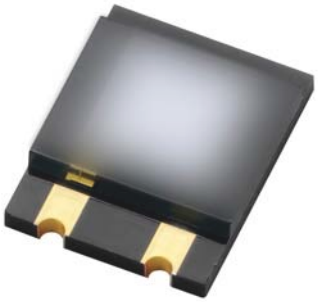
DATASHEET

PD60-48C/ TR8



Features

- Fast response time.
- High photo sensitivity.
- Small junction capacitance.
- Compliance Halogen Free(Br < 900ppm, Cl < 900ppm, Br+Cl < 1500ppm).
- Compliance with EU REACH
- This product itself will remain within RoHS compliant version.
- Package size : 6.0mm*4.8mm*1.1mm

Description

- **PD60-48C/TR8** is a high speed and high sensitive PIN photodiode in miniature flat top view lens SMD package and it is molded in a black epoxy. The device is Spectrally matched to infrared emitting diode.

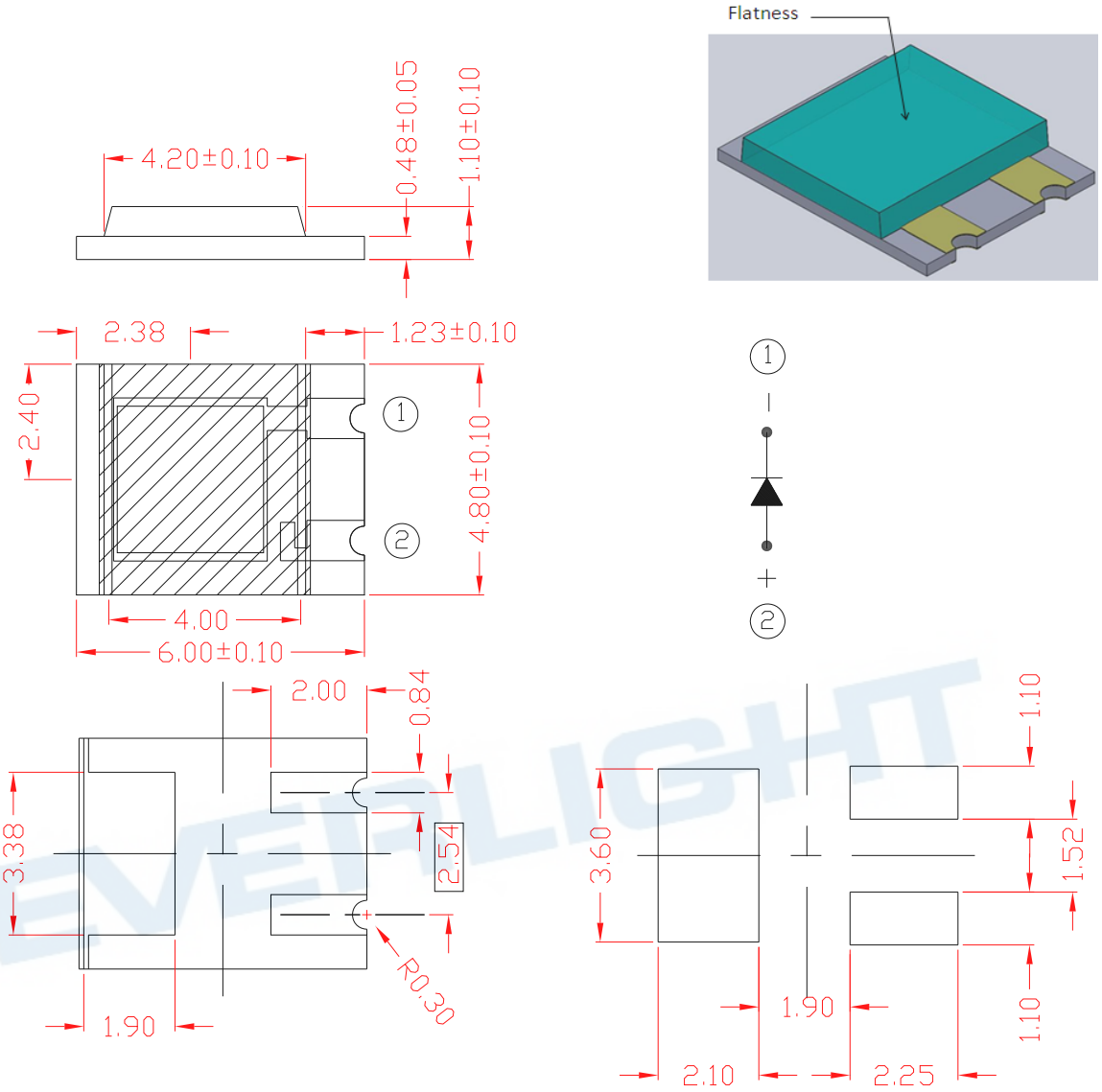
Applications

- High speed photo detector
- Copier
- Game machine

Device Selection Guide

Device No.	Chip Material	Lens Color
PD60-48C/TR8	Silicon	Water clear

Package Dimensions



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

Absolute Maximum Ratings (Ta=25℃)

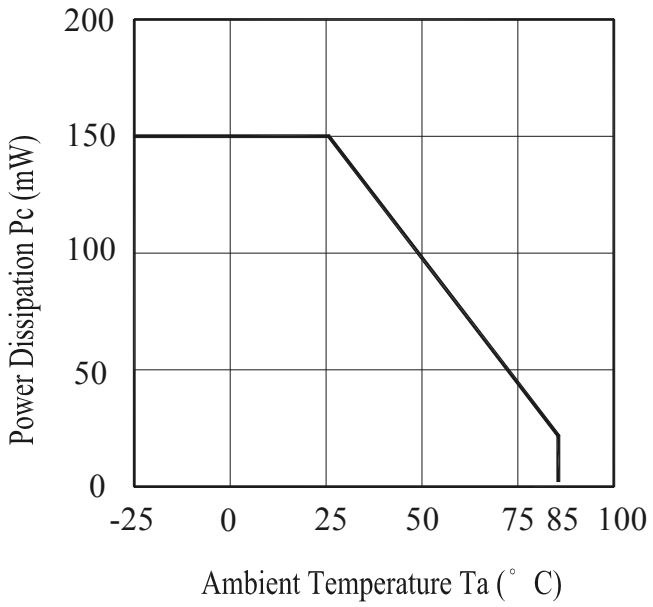
Parameter	Symbol	Ratings		Unit
		660nm(Red)	910nm(IR)	
Reverse Voltage	V_R	32		V
Operating Temperature	Topr	-25 +85		℃
Storage Temperature	Tstg	-25 +85		℃
Soldering Temperature	Tsol	260		℃
Power Dissipation at(or below) 25℃ Free Air Temperature	Pc	150		mW

Electro-Optical Characteristics (Ta=25℃)

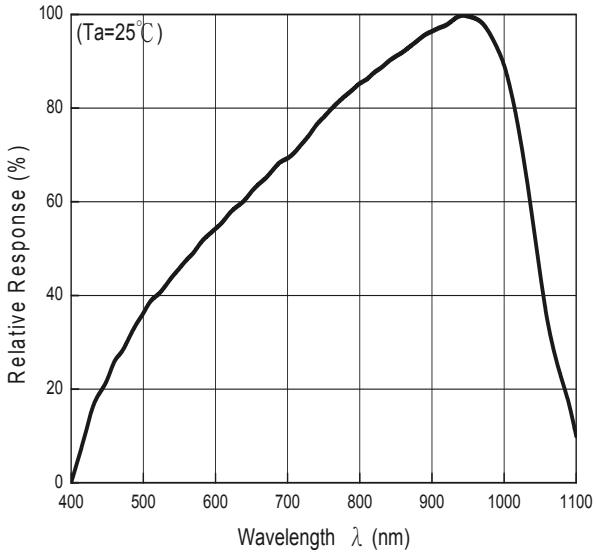
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Range Of Spectral Bandwidth	$\lambda_{0.1}$	---	420	---	1100	nm
Wavelength Of Peak Sensitivity	λp	---	---	940	---	nm
Open-Circuit Voltage	V_{OC}	Ee=1mW /cm^2 λ_P=875nm	---	0.35	---	V
Short-Circuit Current	I_{SC}	Ee=1mW /cm^2 λ_P=875nm	---	32.0	---	μA
Reverse Light Current	I_L	Ee=1mW /cm^2 λ_P=875nm VR=5V	17.0	33.5	---	μA
		Ee=1mW /cm^2 λ_P=940nm VR=5V	---	37.0	---	
Dark Current	I_D	Ee=0mW /cm^2 VR=10V	---	---	20	nA
Reverse Breakdown Voltage	V_{BR}	Ee=0mW /cm^2 IR=100μA	33	170	---	V
Forward Voltage	V_F	IF=20mA	0.5	---	1.3	V
Total Capacitance	C_t	Ee=0mW /cm^2 f=1MHz V_R=3V	---	44	---	pF
Rise Time	t_r	V_R=5V R_L=1000Ω	---	50	---	ns
Fall Time	t_f		---	50	---	
View Angle	2θ1/2	VR =5V	--	125	--	deg

Typical Electro-Optical Characteristics Curves

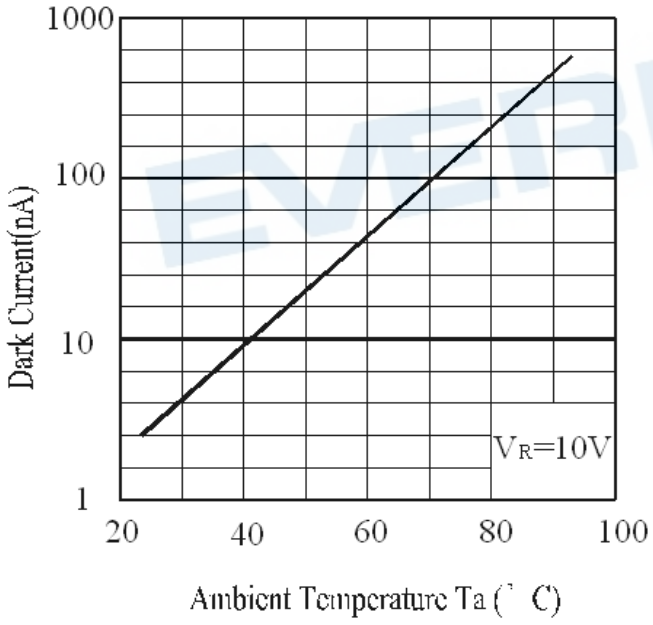
Power Dissipation vs. Ambient Temperature



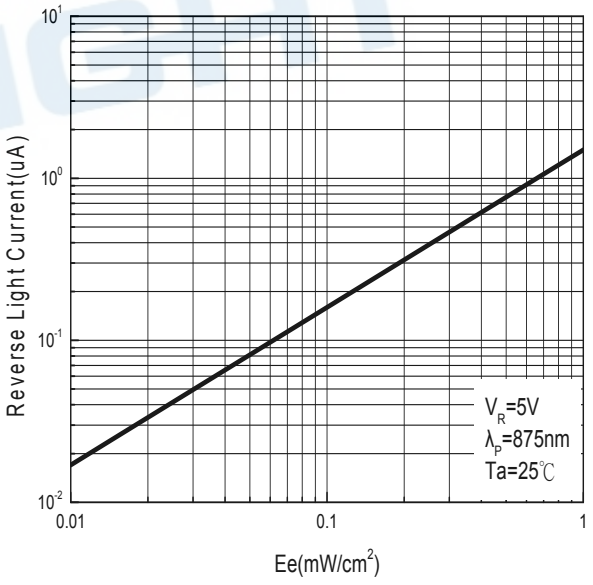
Spectral Sensitivity



Dark Current vs. Ambient Temperature

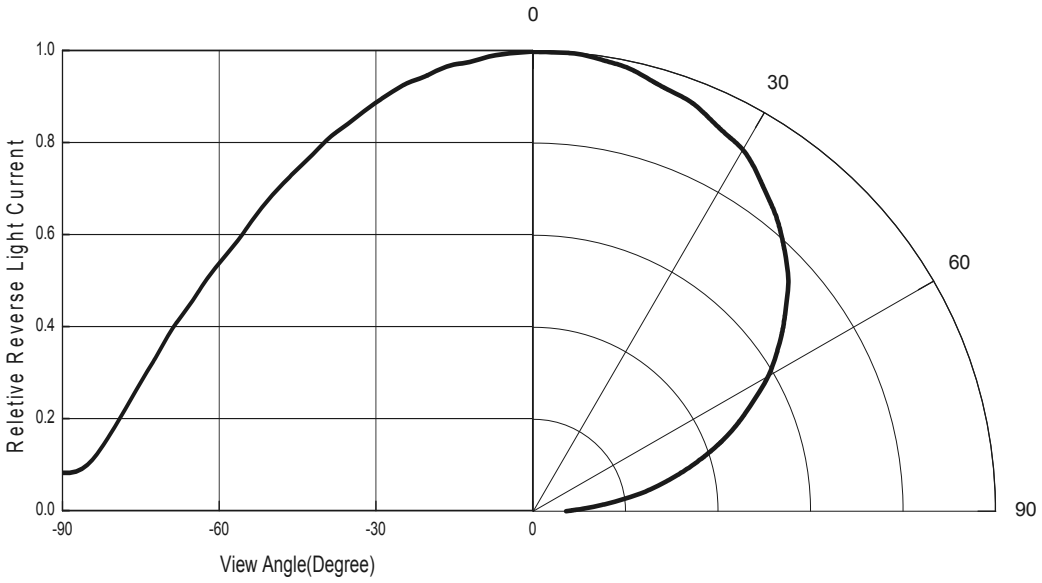


Reverse Light Current vs. Ee



Typical Electro-Optical Characteristics Curves

Relative Light Current vs. Angular Displacement

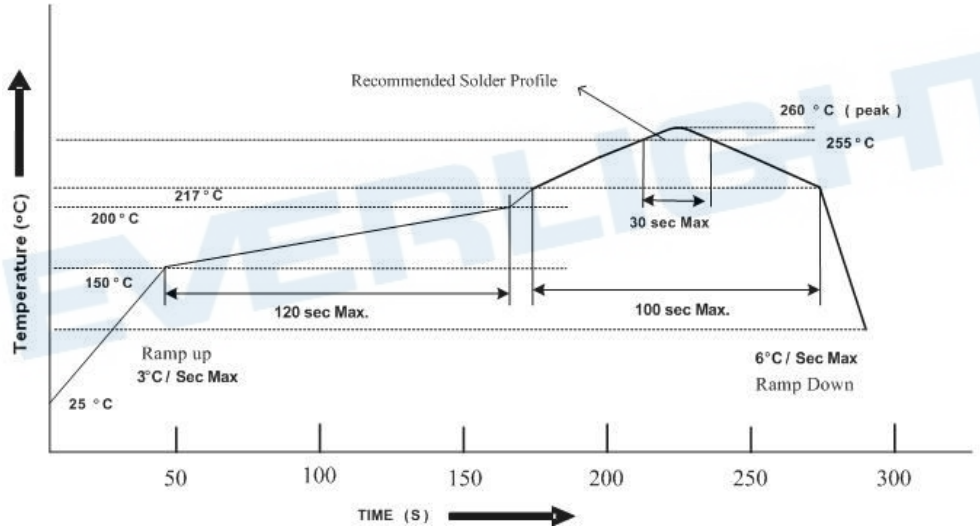


Precautions For Use

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 Photodiode should be kept at 30℃ or less and 90%RH or less.
   2.3 The Photodiode should be used within a year.
   2.4 After opening the package, the Photodiode should be kept at 30℃ or less and 60%RH or less.
   2.5 The Photodiode should be used within 24 hours (1 days) after opening the package
   2.6 If the moisture absorbent material (silica gel) has faded away or the Photodiode have exceeded the storage time, baking treatment should be performed using the following conditions.
   Baking treatment : 60±5℃ for Min. Min. 24 hours.

3. Soldering Condition
   3.1 Pb-free solder temperature profile

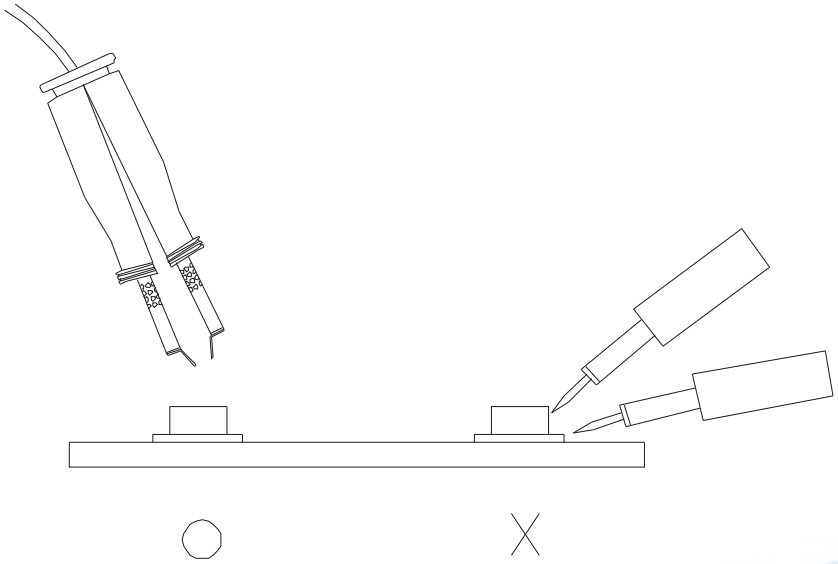


   3.2 Reflow soldering should not be done more than two times.
   3.3 When soldering, do not put stress on the Photodiode during heating.
   3.4 After soldering, do not warp the circuit board.

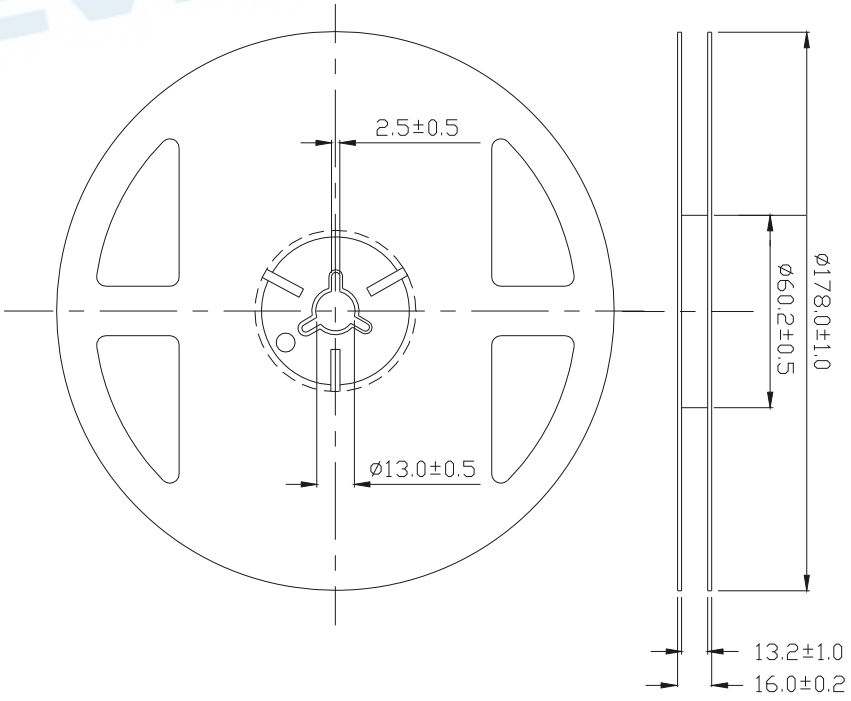
4. Soldering Iron
   Each terminal is to go to the tip of soldering iron temperature less than 350℃ for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started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

5. Repairing

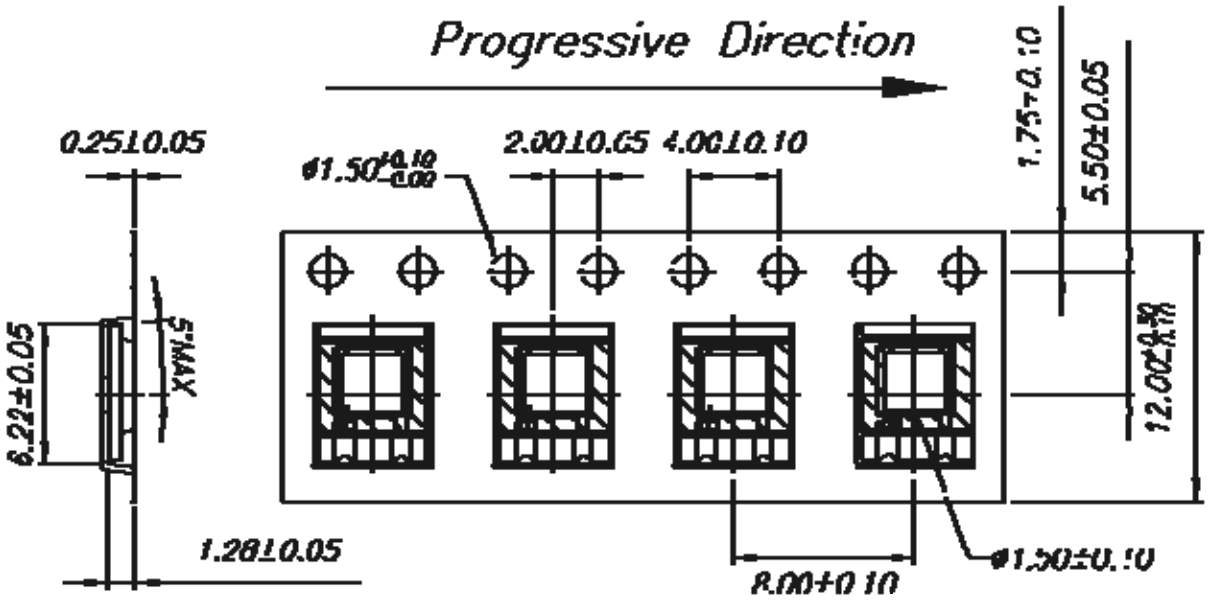
Repair should not be done after the Photodiode have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the Photodiode will or will not be damaged by repairing.



Package Dimensions

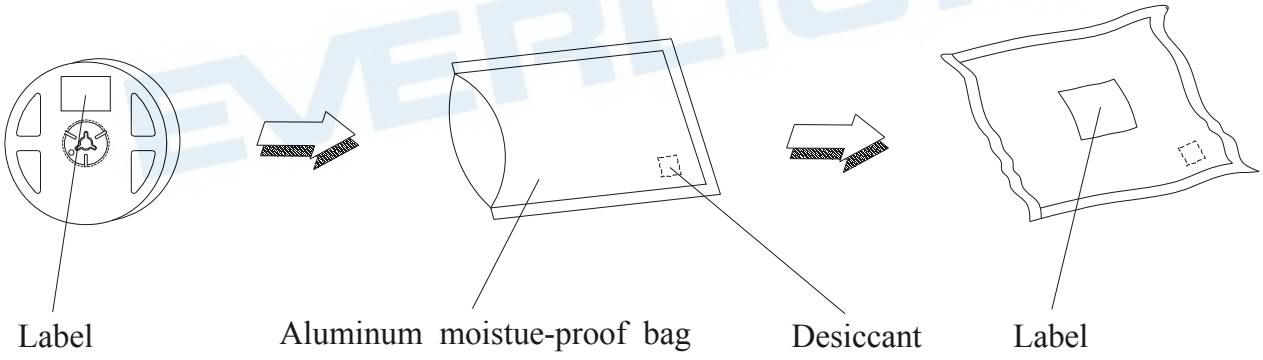


Carrier Tape Dimensions: Loaded quantity 1000PCS per reel.

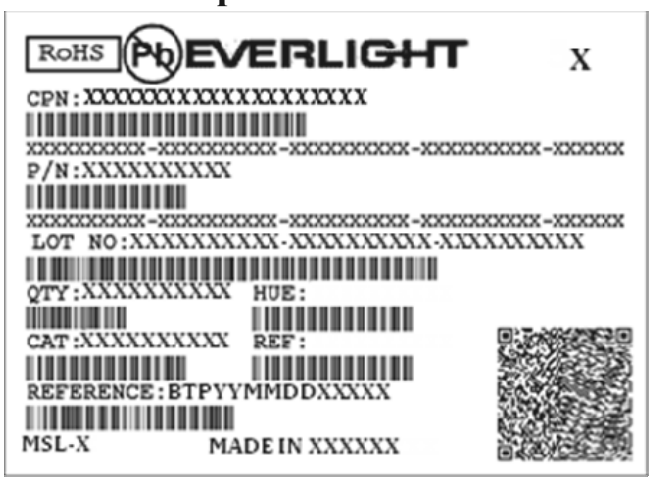


Note: 1. Dimensions are in millimeters
2. The tolerances unless mentioned is ±0.1mm

Moisture Resistant Packaging



Label Form Specification



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

DISCLAIMER

1. EVERLIGHT AMERICAS reserves the right(s) on the adjustment of product material mix for the specification.
2. The product meets EVERLIGHT AMERICAS 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 AMERICAS 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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