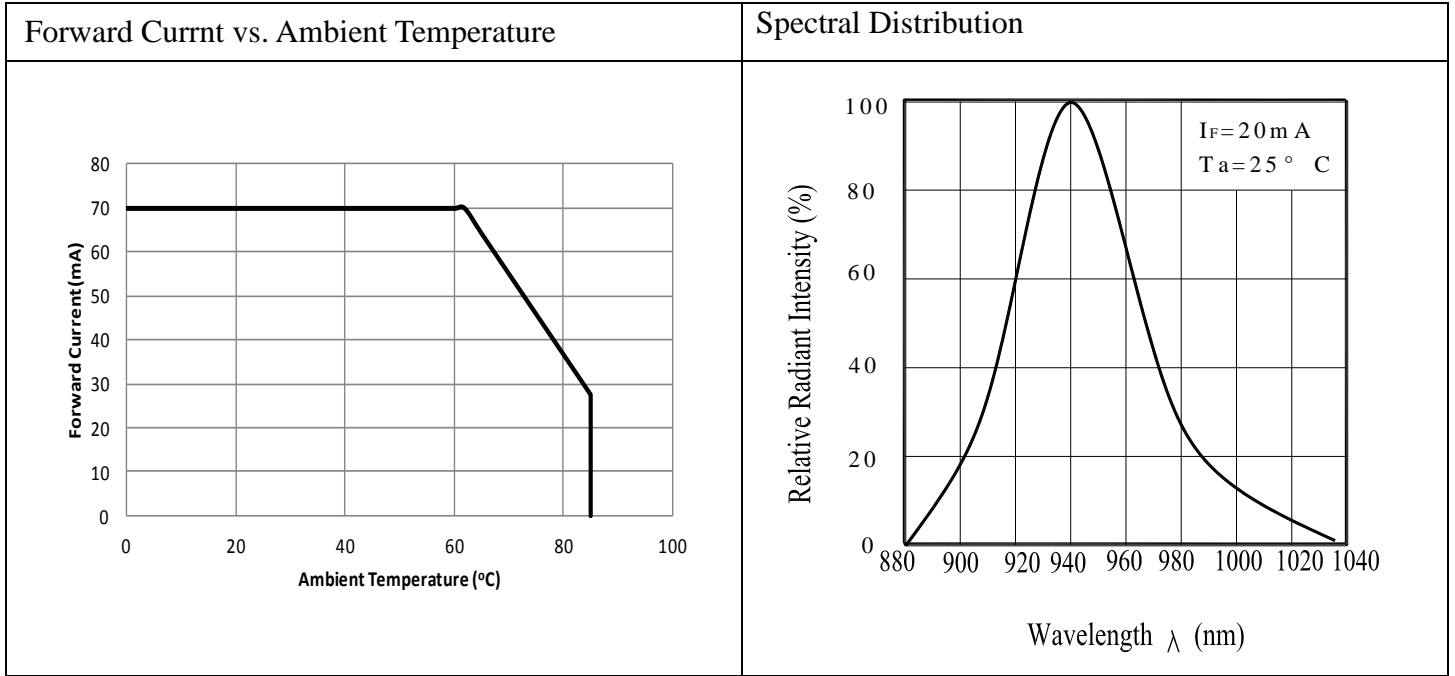
*2:Soldering time ≤ 5 seconds.

*3: Power Dissipation= Continuous Forward Current(I_F) \times Forward Voltage(V_{Fmax})

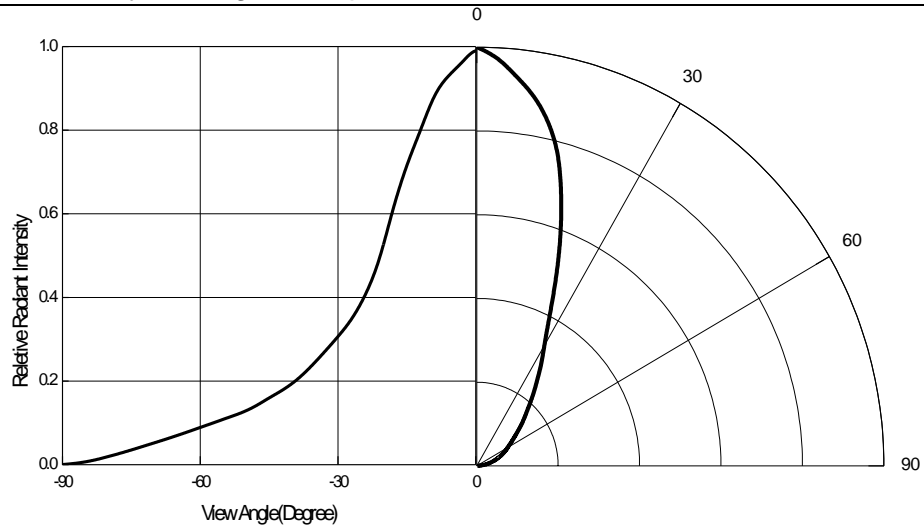
Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Radiant Intensity	I _e	25	50	--	mW /sr	I _F =70mA ,tp=20ms
		--	65	--		I _F =100mA ,tp=20ms
Peak Wavelength	λ _p	930	940	960	nm	I _F =20mA
Spectral Bandwidth	Δλ	--	40	--	nm	I _F =20mA
Forward Voltage	V _F	1.20	1.40	1.70	V	I _F =20mA
		--	1.40	1.90		I _F =100mA Pulse Width ≤ 100μs ,Duty ≤ 1%
Reverse Current	I _R	--	--	10	μA	V _R =5V
View Angle	2θ _{1/2}	--	40	--	deg	I _F =20mA

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 devices are ready to use.

2.2 Shelf life in sealed bag from the bag seal date:
18 months at 10°C~30°C and < 90% RH.

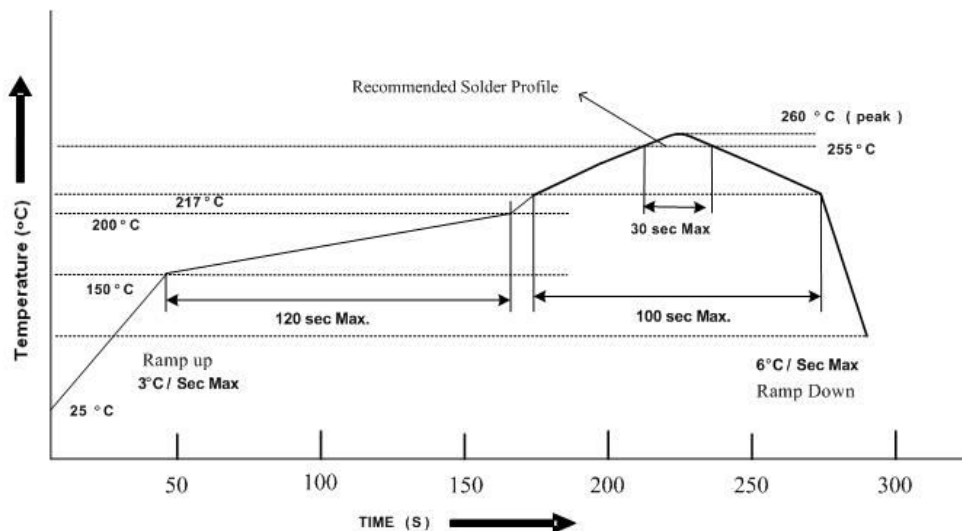
2.3 After opening the package, the devices must be stored at 10°C~30°C and 60%RH, and used within 72 hours(floor life).

2.4 If the moisture absorbent material(desiccant material) has faded or unopened bag has exceeded the shelf life or devices(out of bag) have exceeded the floor life, baking treatment is required.

2.5 If baking is required, refer to IPC/JEDEC J-STD-033 for bake procedure or recommend the following conditions :
192 hours at 40°C +5/-0°C and < 5 % RH (reeled/tubed/loose units) or
96 hours at 60°C ± 5°C and < 5 % RH (reeled/tubed/loose units) or
24 hours at 125°C ± 5°C, not suitable for reel or tubes.

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.

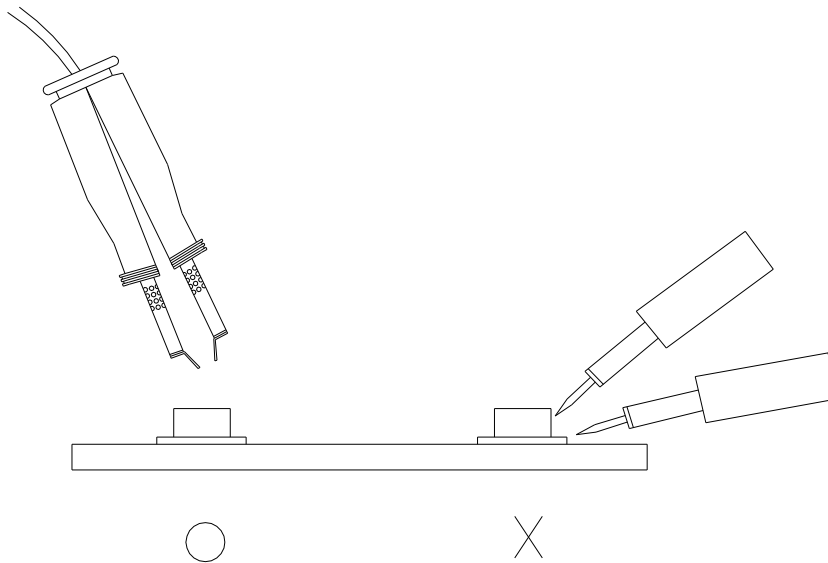
3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

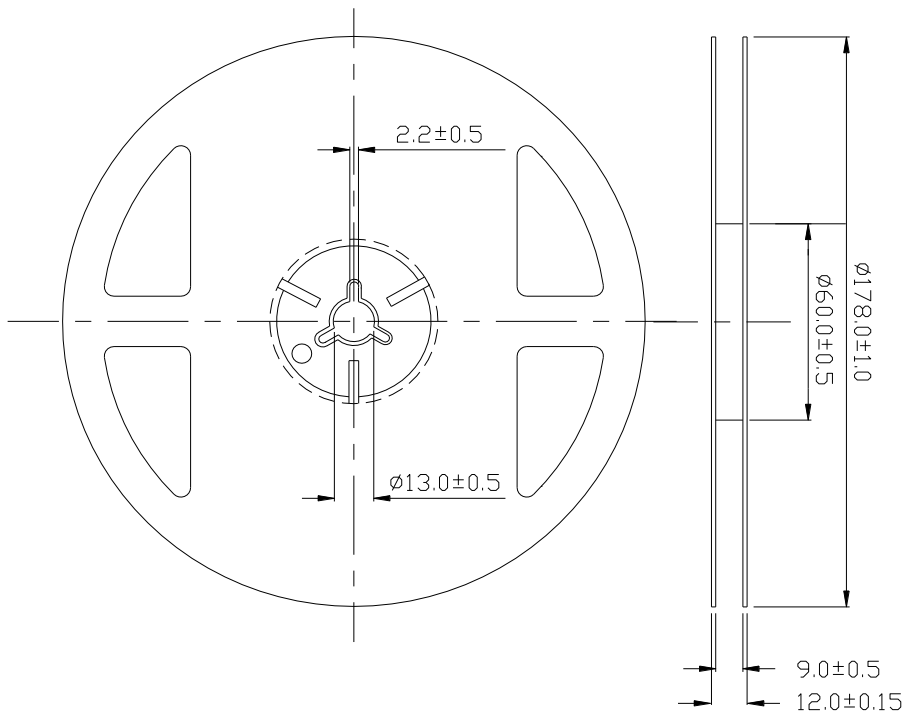
Each terminal is to go to the tip of soldering iron temperature less than 350°C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of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

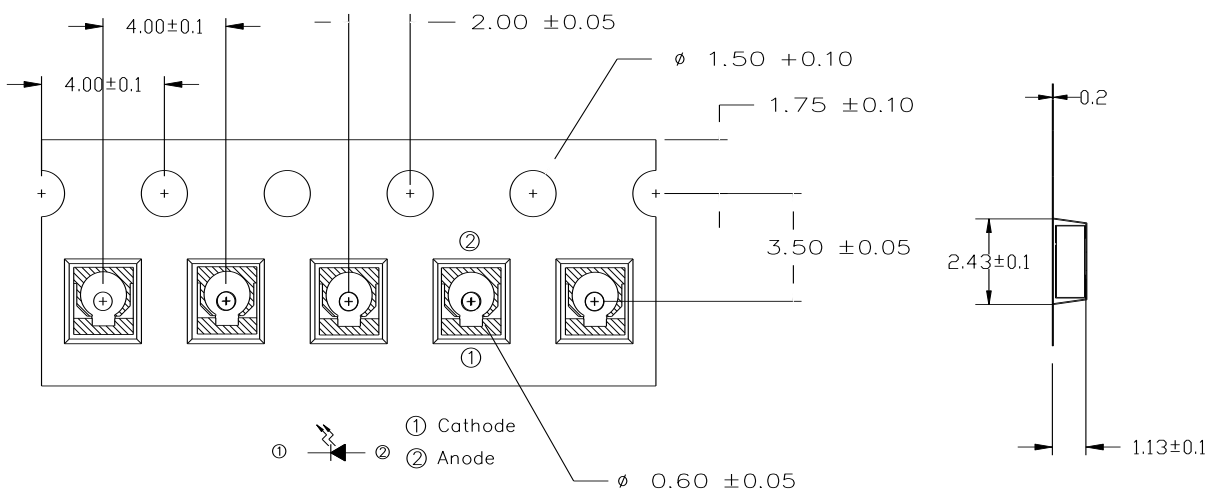


Package Dimensions



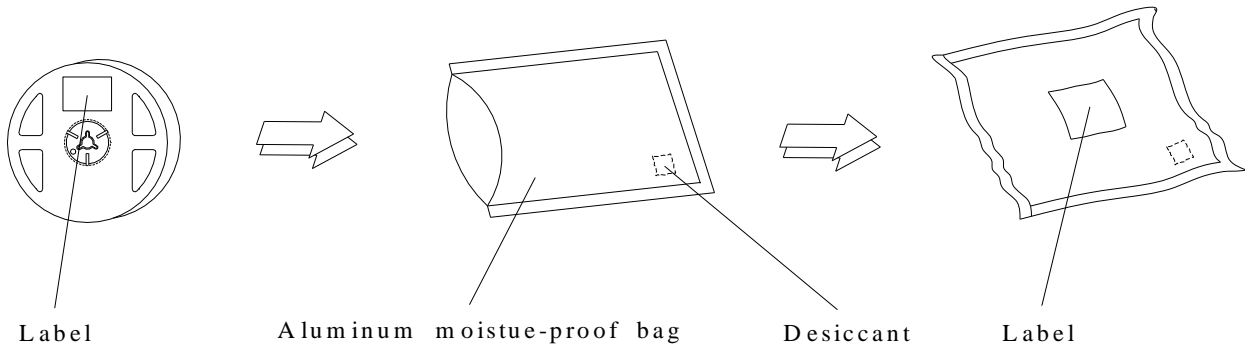
Note: The tolerances unless mentioned is $\pm 0.1\text{mm}$, Unit = mm

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



Note: The tolerances unless mentioned is $\pm 0.1\text{mm}$, Unit = mm

Packing Procedure



Label Form Specification

The label form includes the following fields and symbols:

- RoHS symbol (Pb)
- EVERLIGHT logo
- CPN : XXXXXXXXXXXXXXXX
- P/N : XXXXXXXXXXXXXXXX
- XXXXXXXXXXXXXXXXXX
- QTY : XXX
- CAT : XXX
- HUE : XXX
- REF : XXX
- LOT NO : XXXXXXXXXXXX
- Reference : XXXXXXXX
- RoHS symbol

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 TAIWAN: Production Place

Notes

1. Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification.
2. 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 use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
3. These specification sheets include materials protected under copyright of EVERLIGHT corporation. Please don't reproduce or cause anyone to reproduce them without EVERLIGHT's consent.