EVERLIGHT
AMERICAS

DATASHEET

Package Top Phototransiator
EAPST17086A0

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

- EAPST17086A0 is a phototransistor in miniature SMD package hich is molded in a water clear with flat top view lens. he device is Spectrally matched to visible and infrared emitting

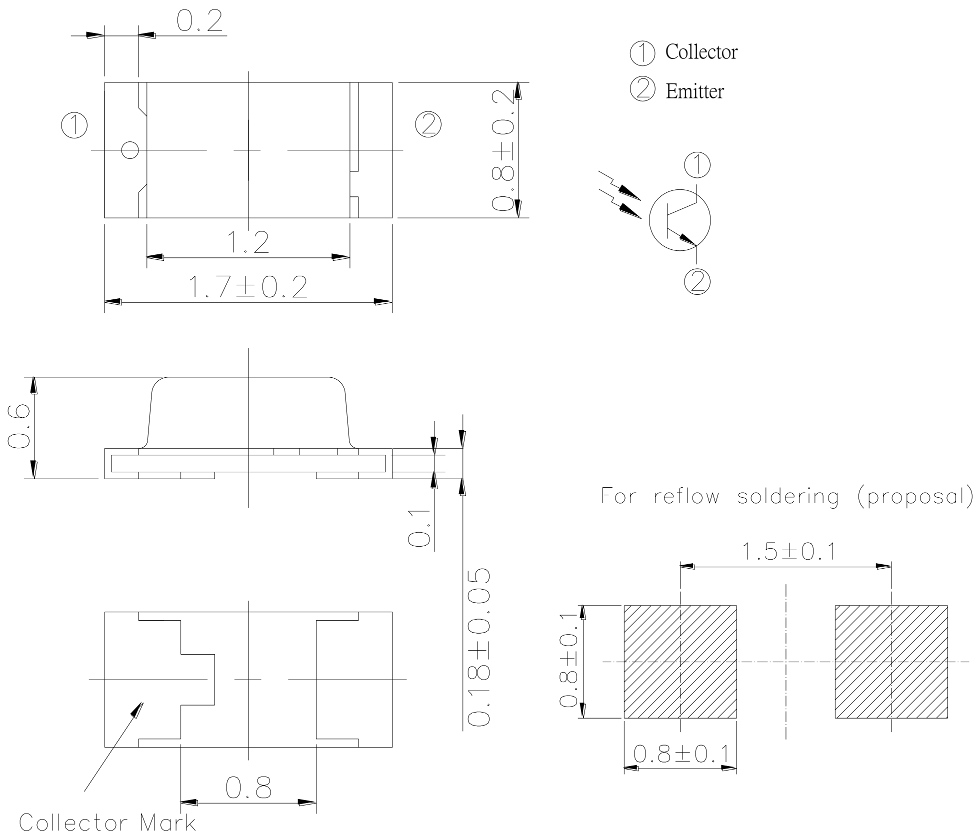
Applications

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

Device Selection Guide

Device No.	Chip Material	Lens Color
EAPST17086A0	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	Rating	Unit
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Collector-Voltage	V_{ECO}	5.5	V
Collector Current	I_C	20	mA
Operating Temperature	T_{opr}	-25 ~ +85	℃
Storage Temperature	T_{stg}	-40 ~ +100	℃
Soldering Temperature	T_{sol}	260	℃
Power Dissipation at(or below) 25℃Free Air Temperature	P_c	75	mW

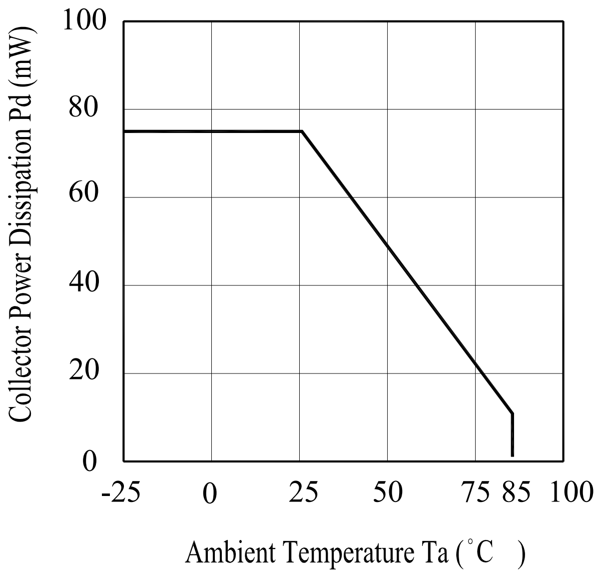
Notes: *1:Soldering time≦5 seconds.

Electro-Optical Characteristics (Ta=25℃)

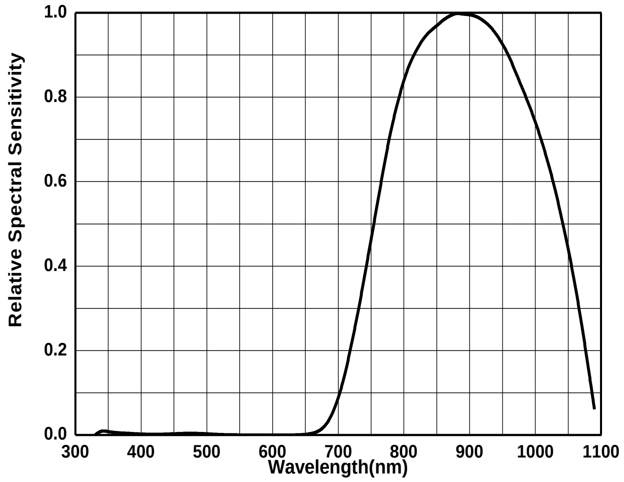
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Rang Of Spectral Bandwidth	$\lambda_{0.5}$	760	---	1100	nm	---
Wavelength Of Peak Sensitivity	λ_P	---	940	---	nm	---
Collector-Emitter Breakdown Voltage	BV_{CEO}	30	---	---	V	$I_C=100\mu A$ $Ee=0mW/cm^2$
Emitter-Collector Breakdown Voltage	BV_{ECO}	5	---	---	V	$I_E=100\mu A$ $Ee=0mW/cm^2$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	---	---	0.4	V	$I_C=2mA$ $Ee=1mW/cm^2$
Collector Dark Current	I_{CEO}	---	---	100	nA	$V_{CE}=20V$ $Ee=0mW/cm^2$
On State Collector Current	$I_{C(ON)}$	0.1	0.6	---	mA	$V_{CE}=5V$ $Ee=1mW/cm^2$ $\lambda_P=940nm$
Rise Time	t_r	---	15	---	μS	$V_{CE}=5V$ $I_C=1mA$ $R_L=1000\Omega$
Fall Time	t_f	---	15	---		

Typical Electrical/Optical/Characteristics Curves

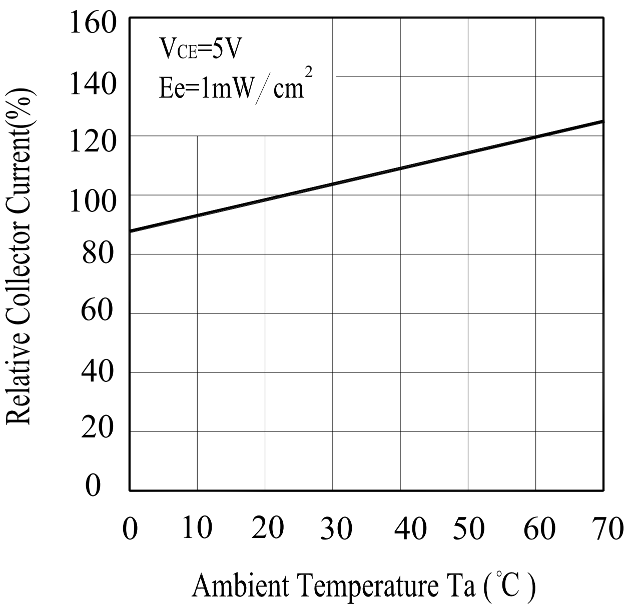
Collector Power Dissipation vs. Ambient Temperature



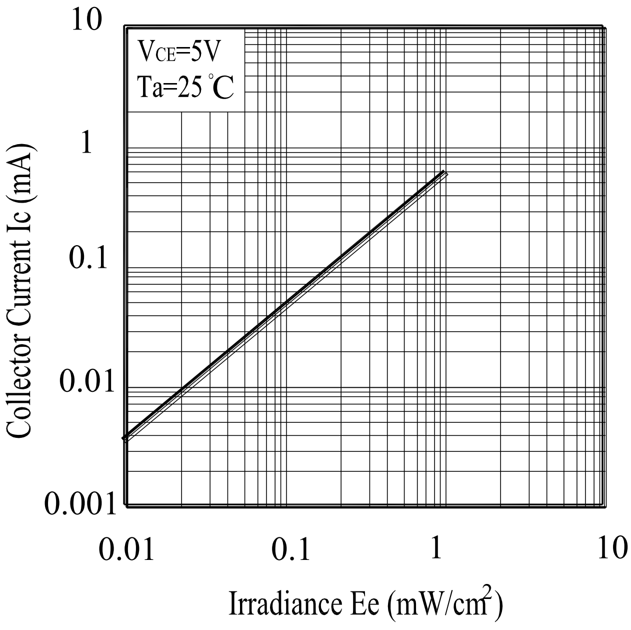
Spectral Sensitivity



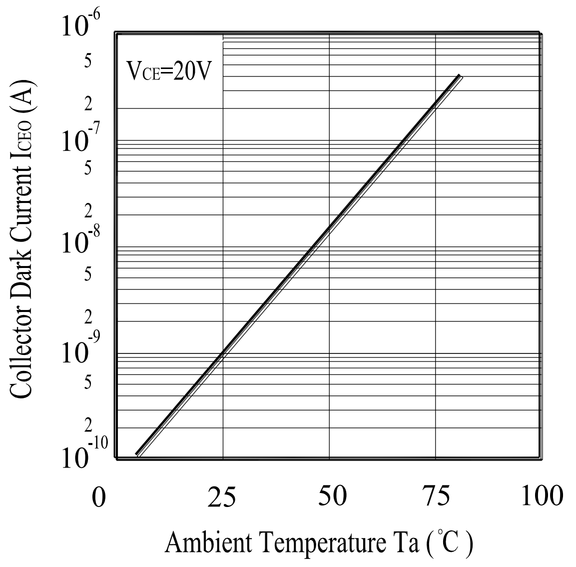
Relative Collector Current vs. Ambient Temperature



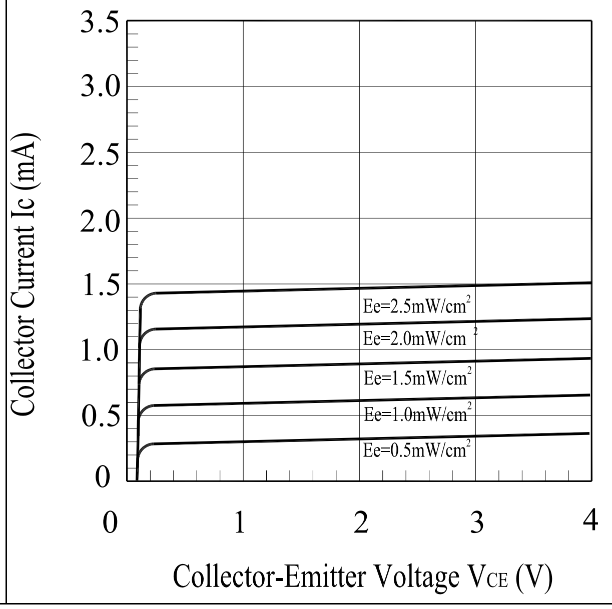
Collector Current vs. Irradiance



Collector Dark Current vs. Ambient Temperature



Response Time vs. Load Resistance



Precautions For Use

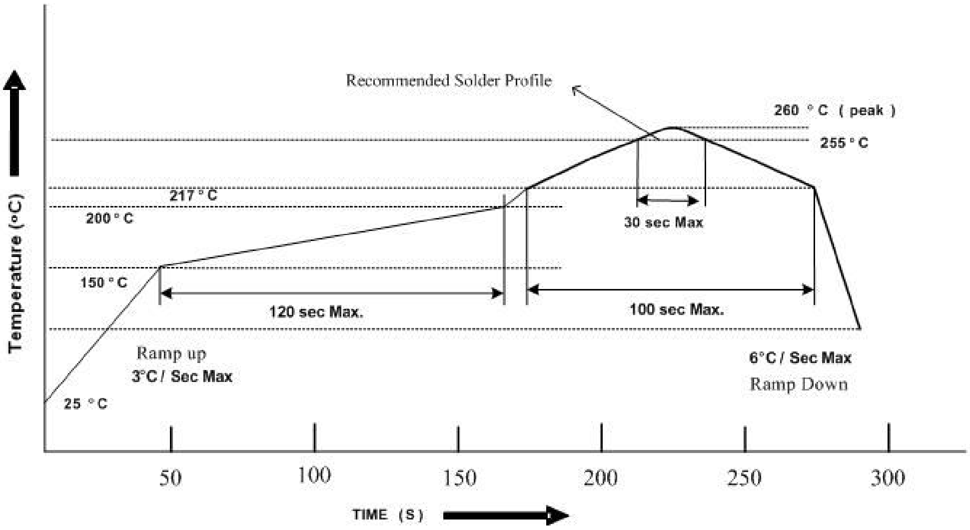
1. Over-current-proof

   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 Phototransiator 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 Phototransiator 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.24hrs.

3. Soldering Condition
   3.1 Pb-free solder temperature profile



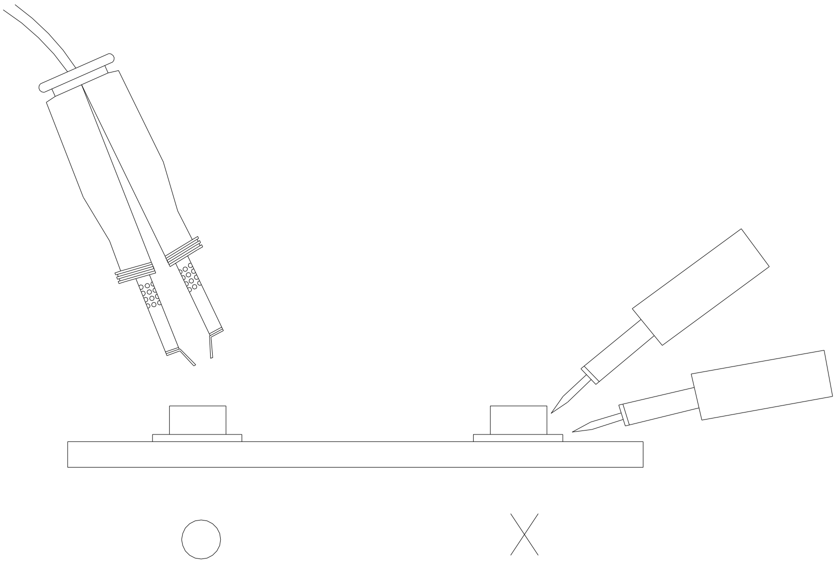
   3.2 Reflow soldering should not be done more than two times.
   3.3 When soldering, do not put stress on the Phototransiator during heating.
   3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

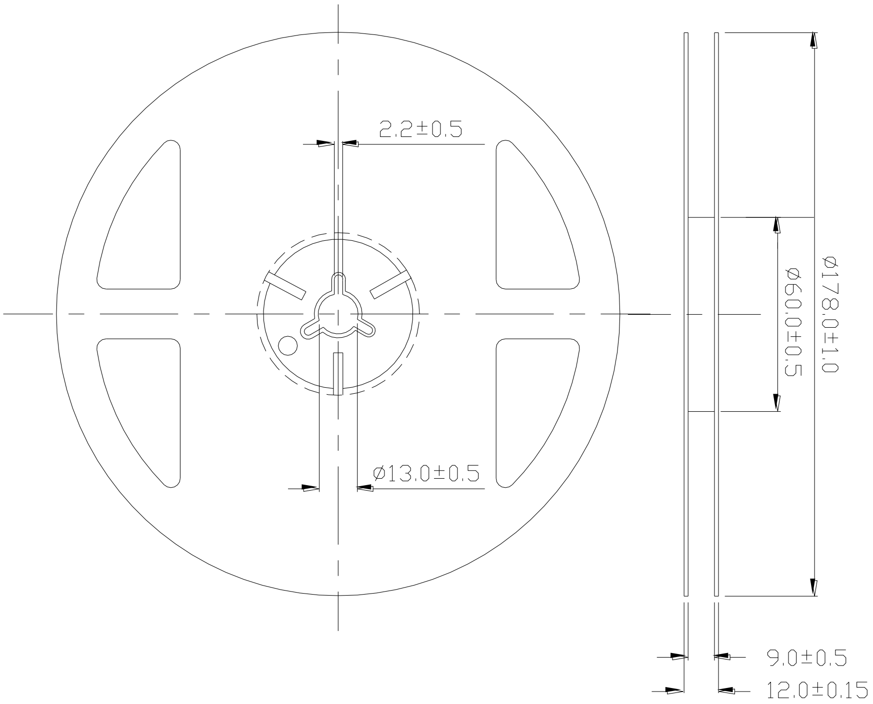
Each terminal is to go to the tip of soldering iron temperature less than 350℃ for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of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

5. Repairing

Repair should not be done after the Phototransiator 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 Phototransiator will or will not be damaged by repairing.

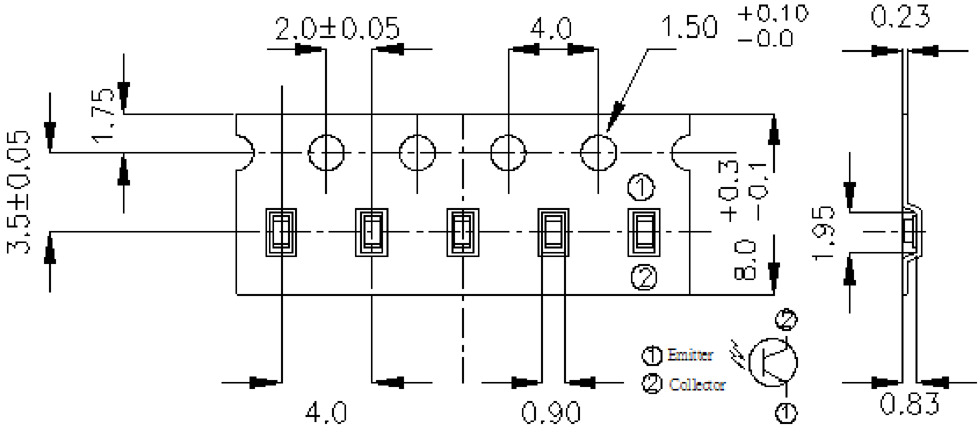


Package Dimensions



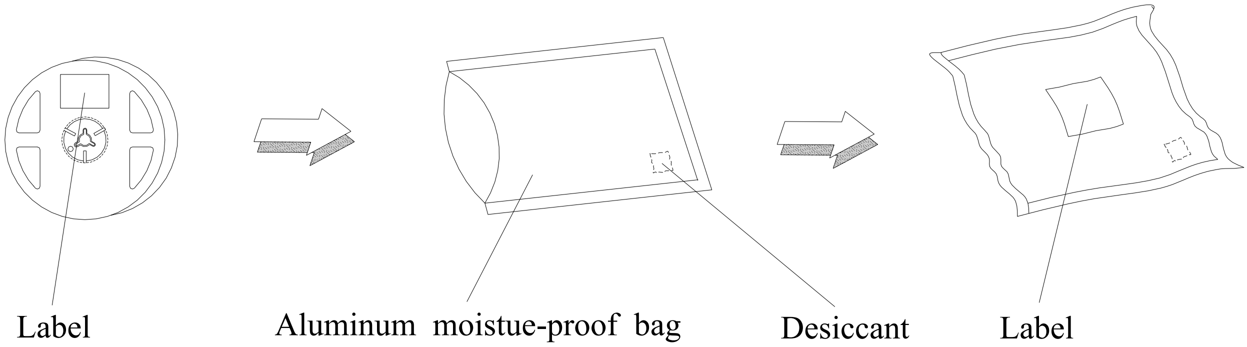
Note: The tolerances unless mentioned is ±0.1mm ,Unit = mm

2. Carrier Tape Dimensions:(Quantity: 4000pcs/reel)

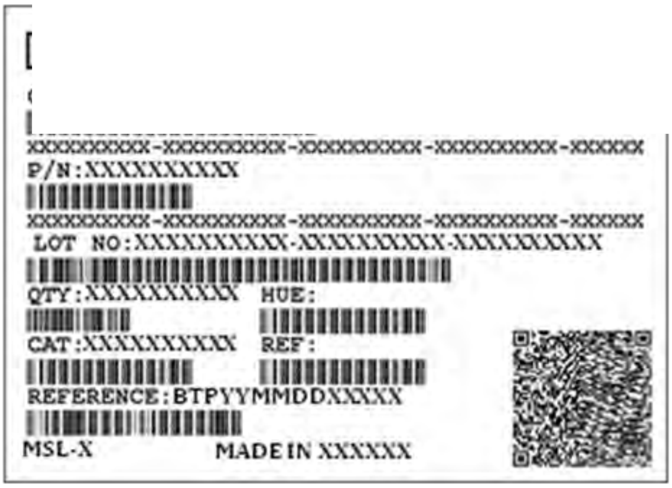


Note: The tolerances unless mentioned is ±0.1mm ,Unit = mm

Pa



Label Form Specification


XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX
P/N:XXXXXXXXXX
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX
LOT NO:XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX
QTY:XXXXXXXXXX HUE:
CAT:XXXXXXXXXX REF:
REFERENCE:BTPYYMMDDXXXXX
MSL-X MADE IN XXXXXX

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 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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