

SILICON PIN PHOTO DIODE**1、 DESCRIPTIONS:**

- GTT1-PD02AB-TT is a high speed and high sensitive silicon PIN photodiode with exceptionally stable characteristics and high illumination sensitivity.
- Molded in black epoxy , untinted PCB based SMD package.

2、 FEATURE:

- Fast Response Time.
- High Photo Sensitivity.
- Fast Switching Time.
- Lead Free product, in compliance with RoHS.
- Floor life:168h,MSL3,acc.J-STD-020

3、 APPLICATIONS:

- High Speed Photo Detector.
- Security System.
- Camera.

4、 ABSOLUTE MAXIMUM RATINGS AT Ta=25°C

Parameter	Symbol	Ratings	Unit
Power Dissipation	PD	100	mW
Reverse Breakdown Voltage	V(BR)	60	V
Operating Temperature	Topr	-40~+85	°C
Storage Temperature	Tstg	-55~+100	°C
Soldering Temperature	Tsol	270°C for 6 sec Max (2mm from Body)	

5、 TYPICAL ELECTRICAL & OPTICAL CHARACTERISTICS (ta=25°C)

Parameter	Symbol	Min.	Type	Max.	Unit	Test Condition
Reverse Light Current	IL	3.2	6		μA	VR=5v Ee=1mw/cm2
Reverse Dark Current	ID			10	nA	VR=10v Ee=0mw/cm2
Reverse Breakdown Voltage	V(BR)	33			V	IR=100μA Ee=0mw/cm2
Rise Time	Tr		40		nS	VR=20v λp=850nm RL=50Ω
Fall Time	Tf		40		ns	
Forward Voltage	VF			1.2	V	IF=1mA
Total Capacitance	CT		21		pF	VR=5v Ee=0mw/cm2 f=1.0MHZ

6、 RELIABILITY TEST ITEMS AND CONDITIONS:

NO	Item	Test Conditions	Test Hours/Cycle	Sample Quantity	Test Result
1	Solder Heat	TEMP: 260°C ±3°C	5 SEC	11 pcs	0 DEFECT
2	Temperature Cycle	H:+85°C 180min ↓ 10min L:-25°C 180min	16 cycles	22 pcs	0 DEFECT
3	Thermal Shock	H:+85°C 30min ↑ 30sec L:-25°C 30min	10 cycles	11 pcs	0 DEFECT
4	High Temperature Storage	TEMP: +25°C	1000 HRS	22 pcs	0 DEFECT
5	Low Temperature Storage	TEMP: -25°C	1000 HRS	22 pcs	0 DEFECT
6	High Temperature High Humidity Storage	85°C/85% RH	1000HRS	22 pcs	0 DEFECT

7. TYPICAL ELECTRO-OPTICAL CHARACTERISTICS CURVES:

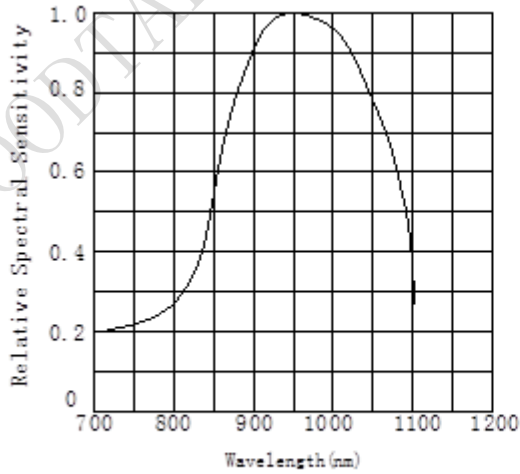


FIG. 1 Relative Spectral Sensitivity vs. Wavelength

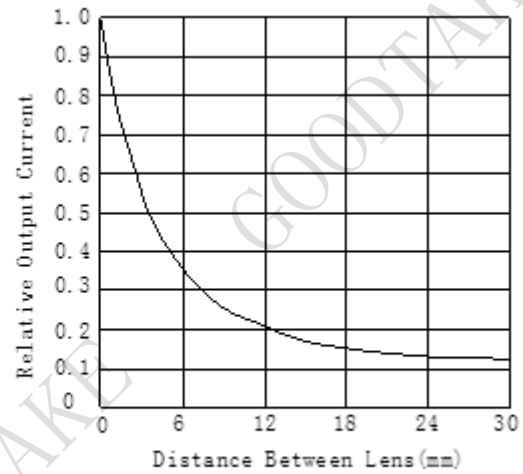


FIG. 2 Coupling Characteristics

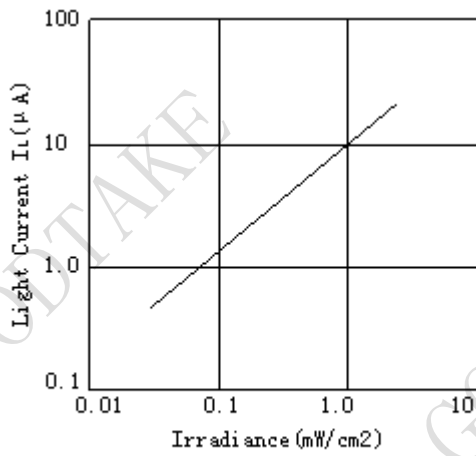


FIG. 3 I_L vs I_v

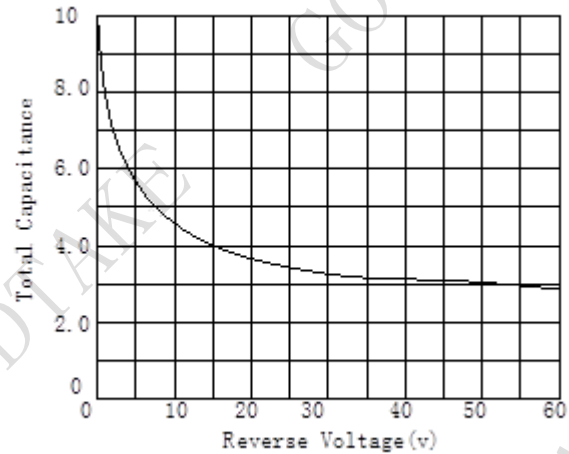
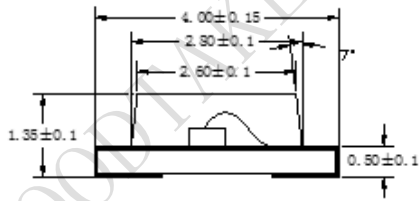
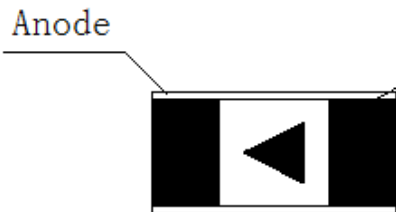


FIG. 4 V_R vs C_T

8、 PACKAGE DIMENSIONS:



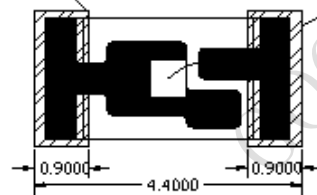
Recommended Solder Pad



Cathode

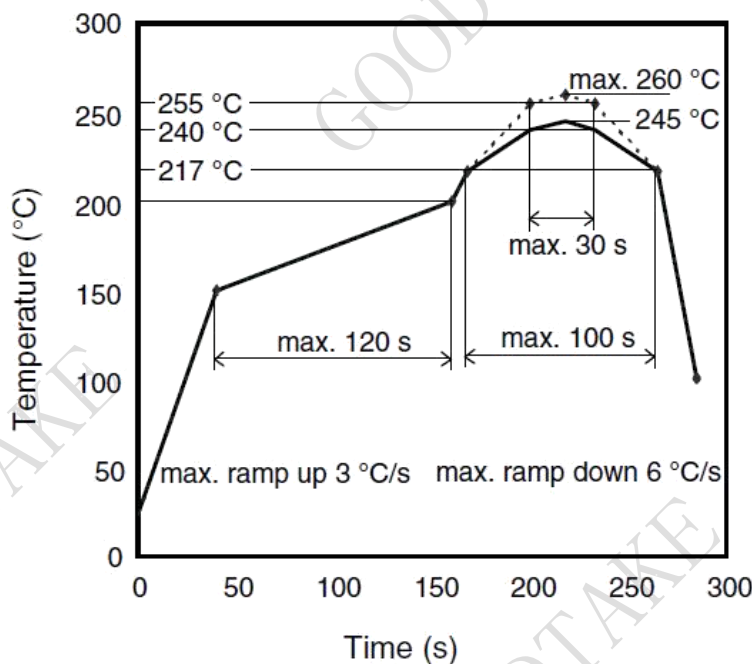
Anode

Cathode



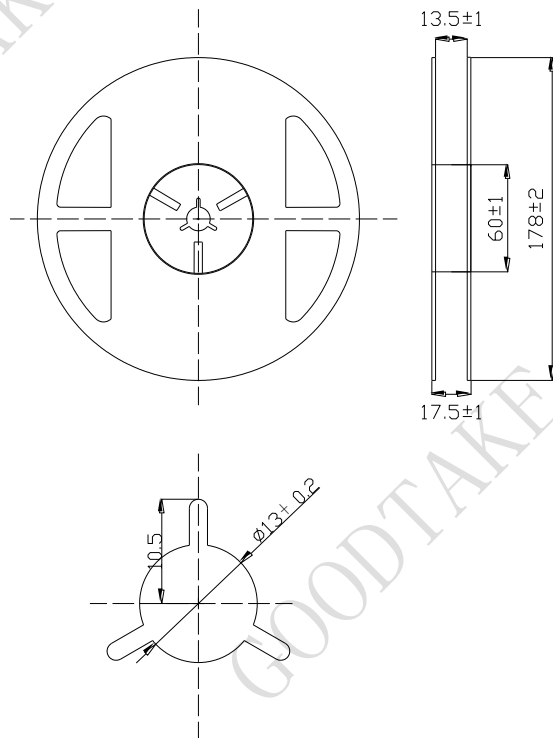
1. All dimensions are in millimeters
2. Tolerance is ± 0.1 unless otherwise noted

9、 REFLOW SOLDER PROFIEL:

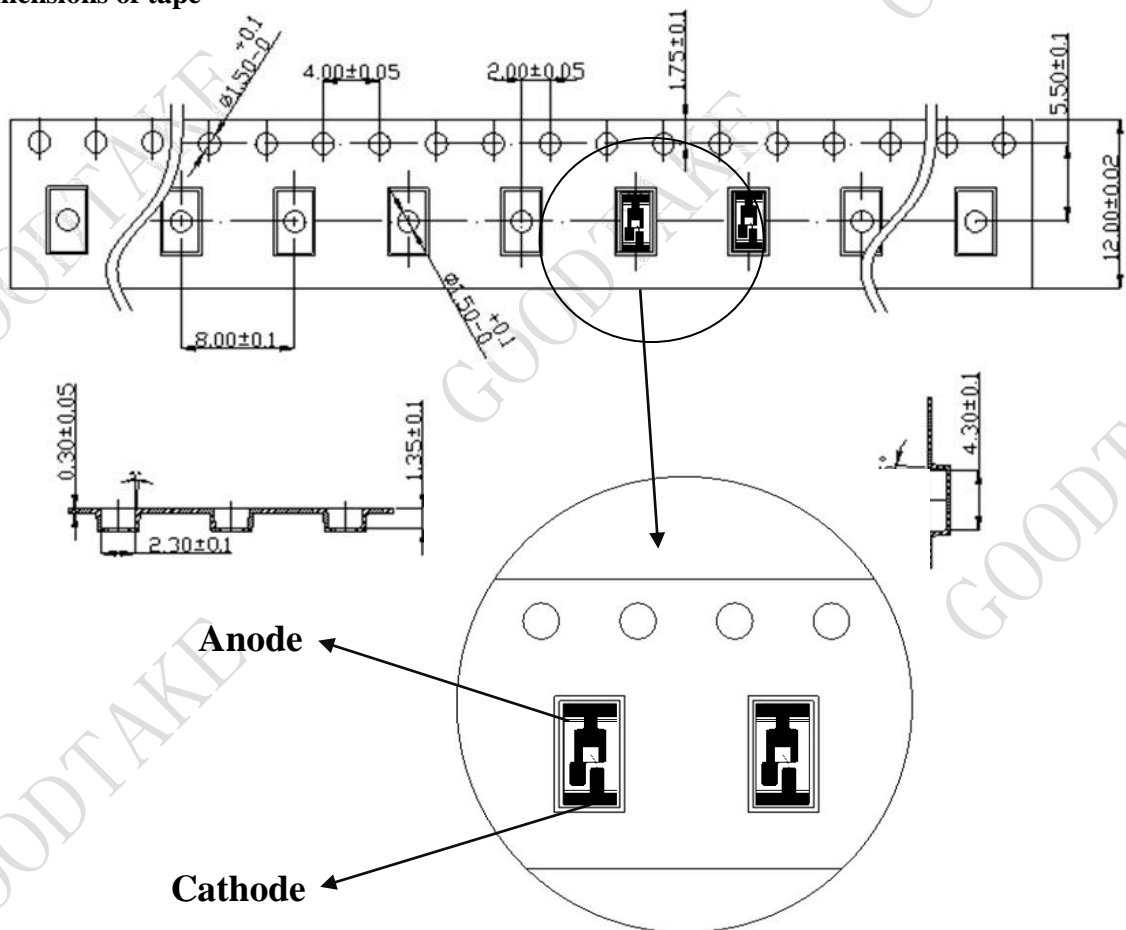


10. TAPPING AND PACKING SPECIFICATIONS:

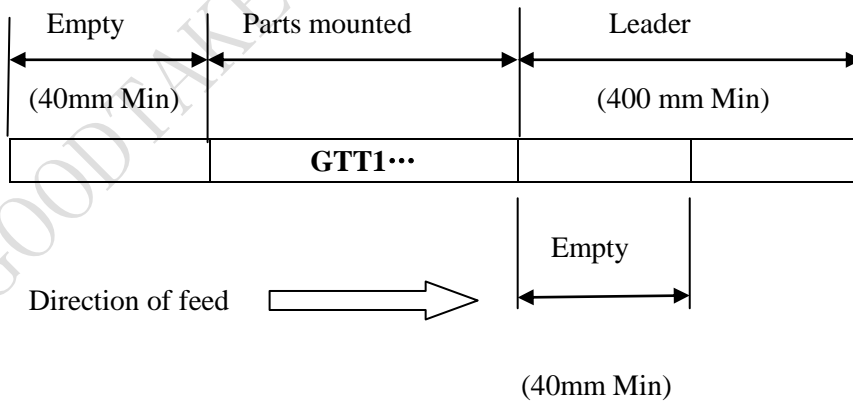
(1) Shape and dimensions of reels: unit in mm



(2) Dimensions of tape

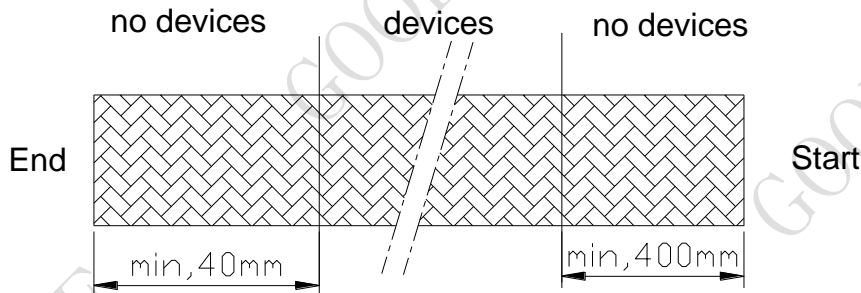


(3) Configuration of tape



(4) Quantity: 2,000pcs/ reel

Leader And Trailer Dimensions



Antistatic dry packing

Opto devices in SMD package may be sensitive to moisture. Devices are taped & reeled, sealed in antistatic bag with silica gel desiccants.

Do not open the sealed moisture-proof bag before ready to use. If sealing is void, baking treatment may be required.

Storage

Shelf life – Devices should be stored in its original packing, in a controlled environment of temperature less than 40 °C and relative humidity below 90%.

Suggested shelf life is 12 months in its original packing.

Floor life – Time between soldering and removing from moisture barrier bags must not exceed the time indicated in J-STD-020.

Moisture sensitivity: level 3

Floor life: 168h

Conditions: $T_{amb} < 30^{\circ}C$, $RH < 60\%$

Drying (Baking Process)

If original packing is voided (such as faded silica gel or exceeded storage time), baking treatment should be performed with the following conditions:- $T_{storage} = 40 + 5^{\circ}C$, $RH < 5\%$, time = 192hours.