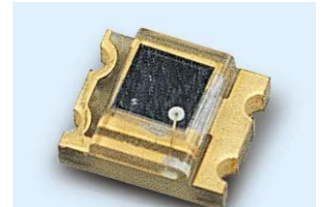


Technical Data Sheet Silicon PIN Photodiode PD15-22C/TR8

Features

- Fast response time
- High photo sensitivity
- Small junction capacitance
- 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

• PD15-22C/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 plastic. The device is Spectrally matched to visible and infrared emitting diode.

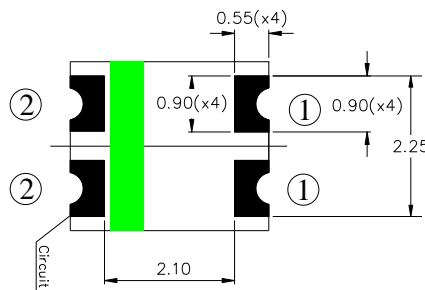
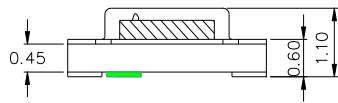
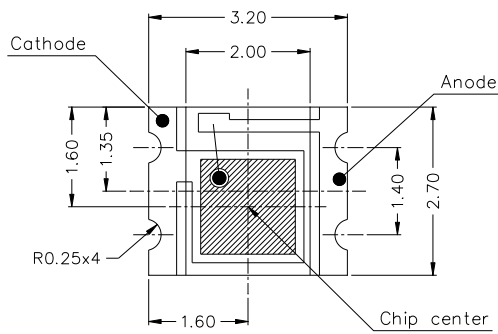
Applications

- High speed photo detector
- Copier
- Game machine

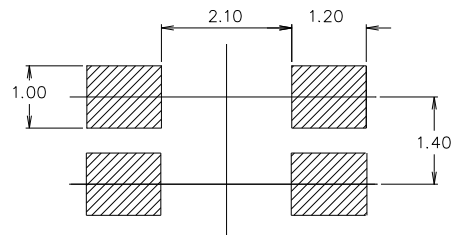
Device Selection Guide

Device No.	Chip Material	Lens Color
PD15-22C/TR8	Silicon	Water clear

Package Dimensions



For reflow soldering (propose)



Absolute Maximum Ratings (Ta=25°C)

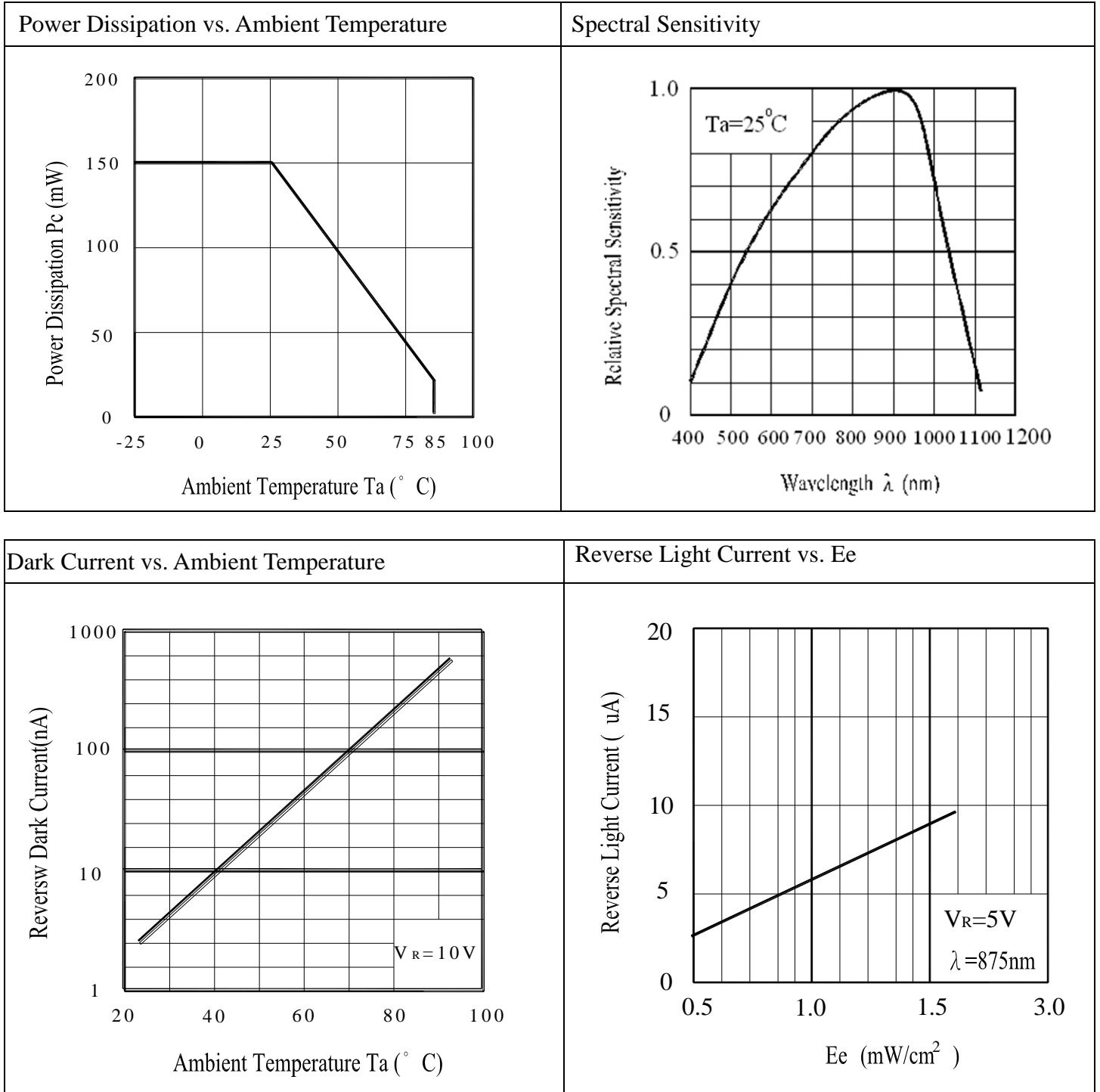
Parameter	Symbol	Rating	Unit
Reverse Voltage	V _R	32	V
Operating Temperature	T _{opr}	-40 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +100	°C
Soldering Temperature *1	T _{sol}	260	°C
Power Dissipation at(or below)	P _c	150	mW

Notes: *1:Soldering time ≤ 5 seconds.

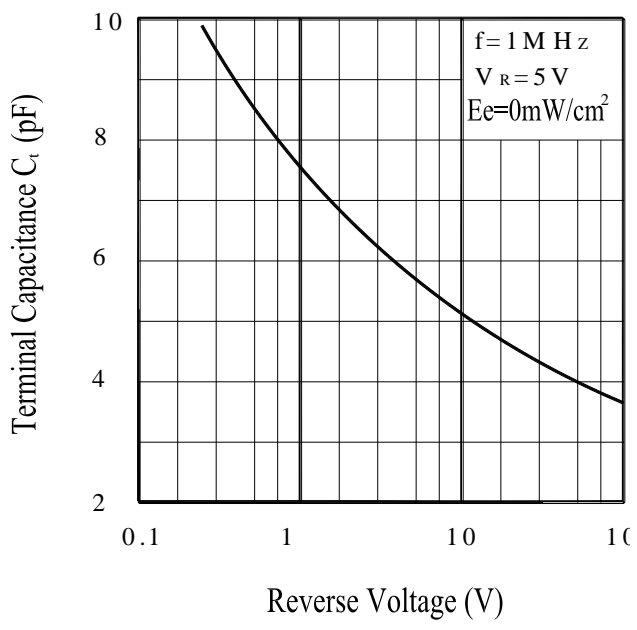
Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Rang Of Spectral Bandwidth	λ	400	---	1100	nm	10% of λ_p
Wavelength Of Peak Sensitivity	λ_p	---	940	---	nm	---
Open-Circuit Voltage	V_{OC}	---	0.41	---	V	Ee=5mW/cm ² $\lambda_p=940\text{nm}$
Short-Circuit Current	I_{SC}	4.0	6.5	---	μA	Ee=1mW/cm ² $\lambda_p=875\text{nm}$
Reverse Light Current	I_L	4.2	6.5	---	μA	Ee=1mW/cm ² $\lambda_p=875\text{nm}$ $V_R=5\text{V}$
Dark Reverse Current	I_D	---	---	10	nA	Ee=0mW/cm ² $V_R=10\text{V}$
Reverse Breakdown Voltage	B_{VR}	32	170	---	V	Ee=0mW/cm ² $I_R=100\mu\text{A}$
Rise Time	t_r	---	10	---	nS	$V_R=5\text{V}$ $R_L=1000\Omega$
Fall Time	t_f	---	10	---		

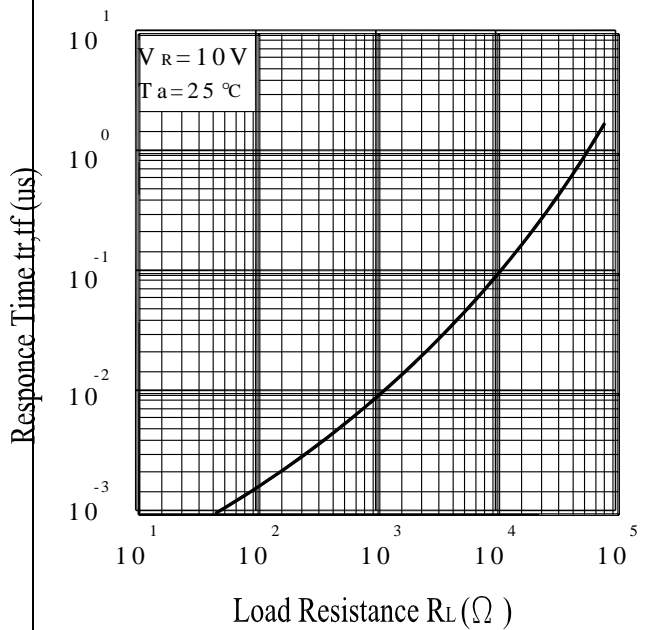
Typical Electrical/Optical/Characteristics Curves



Terminal Capacitance vs. Reverse Voltage



Response Time vs. Load Resistance



● **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.

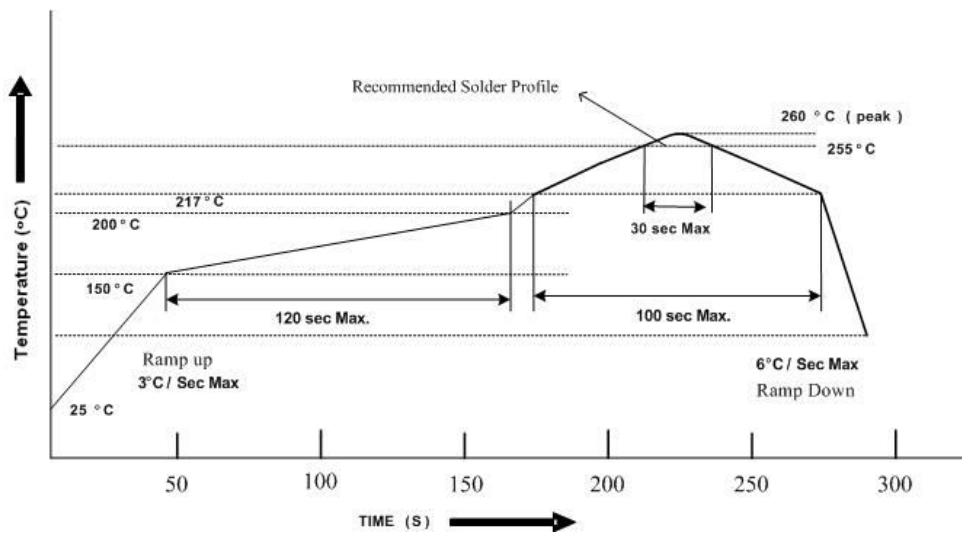
2.2 Shelf life in sealed bag from the bag seal date: 12 months at < 40°C and < 90% RH.

2.3 After opening the package, the LEDs must be kept at ≤ 30°C and ≤ 60%RH, and used within a year.

2.4 If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time. Baking treatment is required, refer to IPC/JEDEC J-STD-033 for bake procedure or recommend the conditions : 60±5°C for 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 LEDs during heating.

3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

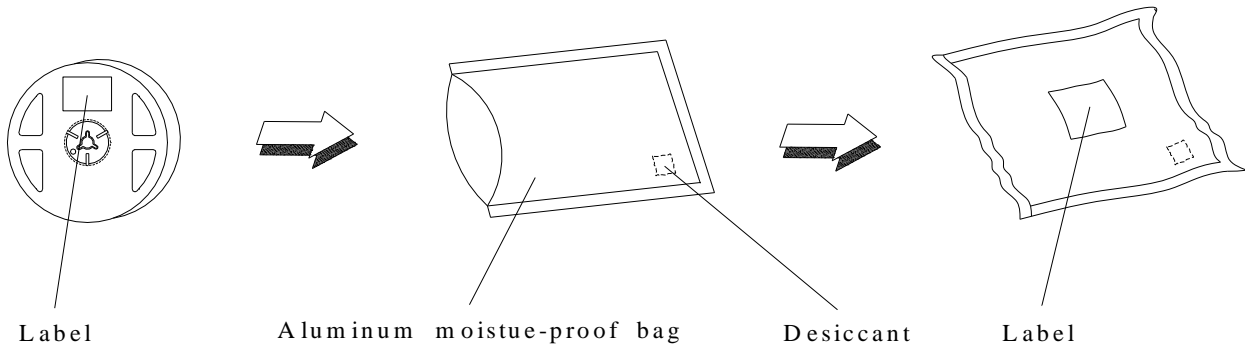
Each terminal is to go to the tip of soldering iron temperature less than 350°C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of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



Packing Procedure



Label Form Specification

The label form includes the following fields and symbols:

- RoHS symbol (Pb in a circle with a slash)
- EVERLIGHT logo
- CPN : XXXXXXXXXXXXX
- P/N : XXXXXXXXXXXXX
- XXXXXXXXXXXXXX
- RoHS symbol
- QTY : XXX
- CAT : XXX
- HUE : XXX
- REF : XXX
- LOT NO : XXXXXXXXXXXX
- Reference : XXXXXXXXX
- MADE IN TAIWAN

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.