WP3DPD1BT/BD

Photodiode

DESCRIPTION

- Made with PIN silicon phototransistor chips

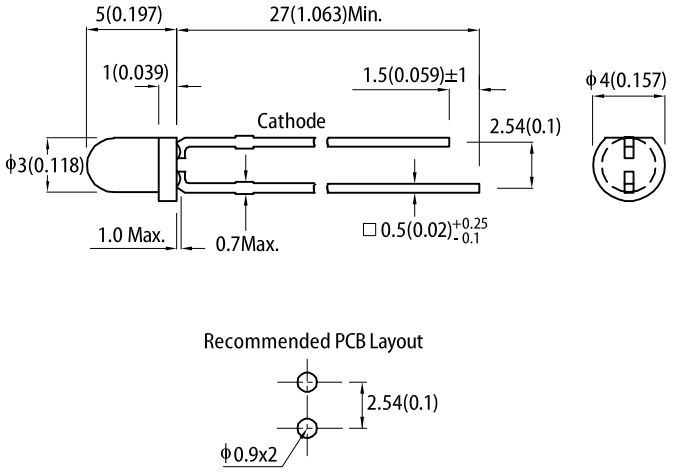
FEATURES

- Mechanically and spectrally matched to the infrared emitting LED lamp
- Black diffused lens
- RoHS compliant

APPLICATIONS

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

PACKAGE DIMENSIONS



Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

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
Lead Solder Temperature [1]	260°C For 3 Seconds	
Lead Solder Temperature [2]	260°C For 5 Seconds	

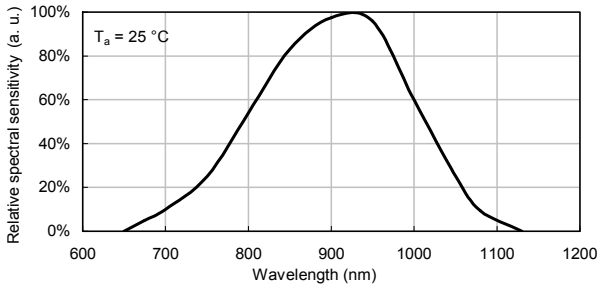
Notes:
1. 2mm below package base.
2. 5mm below package base.
3. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

ELECTRICAL / OPTICAL CHARACTERISTICS at T_A=25°C

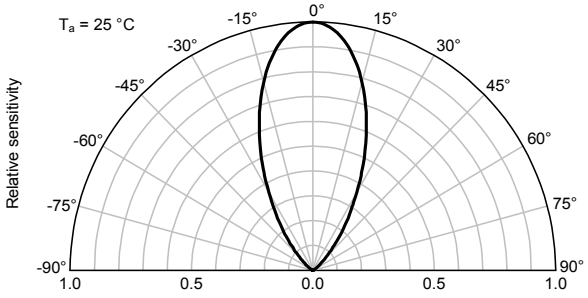
Parameter	Symbol	Min.	Typ.	Max.	Units	Test Conditions
Reverse Break down Voltage	$V_{(BR)R}$	33	170	-	V	I_R = 100μA H = 0mW/cm^2
Reverse Dark Current	$ID_{(R)}$	-	-	10	nA	V_R = 10V H = 0mW/cm^2
Open Circuit Voltage	V_{OC}	-	390	-	mV	λ = 940nm H = 5mW/cm^2
Rise Time	T_R	-	6	-	nS	V_R = 10V λ = 940nm R_L = 1000Ω
Fall Time	T_F	-	6	-	nS	
Light current	I_S	0.3	1.0	-	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	-	50	-	deg	-

TECHNICALDATA

RELATIVE SPECTRAL SENSITIVITY vs. WAVELENGTH

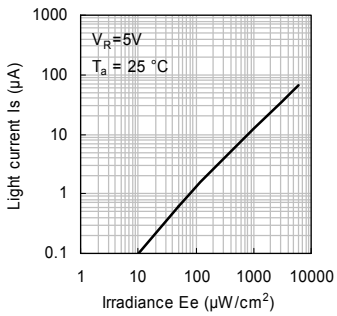


RELATIVE RADIANT SENSITIVITY vs. ANGULAR DISPLACEMENT

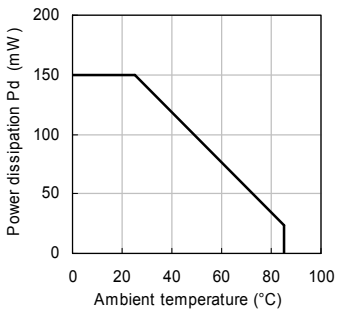


PHOTODIODE

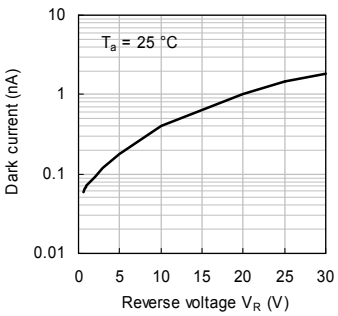
Light Current vs. Irradiance



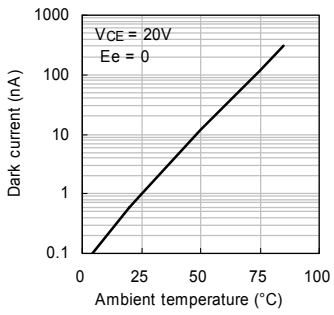
Power Dissipation vs. Ambient Temperature



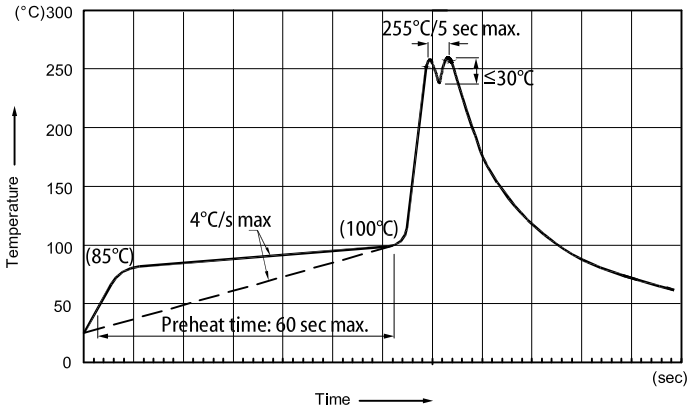
Dark Current vs. Reverse Voltage



Dark Current vs. Ambient Temperature



RECOMMENDED WAVE SOLDERING PROFILE



Notes:
1. *Recommend pre-heat temperature of 105°C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260°C*
2. *Peak wave soldering temperature between 245°C ~ 255°C for 3 sec (5 sec max).*
3. *Do not apply stress to the epoxy resin while the temperature is above 85°C.*
4. *Fixtures should not incur stress on the component when mounting and during soldering process.*
5. *SAC 305 solder alloy is recommended.*
6. *No more than one wave soldering pass.*

PACKING & LABEL SPECIFICATIONS