

Technical Data Sheet

1.2mm Round Subminiature Side Looking Phototransistor PT26-61B/TR8

Features

- Fast response time
- High photo sensitivity
- Small junction capacitance
- Package in 8mm tape on 7" diameter reels.
- 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

- PT26-61B/TR8 is a phototransistor in miniature SMD package which is molded in a black with spherical top view lens. The device is Spectrally matched to infrared emitting diode.

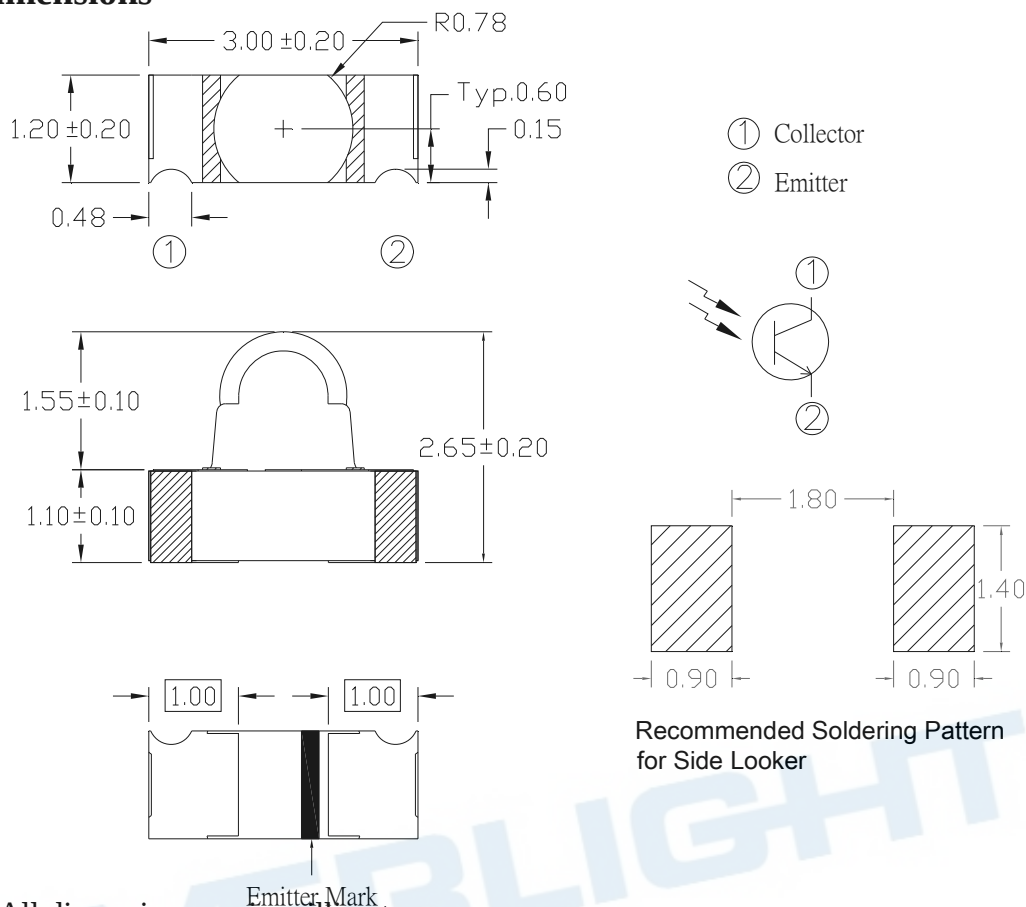
Applications

- Miniature switch
- Counters and sorter
- Position sensor
- Infrared applied system

Device Selection Guide

Device No.	Chip Material	Lens Color
PT26-61B/TR8	Silicon	Black

Package Dimensions



- Notes:** 1.All dimensions are in millimeters
2.Tolerances unless dimensions $\pm 0.1\text{mm}$

Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Collector-Voltage	V_{ECO}	5	V
Collector Current	I_C	20	mA
Operating Temperature	T_{opr}	-25 ~ +85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 ~ +100	$^\circ\text{C}$
Soldering Temperature *1	T_{sol}	260	$^\circ\text{C}$
Power Dissipation at(or below) 25 $^\circ\text{C}$ Free Air Temperature	P_c	75	mW

Notes: *1:Soldering time ≤ 5 seconds.

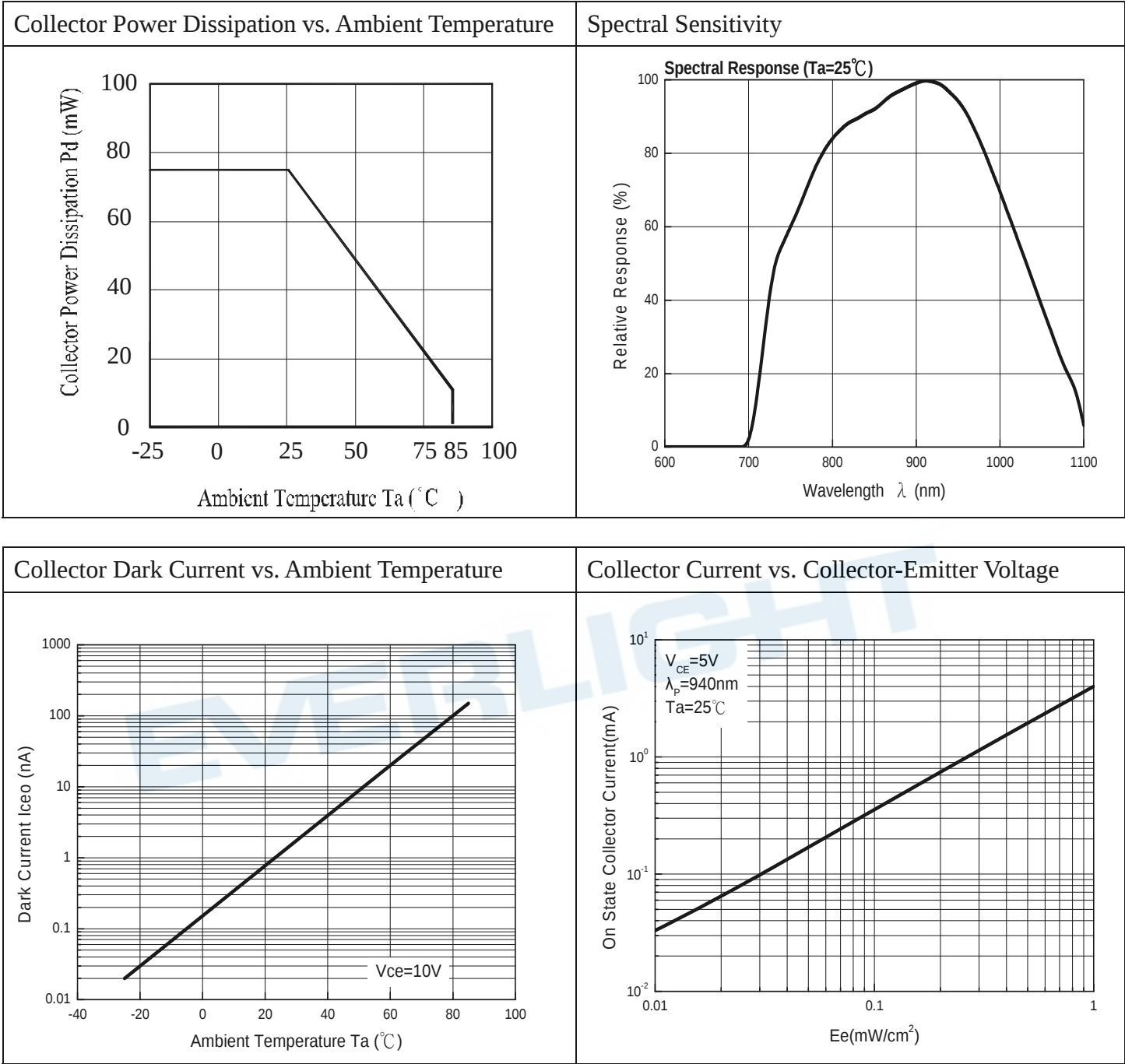
Electro-Optical Characteristics (Ta=25°C unless specified otherwise)

Parameter	Symbol	Min.	Typ.*	Max.	Unit	Condition
Rang Of Spectral Bandwidth	$\lambda_{0.1}$	730	--	1100	nm	--
Wavelength Of Peak Sensitivity	λ_p	-	920	--	nm	--
Collector-Emitter Breakdown Voltage	BV_{CEO}	30	-	--	V	$I_C=100\mu A$ $E_e=0mW/cm^2$
Emitter-Collector Breakdown Voltage	BV_{ECO}	5	--	--	V	$I_C=100\mu A$ $E_e=0mW/cm^2$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	--	--	0.4	V	$I_C=1mA$ $E_e=1mW/cm^2$
Collector Dark Current	I_{CEO}	--	--	100	nA	$V_{CE}=20V$ $E_e=0mW/cm^2$
On State Collector Current	$I_{C(ON)}$	1.77	4.0	--	mA	$V_{CE}=5V$ $E_e=1mW/cm^2$ $\lambda_p=940nm$
Rise Time	t_r	--	15	--	μS	$V_{CE}=5V$ $I_C=1mA$
Fall Time	t_f	--	15	--	μS	$R_L=1000\Omega$
View Angle	$2\theta_{1/2}$	--	35	--	Deg.	$V_{CE}=5V$

Rankings

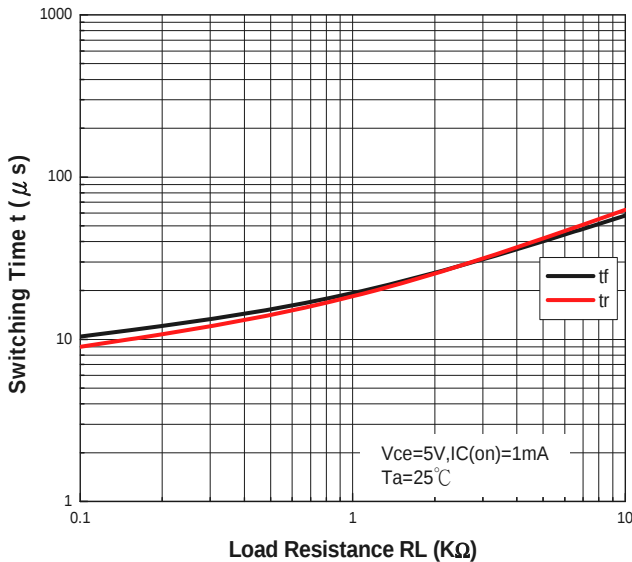
Rank	Test Condition	Min	Max	Unit
Bin5	$V_{CE}=5V$ $E_e=1mW/cm^2$ $\lambda_p=940nm$	1.77	3.61	mA
Bin6		2.67	5.07	
Bin7		3.54	7.07	
Bin8		5.00	--	

Typical Electro-Optical Characteristics Curves

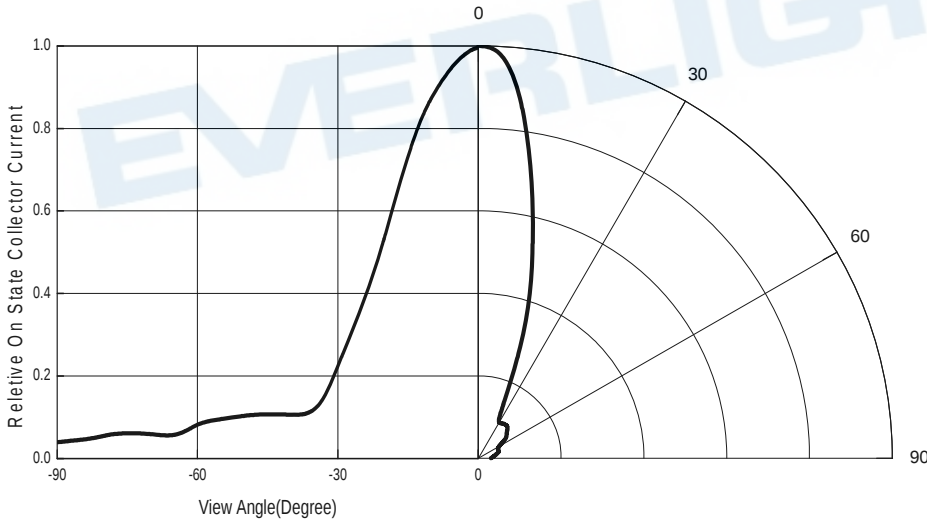


Typical Electro-Optical Characteristics Curves

Switching Time vs. Load Resistance



Relative On State Collector 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 Phototransistor should be kept at 30°C or less and 90%RH or less.

2.3 The Phototransistor should be used within a year.

2.4 After opening the package, the Phototransistor should be kept at 30°C or less and 60%RH or less.

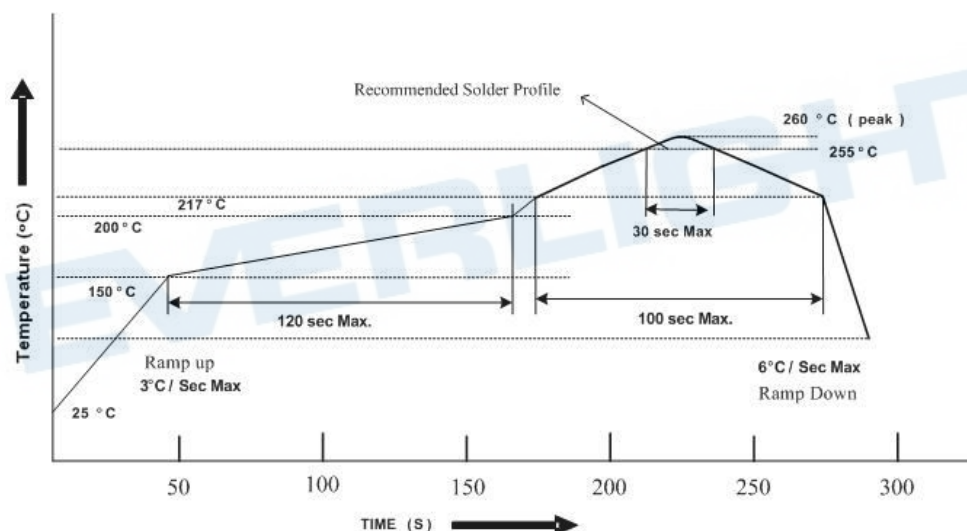
2.5 The Phototransistor should be used within 168 hours (7 days) after opening the package.

2.6 If the moisture absorbent material (silica gel) has faded away or the Phototransistor have exceeded the storage time, baking treatment should be performed using the following conditions.

Baking treatment : 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 Phototransistor during heating.

3.4 After soldering, do not warp the circuit board.

Technical drawing of a circular mechanical part, showing a top view and a side view. The top view is a circle with a central feature and four curved slots. The side view shows the profile of the part with dimensions for thickness and radius.

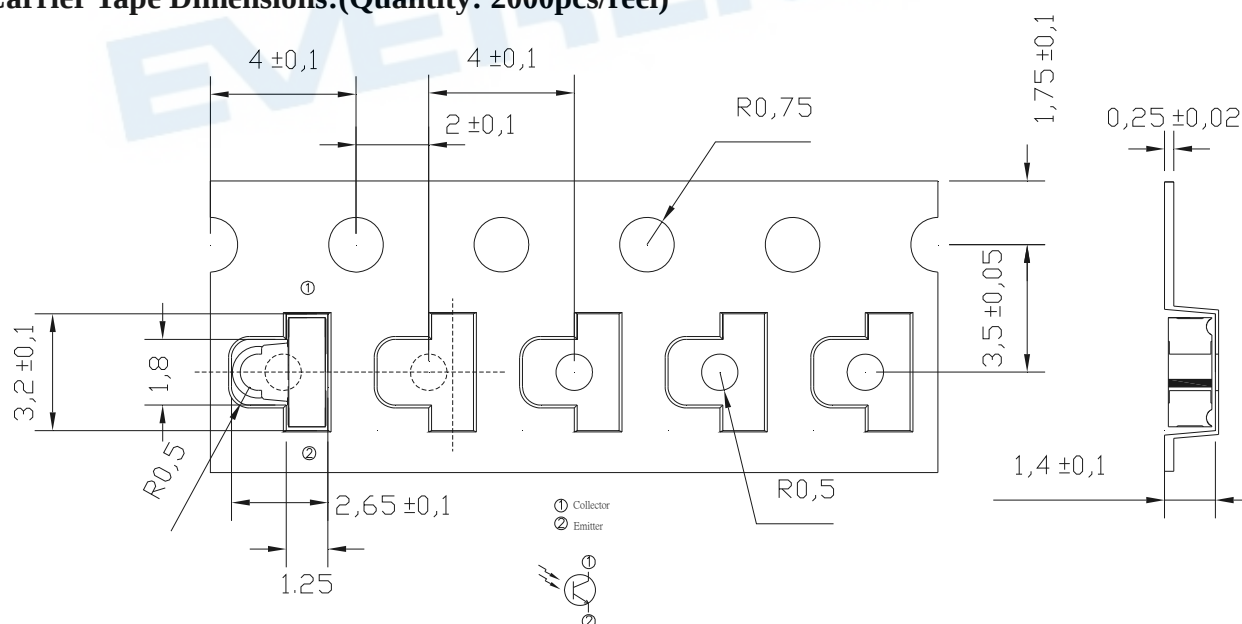
Top View Dimensions:

- Overall diameter: $\phi 178.0 \pm 1.0$
- Inner diameter: $\phi 60.0 \pm 0.5$
- Radius of central feature: 2.2 ± 0.5
- Radius of inner circle: $\phi 13.0 \pm 0.5$

Side View Dimensions:

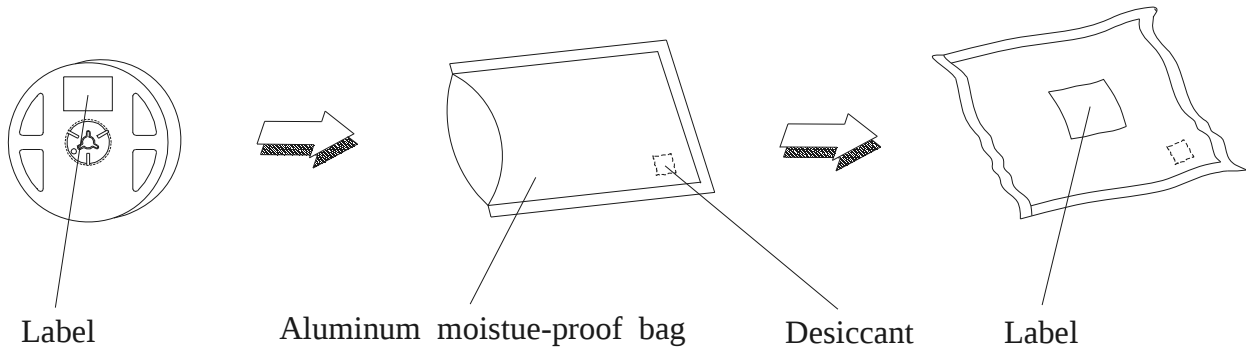
- Overall thickness: 9.0 ± 0.5
- Radius of side view: 12.0 ± 0.15

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

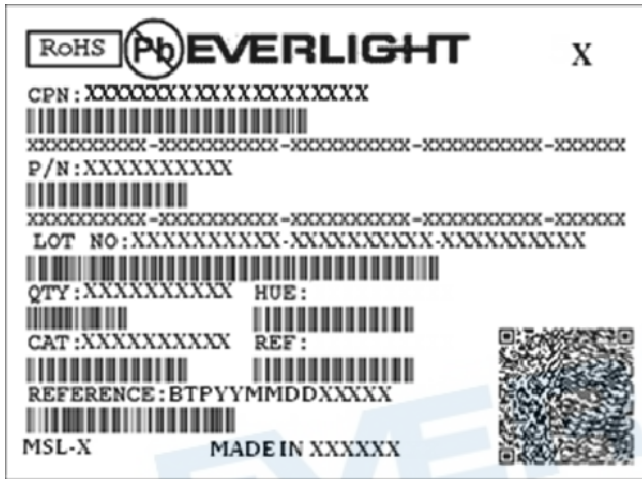


Note: The tolerances unless mentioned is $\pm 0.1\text{mm}$,Unit = mm

Packing Procedure



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

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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.
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