DATASHEET

SMD- Top view LEDs
67-21/R6C-FN2Q1BZ/2T

Features

- P-LCC-2 package.
- White package.
- Optical indicator.
- Colorless clear window.
- Wide viewing angle.
- Suitable for vapor-phase reflow, Infrared reflow and wave solder processes
- Computable with automatic placement equipment.
- Available on tape and reel (8mm Tape).
- Pb-free.
- The product itself will remain within RoHS compliant version.
- Compliance with EU REACH.
- Compliance Halogen Free .(Br<900ppm,Cl<900ppm,Br+Cl<1500ppm)
- Precondition: Bases on JEDEC J-STD 020D Level 3

Descriptions

- The 67-21 series is available in soft orange, green, blue and yellow. Due to the package design, the LED has wide viewing angle and optimized light coupling by inter reflector. This feature makes ideal for light pipe application. The low current requirement makes this device ideal for portable equipment or any other application where power is at a premium.

Applications

- Telecommunication: indicator and backlighting in telephone and fax.
- Flat backlight for LCD, switch and symbol.
- Light pipe application.
- General use.

Device Selection Guide

Chip Materials	Emitted Color	Resin Color
AlGaInP	Brilliant Red	Water Clear

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Reverse Voltage	VR	5	V
Forward Current	I_F	25	mA
Peak Forward Current (Duty 1/10 @1KHz)	I_{FP}	60	mA
Power Dissipation	Pd	60	mW
Junction Temperature	T_j	115	℃
Operating Temperature	T_{opr}	-40 ~ +85	℃
Storage Temperature	Tstg	-40 ~ +90	℃
ESD	ESD_{HBM}	2000	V
Soldering Temperature	T_{sol}	Reflow Soldering : 260 ℃ for 10 sec. Hand Soldering : 350 ℃ for 3 sec.	

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Iv	36	-----	90	mcd	I_F=10mA
Viewing Angle	$2\theta_{1/2}$	-----	120	-----	deg	I_F=10mA
Peak Wavelength	λp	-----	632	-----	nm	I_F=10mA
Dominant Wavelength	λd	621	----	631	nm	I_F=10mA
Spectrum Radiation Bandwidth	Δλ	-----	20	-----	nm	I_F=10mA
Forward Voltage	V_F	1.75	----	2.35	V	I_F=10mA
Reverse Current	I_R	-----	-----	10	μA	V_R=5V

Notes:
1. Tolerance of Luminous Intensity: ±11%
2. Tolerance of Dominant Wavelength: ±1nm
3. Tolerance of Forward Voltage: ±0.1V

Bin Range of Luminous Intensity

Bin Code	Min.	Max.	Unit	Condition
N2	36	45	mcd	I_F =10mA
P1	45	57		
P2	57	72		
Q1	72	90		

Note:
Tolerance of Luminous Intensity: ±11%

Bin Range of Dominant Wavelength

Group	Bin Code	Min.	Max.	Unit	Condition
F	FF1	621	626	nm	I_F =10mA
	FF2	626	631		

Note:
Tolerance of Dominant Wavelength: ±1nm

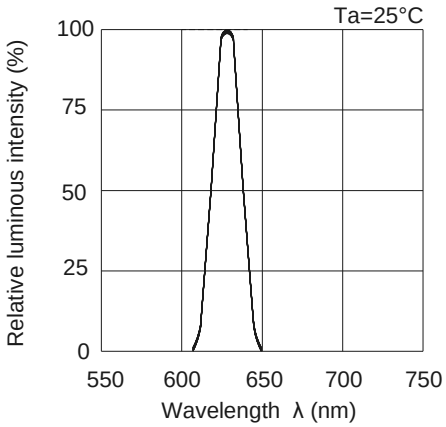
Bin Range of Forward Voltage

Group	Bin Code	Min.	Max.	Unit	Condition
B	0	1.75	1.95	V	I_F =10mA
	1	1.95	2.15		
	2	2.15	2.35		

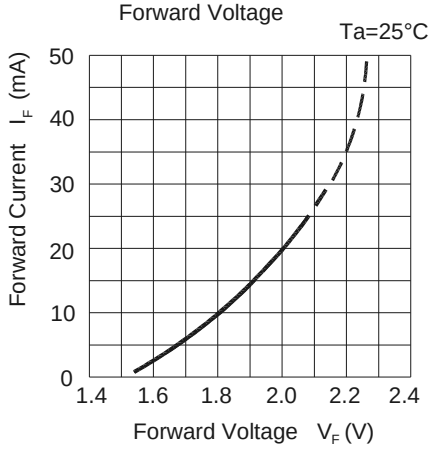
Note:
Tolerance of Forward Voltage: ±0.1V

Typical Electro-Optical Characteristics Curves

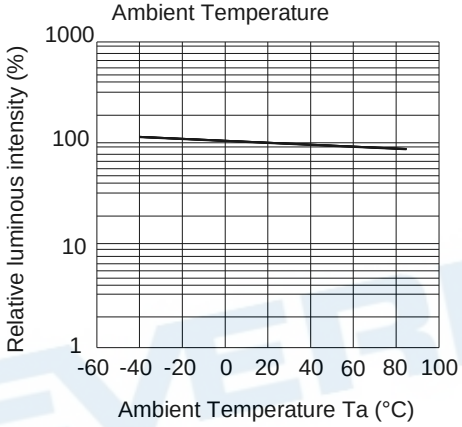
Spectrum Distribution



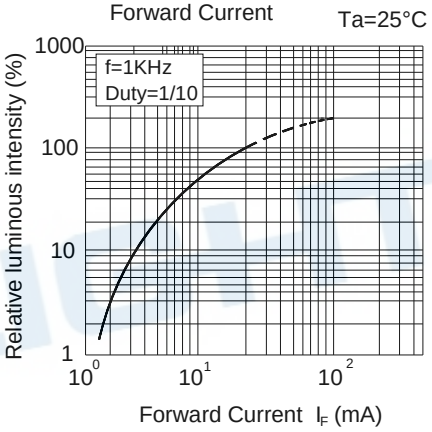
Forward Current vs. Forward Voltage



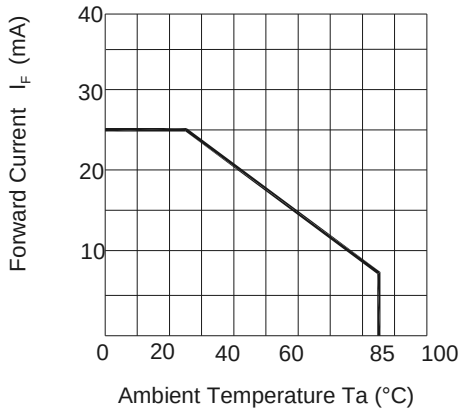
Relative Luminous Intensity vs. Ambient Temperature



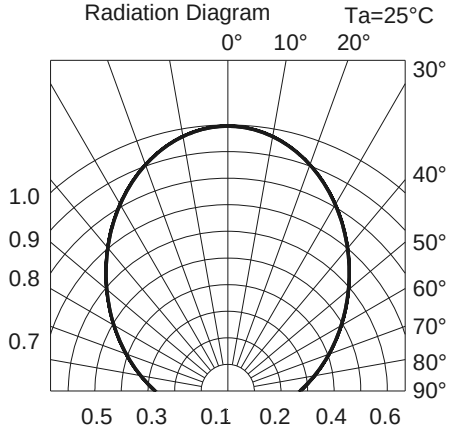
Relative Luminous Intensity vs. Forward Current



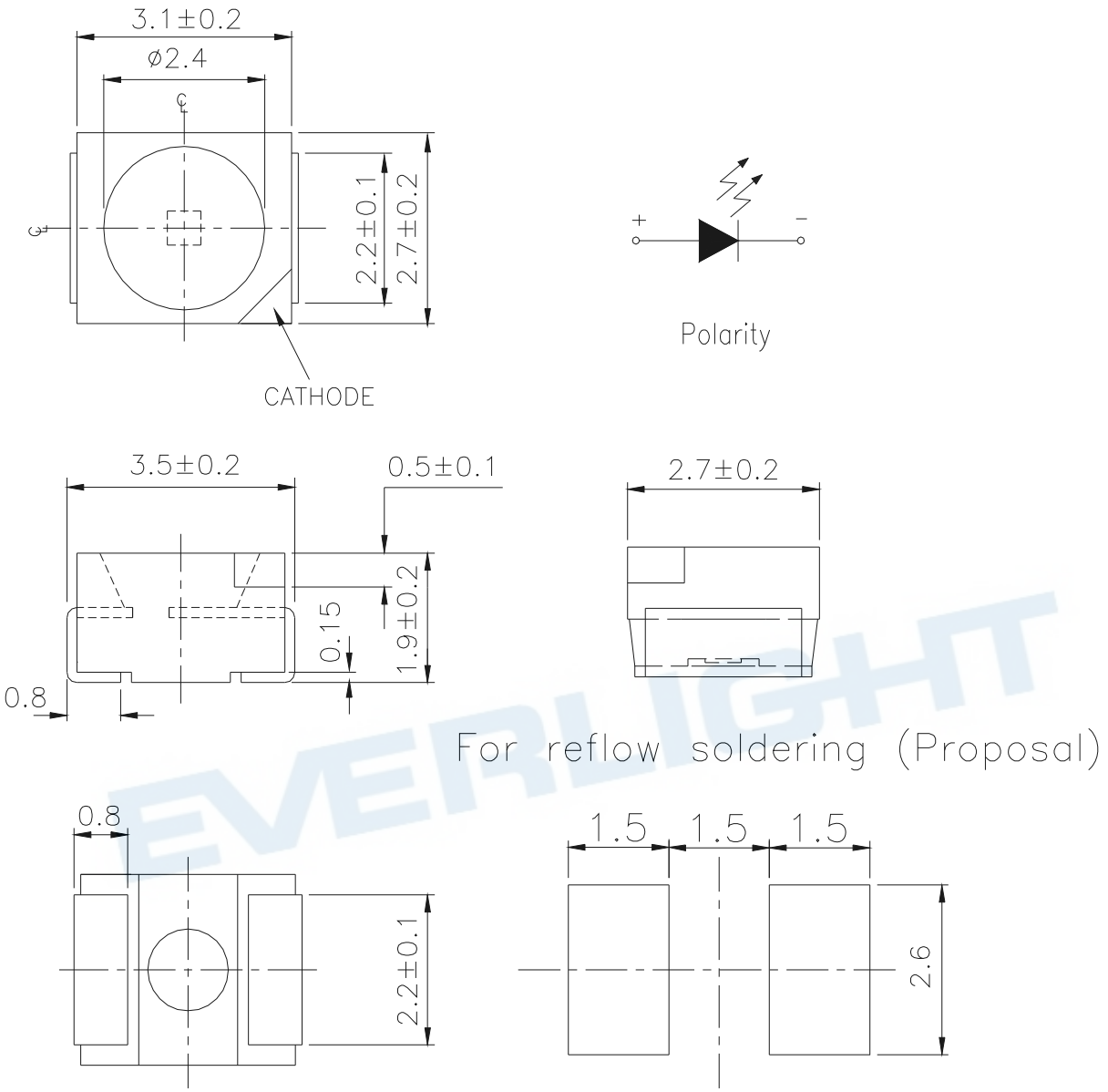
Forward Current Derating Curve



Radiation Diagram



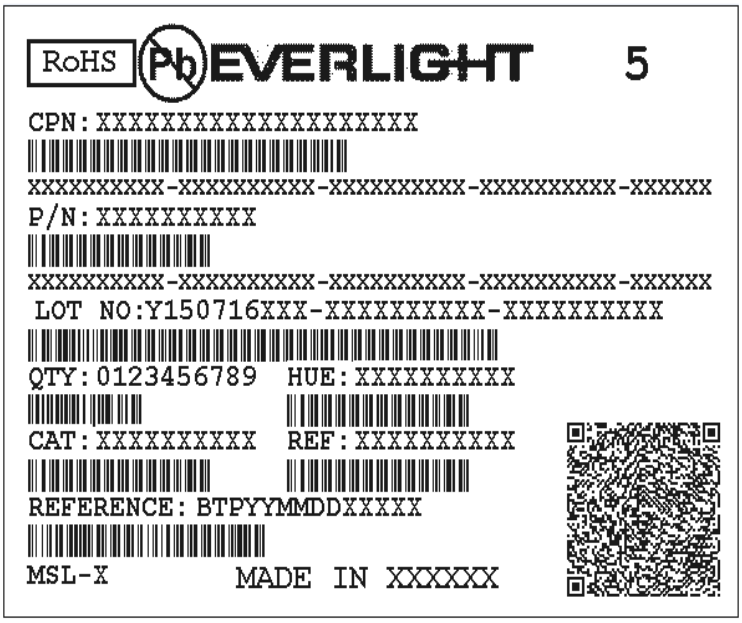
Package Dimension



Note: Tolerances unless mentioned ±0.1mm. Unit = mm

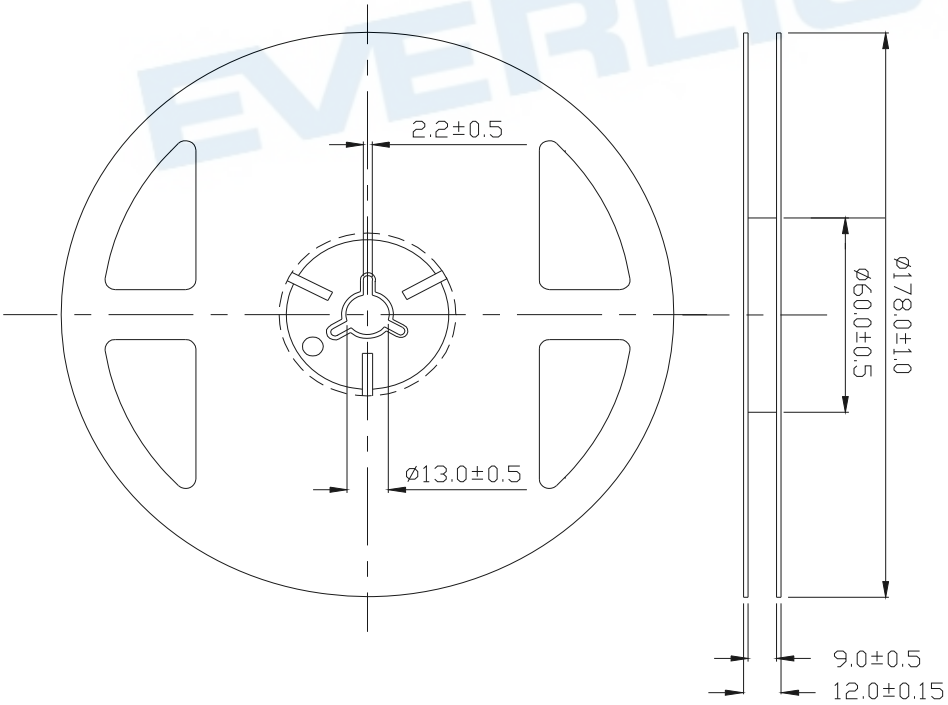
Moisture Resistant Packing Materials

Label Explanation



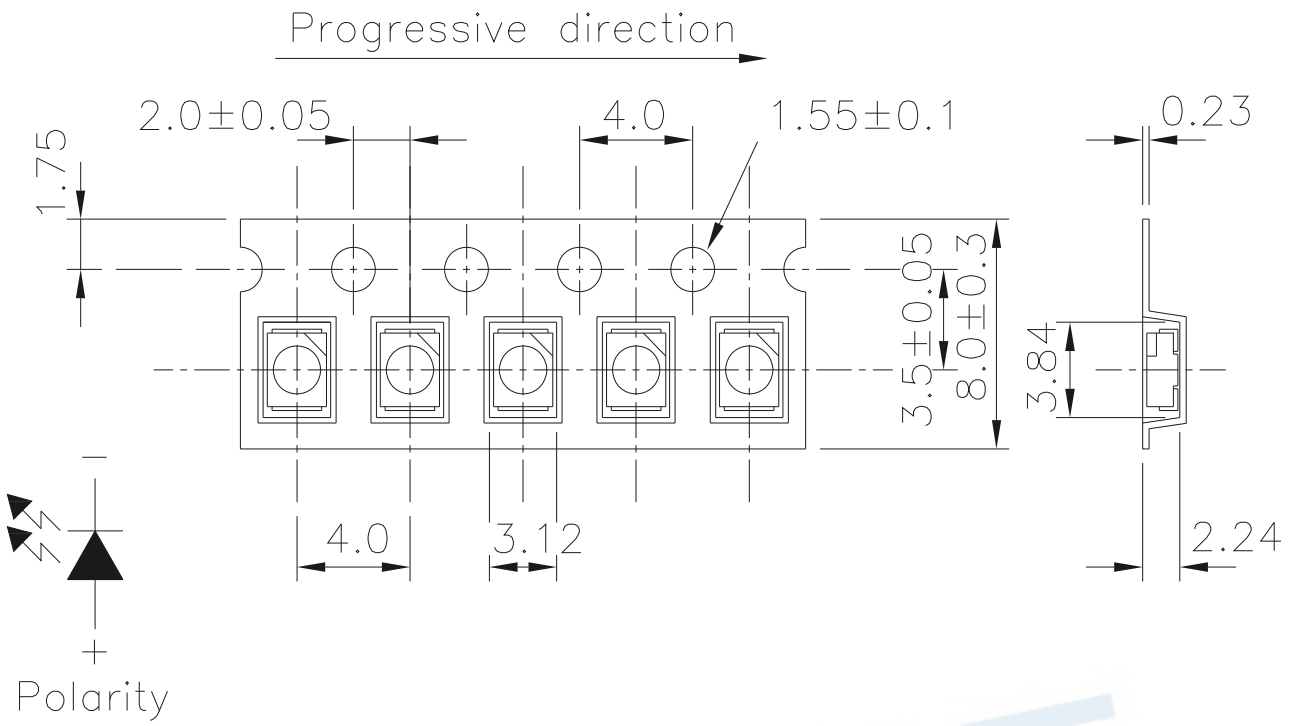
- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number

Reel Dimensions



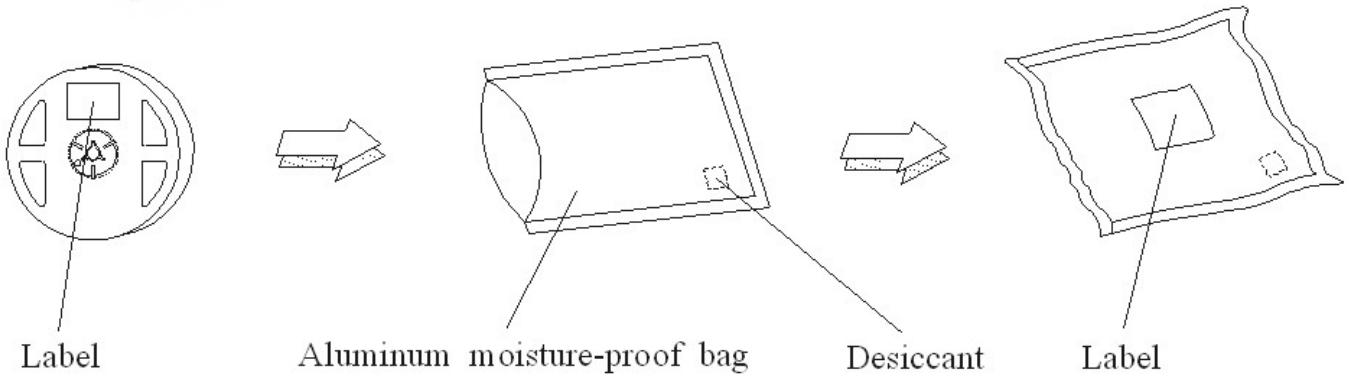
Note: The tolerances unless mentioned is ±0.1mm ,Unit = mm

Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel



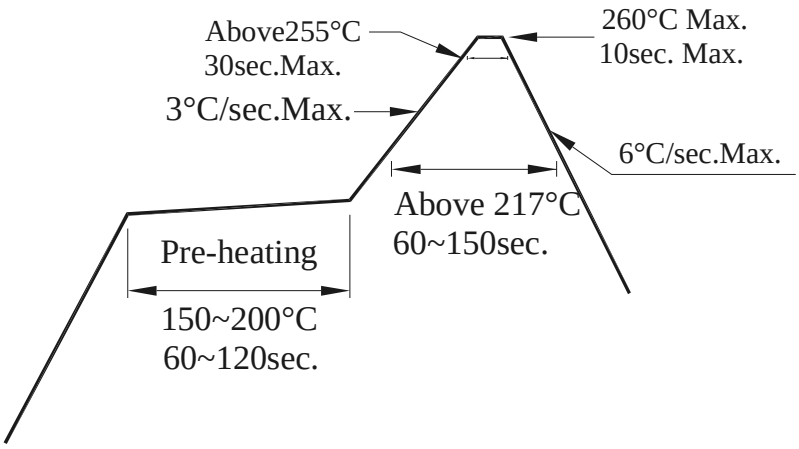
Notes:Tolerances unless mentioned ±0.1mm. Unit = mm

Moisture Resistant Packing Process

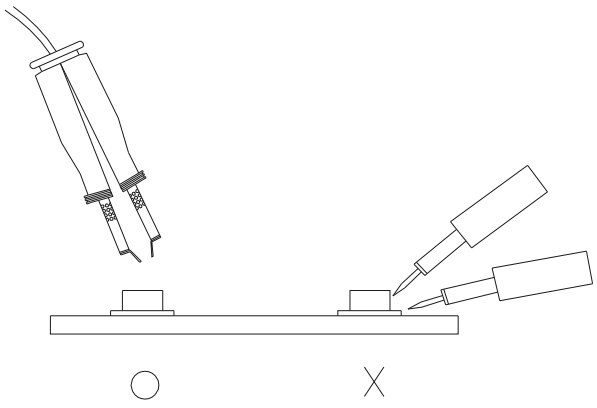


Precautions for Use

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



2. Storage
   2.1 Moisture proof bag should only be opened immediately prior to usage.
   2.2 Environment should be less than 30℃ and 60% RH when moisture proof bag is opened.
   2.3 After opening the package MSL Conditions stated on page 1 of this spec should not be exceeded.
   2.4 If the moisture sensitivity card indicates higher than acceptable moisture, the component should be baked at min. 60deg +/-5deg 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℃ 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.



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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