AM2520PD1BT09

Photodiode

DESCRIPTION

- Made with PIN silicon phototransistor chips

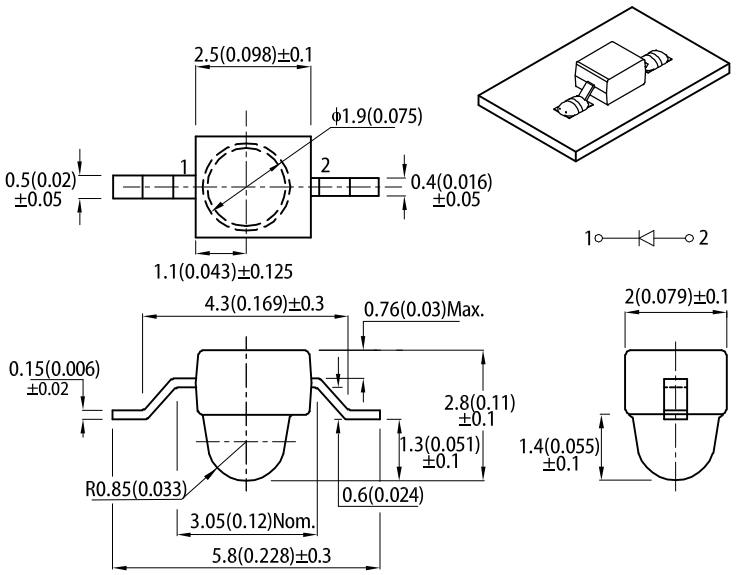
FEATURES

- Mechanically and spectrally matched to the infrared emitting LED lamp
- Moisture sensitivity level: 3
- Package: 1000 pcs / reel
- Halogen-free
- Black diffused lens
- RoHS compliant

APPLICATIONS

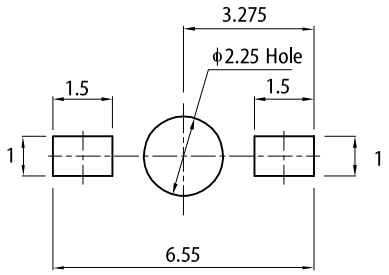
- Infrared applied systems
- Optoelectronic switches
- Photodetector control circuits
- Sensor technology

PACKAGE DIMENSIONS



RECOMMENDED SOLDERING PATTERN

(units : mm; tolerance : ± 0.1)



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
4. 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
Power Dissipation	150	mW
Operating Temperature	-40 to +85	°C
Storage Temperature	-40 to +85	°C

Note:

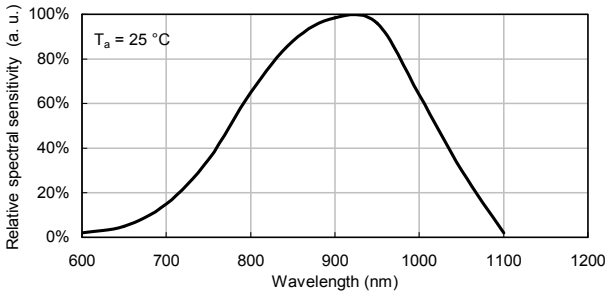
1. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

ELECTRICAL / OPTICAL CHARACTERISTICS at T_A=25°C

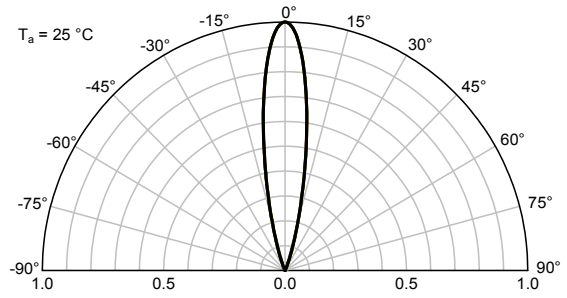
Parameter	Symbol	Min.	Typ.	Max.	Units	Test Conditions
Reverse Break down Voltage	$V_{(BR)R}$	33	170	-	V	I_R = 100μA H = 0mW/cm^2
Reverse Dark Current	$ID_{(R)}$	-	-	10	nA	V_R = 10V H = 0mW/cm^2
Open Circuit Voltage	V_{OC}	-	390	-	mV	λ = 940nm H = 5mW/cm^2
Rise Time	T_R	-	6	-	nS	V_R = 10V λ = 940nm R_L = 1000Ω
Fall Time	T_F	-	6	-	nS	
Light current	I_S	0.7	1.5	-	μA	V_R = 5V E_e = 0.08mW/cm^2 λ = 940nm
Total Capacitance	C_T	-	5	-	pF	V_R = 10V F = 1MHZ H = 0mW/cm^2
Range of spectral bandwidth	$\lambda_{0.1}$	670	-	1070	nm	-
Wavelength of peak sensitivity	λ_p	-	940	-	nm	-
Angle of half sensitivity	2θ1/2	-	20	-	deg	-

TECHNICAL DATA

RELATIVE SPECTRAL SENSITIVITY vs. WAVELENGTH

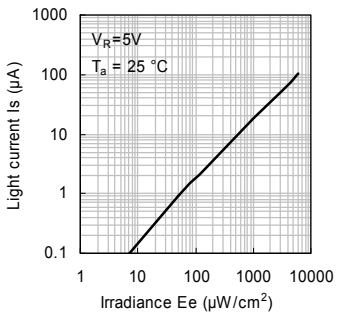


RELATIVE RADIANT SENSITIVITY vs. ANGULAR DISPLACEMENT

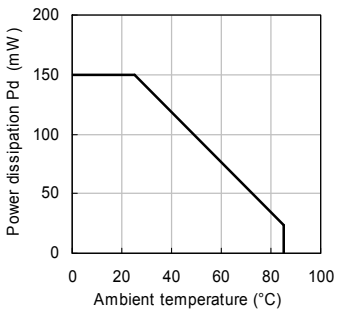


PHOTODIODE

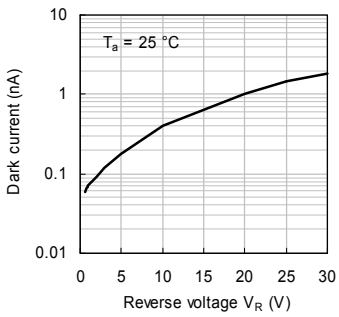
Light Current vs. Irradiance



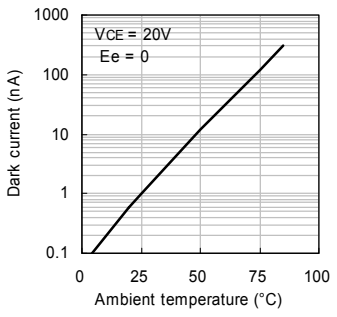
Power Dissipation vs. Ambient Temperature



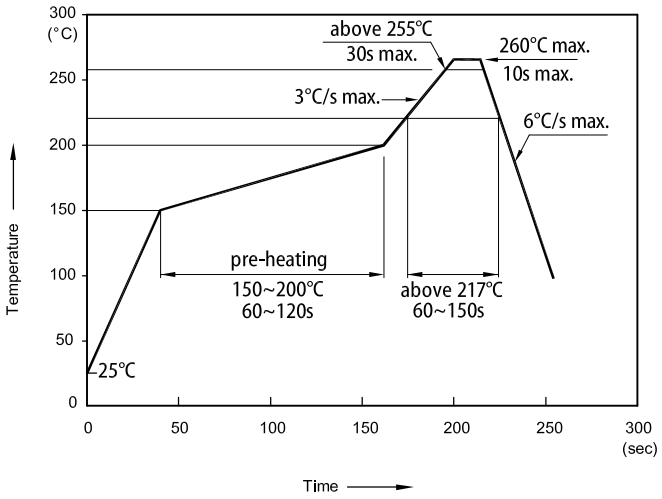
Dark Current vs. Reverse Voltage



Dark Current vs. Ambient Temperature

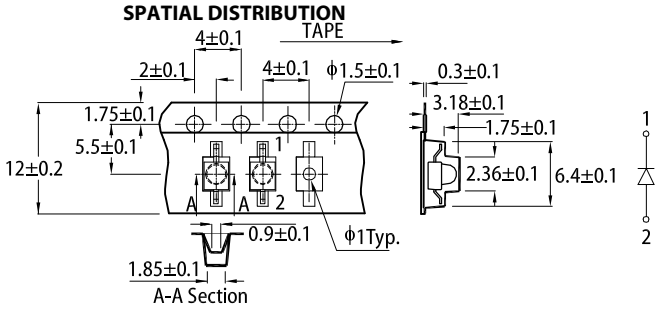


REFLOW SOLDERING PROFILE for LEAD-FREE SMD PROCESS

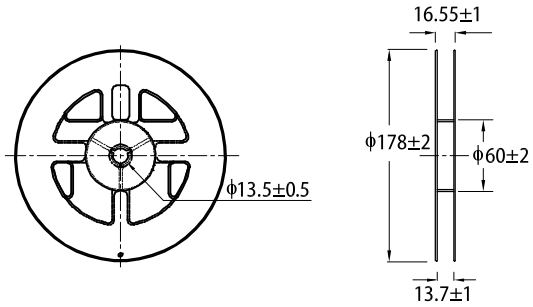


Notes:
1. Don't cause stress to the LEDs while it is exposed to high temperature.
2. The maximum number of reflow soldering passes is 2 times.
3. Reflow soldering is recommended. Other soldering methods are not recommended as they might cause damage to the product.

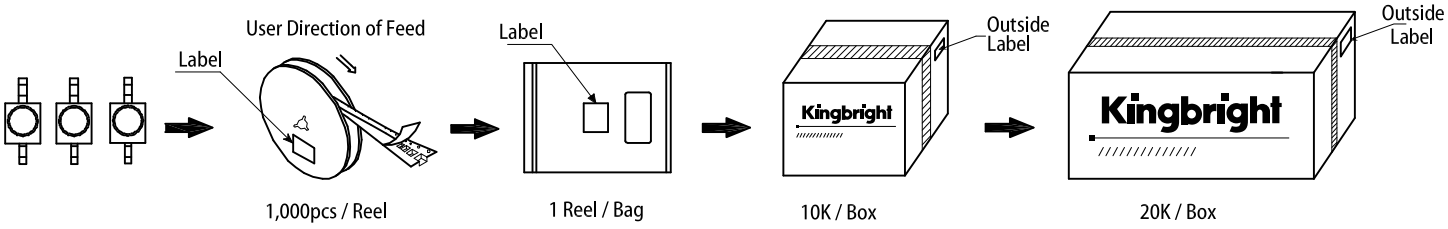
TAPE SPECIFICATIONS (units : mm)

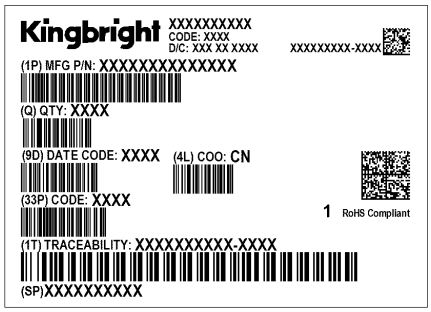


REEL DIMENSION (units : mm)



PACKING & LABEL SPECIFICATIONS





PRECAUTIONARY NOTES

1. The information included in this document reflects representative usage scenarios and is intended for technical reference only.
2. 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.
3. 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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