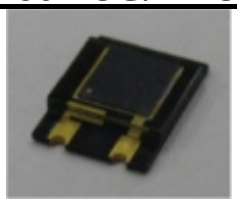
Technical Data Sheet

6.0mm*4.8mm Chip Photodiode

PD60-48C/TR8



Features

- Fast response time
- High photo sensitivity
- Small junction capacitance
- Pb free
- The product itself will remain within RoHS compliant version.

Descriptions

- 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.

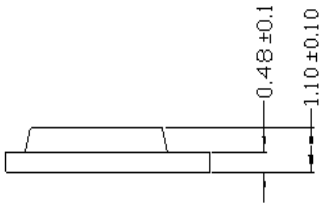
Applications

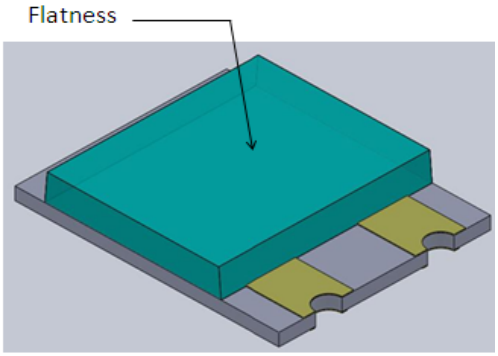
- High speed photo detector
- Copier
- Game machine

Device Selection Guide

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

Package Dimensions

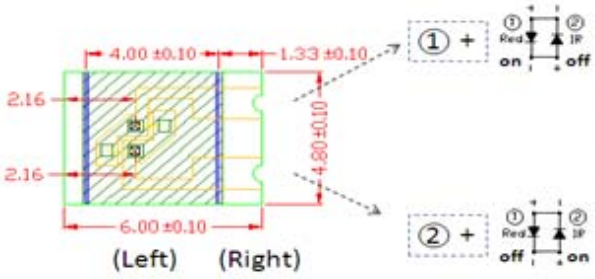


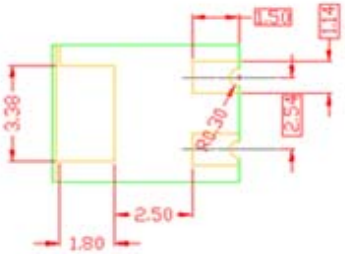


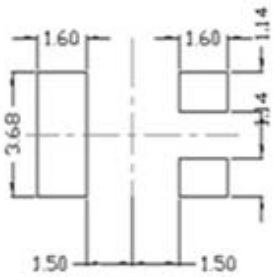
Top view

Bottom view

solder pattern







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

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V_R	32	V
Operating Temperature	T_{opr}	-25 +85	℃
Storage Temperature	T_{stg}	-25 +85	℃
Soldering Temperature	T_{sol}	260	℃
Power Dissipation at(or below) 25℃ Free Air Temperature	P_c	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	λ_P	---	---	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 V_R=5V	17.0	33.5	---	μA
		Ee=1mW /cm^2 λ_P=940nm V_R=5V	---	37.0	---	
Dark Current	I_D	Ee=0mW /cm^2 V_R=10V	---	---	20	nA
Reverse Breakdown Voltage	V_{BR}	Ee=0mW /cm^2 I_R=100 μA	33	170	---	V
Forward Voltage	V_F	I_F=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	2θ 1/2	V_R =5V	--	125	--	deg

Typical Electro-Optical Characteristics Curves

Fig.1 Power Dissipation vs. Ambient Temperature

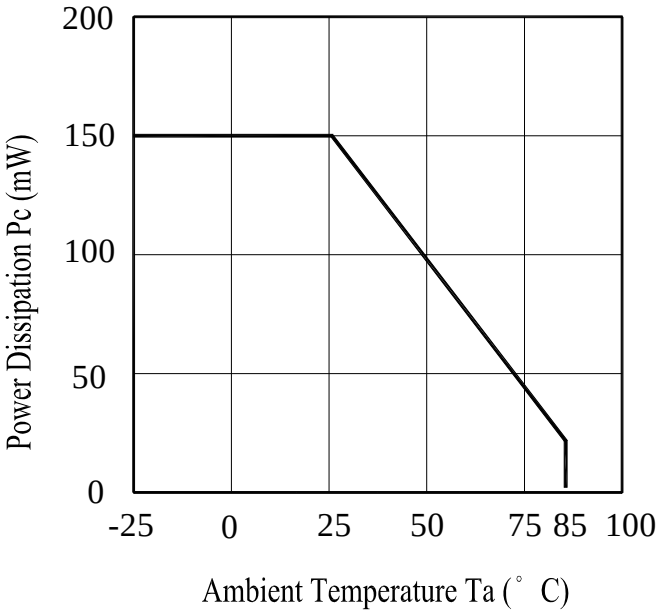


Fig.2 Spectral Sensitivity

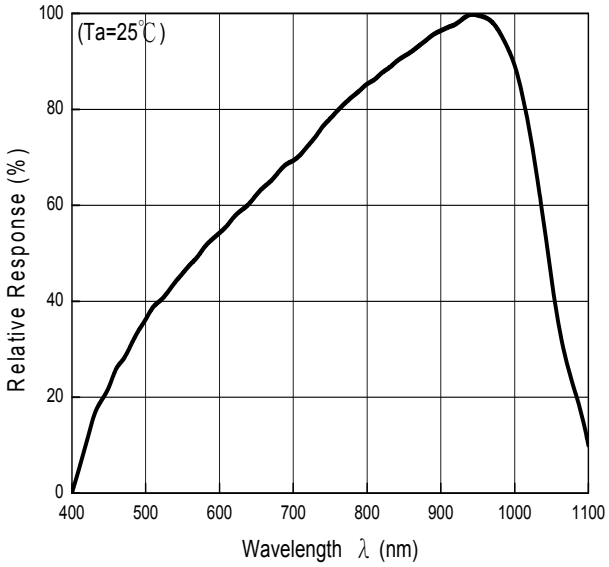


Fig.3 Dark Current vs. Ambient Temperature

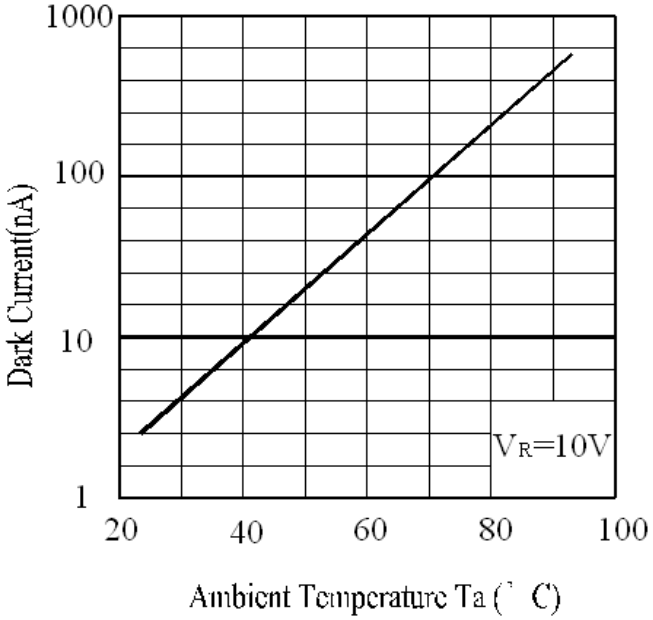
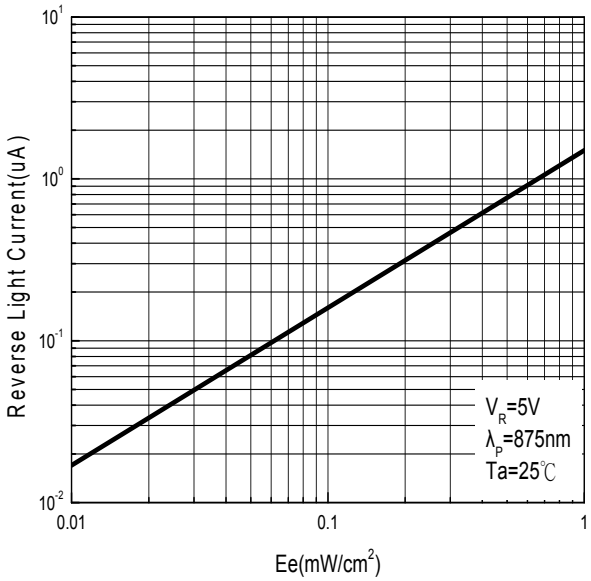
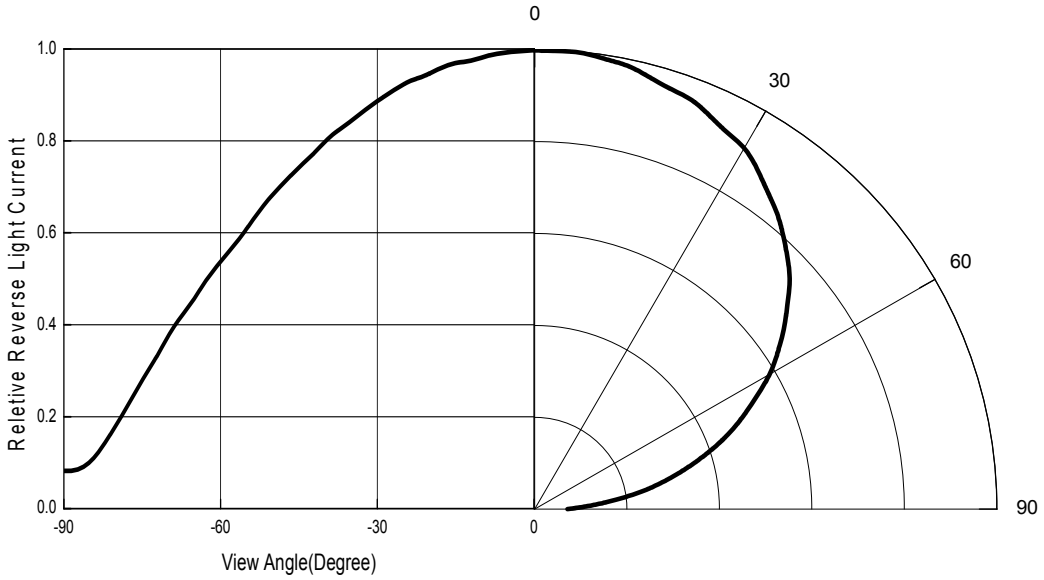


Fig.4 Reverse Light Current vs. Ee



Typical Electro-Optical Characteristics Curves

Fig.5 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 70%RH or less.

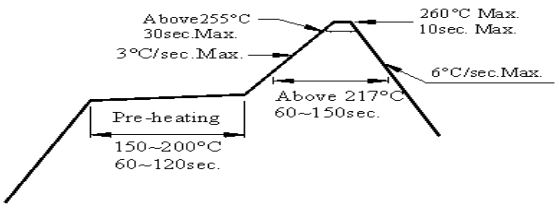
2.5 The Photodiode should be used within 72hours (3 days) after opening the package.

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 24 hours.

3. Soldering Condition

3.1 Lead 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.

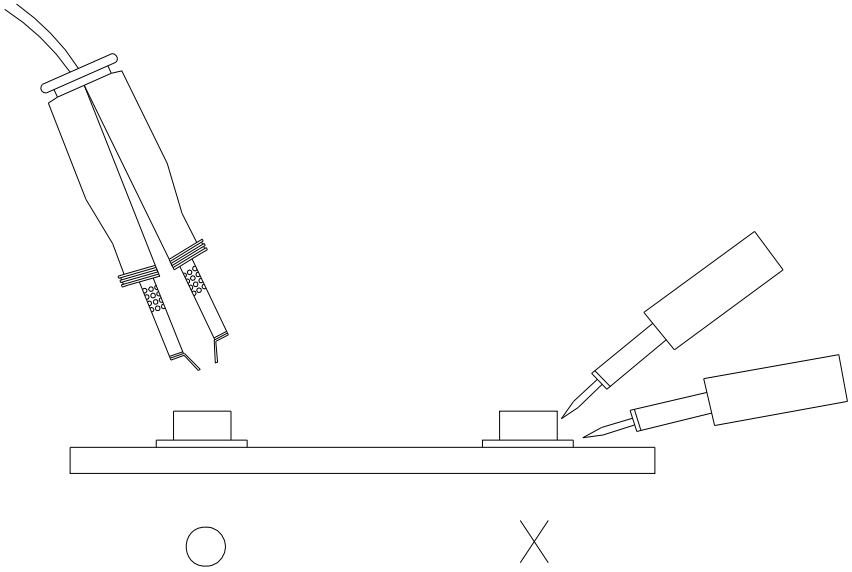
3.4 After soldering, do not warp the circuit board.

4.Soldering Iron

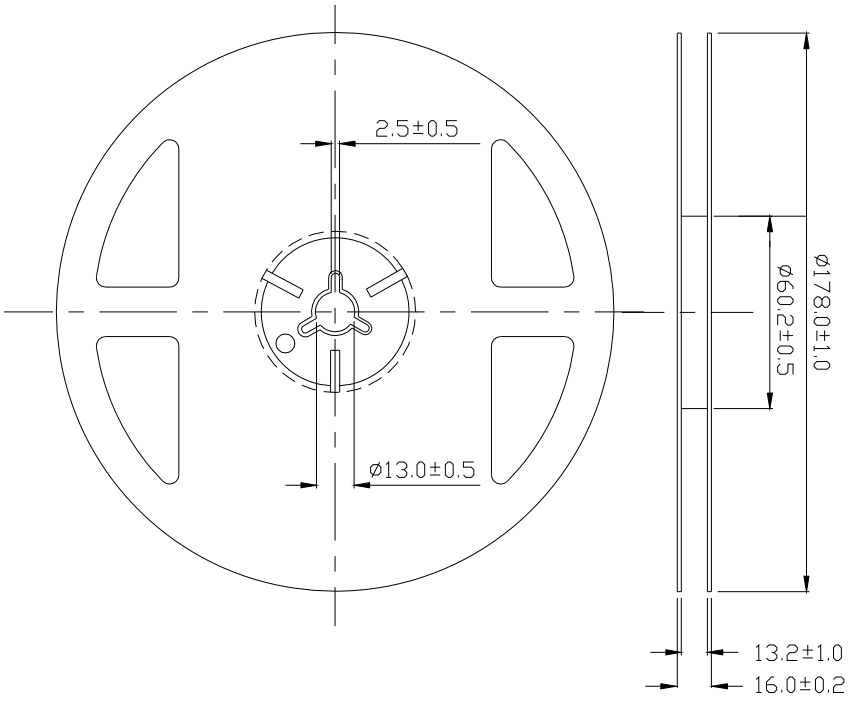
Each terminal is to go to the tip of soldering iron temperature less than 350℃ for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of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

5.Repairing

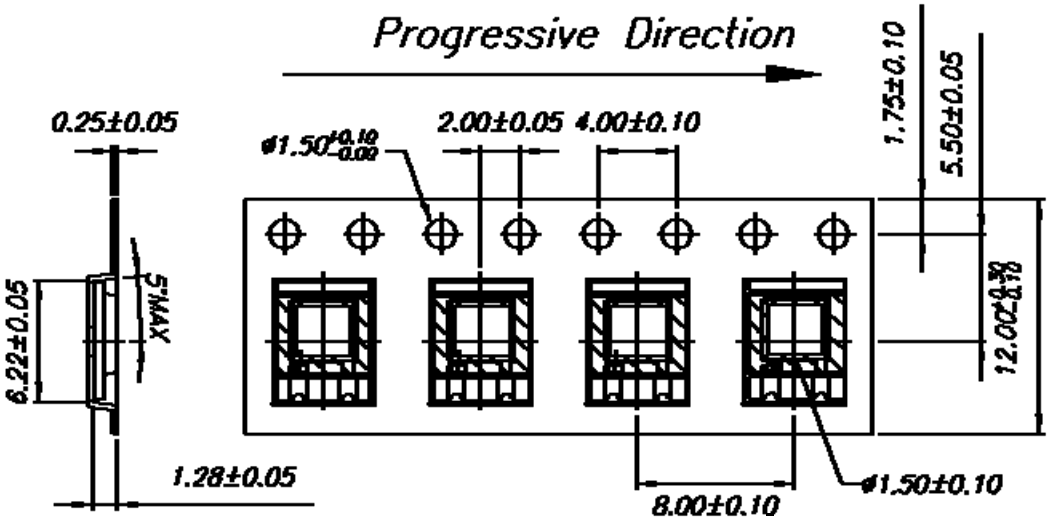
Repair should not be done after the Photodiode have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the Photodiode will or will not be damaged by repairing.



Package Dimensions



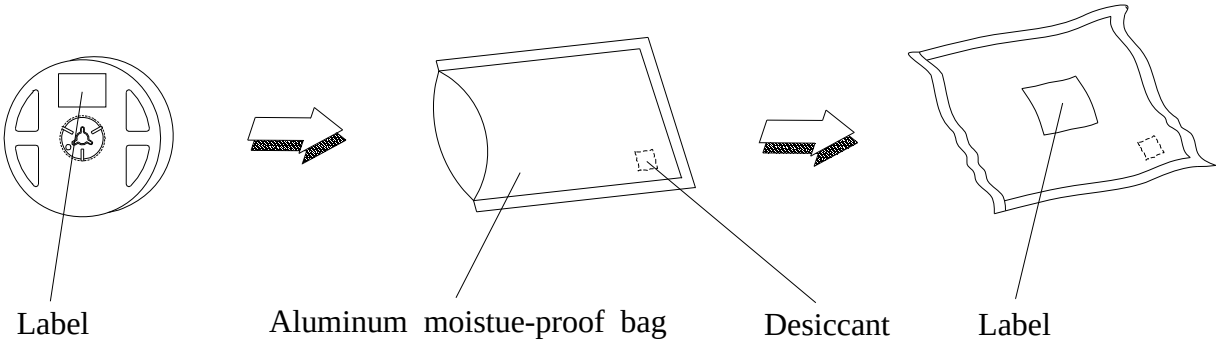
Carrier Tape Dimensions: Loaded quantity 1000 PCS per reel.



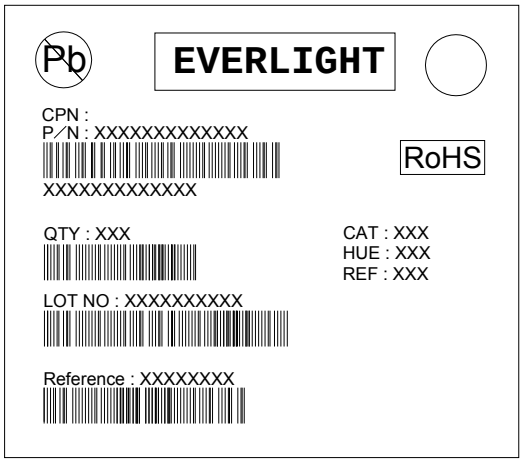
Note: 1. Dimensions are in millimeters

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

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.
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