

AM2520P3BT03

Phototransistor

DESCRIPTION

· Made with NPN silicon phototransistor chips

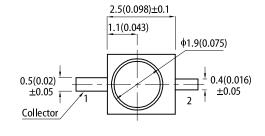
FEATURES

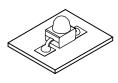
- · Subminiature package
- · Gull wing lead
- · Mechanically and spectrally matched to the infrared emitting LED lamp
- Package: 1000 pcs / reel
- Moisture sensitivity level: 3
- · The device is having a daylightfilter
- Halogen-free
- · Black diffused lens
- · RoHS compliant

APPLICATIONS

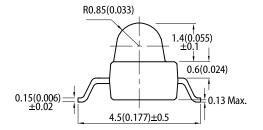
- Infrared applied systems
- · Optoelectronic switches
- · Photodetector control circuits
- Sensor technology

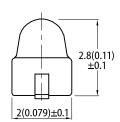
PACKAGE DIMENSIONS





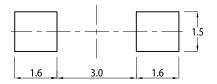






RECOMMENDED SOLDERING PATTERN

(units: mm; tolerance: \pm 0.1)



- All dimensions are in millimeters (inches).
 Tolerance is ±0.25(0.01") unless otherwise noted.
- The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

 The device has a single mounting surface. The device must be mounted according to the specifications.

ABSOLUTE MAXIMUM RATINGS at T_A=25°C

Parameter	Max.Ratings	Units
Collector-to-Emitter Voltage	30	V
Emitter-to-Collector Voltage	5	V
Power Dissipation at(or below) 25°C Free Air Temperature	100	mW
Operating Temperature	-40 to +85	°C
Storage Temperature	-40 to +85	°C

Note:
1. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

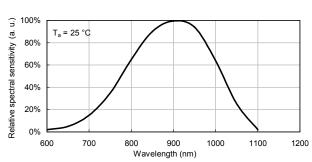


ELECTRICAL / OPTICAL CHARACTERISTICS at T_A=25°C

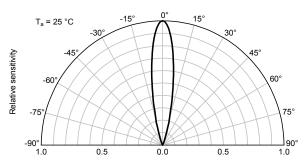
Parameter	Symbol	Min.	Тур.	Max.	Units	Test Conditions
Collector-to-Emitter Breakdown Voltage	V BR CEO	30	-	-	V	$I_C = 100\mu A$ $E_e = 0 \text{mW/cm}^2$
Emitter-to-Collector Breakdown Voltage	V _{BR ECO}	5	-	-	V	$I_E = 100 \mu A$ $E_e = 0 \text{mW/cm}^2$
Collector-to-Emitter Saturation Voltage	V _{CE (SAT)}	-	-	0.8	V	$I_C = 2mA$ $E_e = 20mW/cm^2$
Collector Dark Current	I _{CEO}	-	-	100	nA	$V_{CE} = 10V$ $E_e = 0$ mW/cm ²
Rise Time(10% to 90%)	T _R	-	15	-	μS	$V_{CE} = 5V$ $I_C = 1mA$ $R_L = 1000\Omega$
Fall Time(90% to 10%)	T _F	-	15	-	μS	
On State Collector Current	I _(ON)	0.4	0.8	-	mA	$V_{CE} = 5V$ $E_e = 1 \text{mW/cm}^2$ $\lambda = 940 \text{nm}$
Range of spectral bandwidth	λ _{0.1}	670	-	1070	nm	-
Wavelength of peak Sensitivity	λ_{p}	-	940	-	nm	-
Angle of half sensitivity	201/2	-	20	-	deg	-

TECHNICAL DATA

RELATIVE SPECTRAL SENSITIVITY vs. WAVELENGTH



RELATIVE RADIANT SENSITIVITY vs. ANGULAR DISPLACEMENT

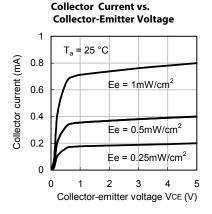


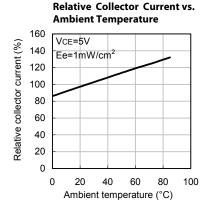


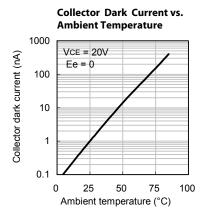
TECHNICAL DATA

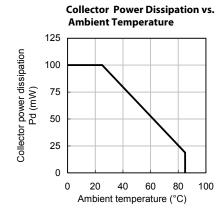
PHOTOTRANSISTOR

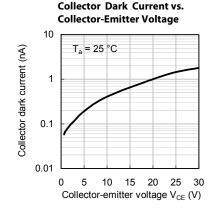
Collector Current vs. Irradiance 10 VCE=5V Collector current Ic (mA) T_a = 25 °C 1 0.1 0.01 0.01 0.1 10 Irradiance Ee (mW/cm²)



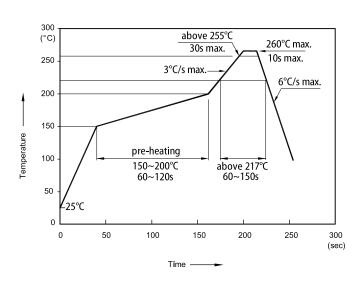




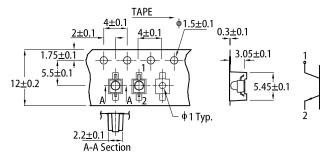




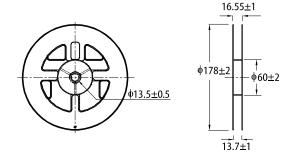
REFLOW SOLDERING PROFILE for LEAD-FREE SMD PROCESS



TAPE SPECIFICATIONS (units:mm)



REEL DIMENSION (units: mm)



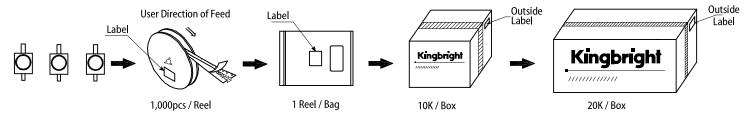
- 1. Don't cause stress to the LEDs while it is exposed to high temperature.

 2. The maximum number of reflow soldering passes is 2 times.

 3. Reflow soldering is recommended. Other soldering methods are not recommended as they might cause damage to the product.



PACKING & LABEL SPECIFICATIONS





- The information included in this document reflects representative usage scenarios and is intended for technical reference only.

 The part number, type, and specifications mentioned in this document are subject to future change and improvement without notice. Before production usage customer should refer to the latest datasheet for the updated specifications.
- When using the products referenced in this document, please make sure the product is being operated within the environmental and electrical limits specified in the datasheet. If customer usage exceeds the specified limits, Kingbright will not be responsible for any subsequent issues.

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