

## APT2012PD1C 2.0 x 1.25 mm Photodiode

### DESCRIPTION

- Made with NPN silicon photodiode chips

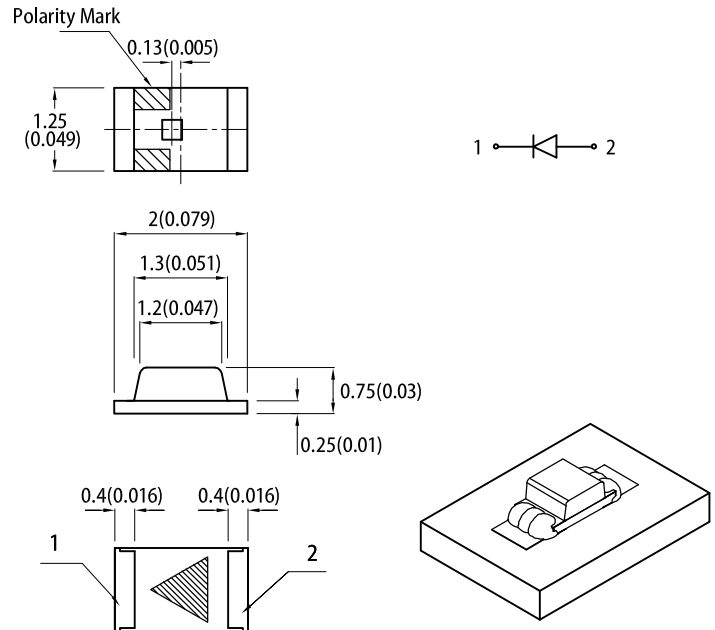
### FEATURES

- 2.0 mm x 1.25 mm SMD LED, 0.75 mm thickness
- Mechanically and spectrally matched to infrared emitting LED lamp
- Package: 2000 pcs / reel
- Moisture sensitivity level: 3
- RoHS compliant

### APPLICATIONS

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

### PACKAGE DIMENSIONS



### RECOMMENDED SOLDERING PATTERN

(units : mm; tolerance :  $\pm 0.1$ )



#### Notes:

- All dimensions are in millimeters (inches).
- Tolerance is  $\pm 0.1(0.004)$  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 $T_A=25^\circ\text{C}$

Parameter	Maximum Ratings	Units
Power Dissipation	150	mW
Operating Temperature	-40 to +85	$^\circ\text{C}$
Storage Temperature	-40 to +85	$^\circ\text{C}$

#### Note:

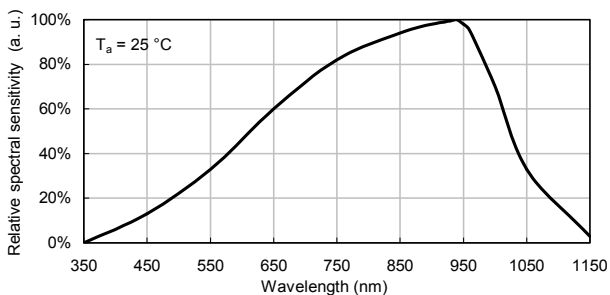
- Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

### ELECTRICAL / OPTICAL CHARACTERISTICS at $T_a=25^\circ\text{C}$

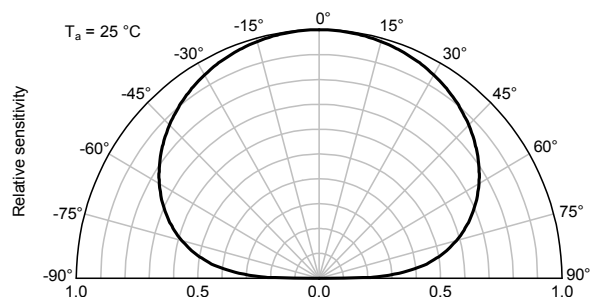
Parameter	Symbol	Min.	Typ.	Max.	Units	Test Conditions
Reverse Break down Voltage	$V_{(BR)R}$	33	170	-	V	$I_R = 100\mu\text{A}$ $H = 0\text{mW/cm}^2$
Reverse Dark Current	$I_{D(R)}$	-	-	10	nA	$V_R = 10\text{V}$ $H = 0\text{mW/cm}^2$
Open Circuit Voltage	$V_{OC}$	-	390	-	mV	$\lambda = 940\text{nm}$ $H = 5\text{mW/cm}^2$
Rise Time	$T_R$	-	6	-	nS	$V_R = 10\text{V}$ $\lambda = 940\text{nm}$ $R_L = 1000\Omega$
Fall Time	$T_F$	-	6	-	nS	
Light current	$I_S$	4	8	-	$\mu\text{A}$	$V_R = 5\text{V}$ $E_e = 0.08\text{mW/cm}^2$ $\lambda = 940\text{nm}$
Total Capacitance	$C_T$	-	5	-	pF	$V_R = 10\text{V}$ $F = 1\text{MHz}$ $H = 0\text{mW/cm}^2$
Range of spectral bandwidth	$\lambda_{0.1}$	420	-	1120	nm	-
Wavelength of peak sensitivity	$\lambda_p$	-	940	-	nm	-
Angle of half sensitivity	$2\theta_{1/2}$	-	160	-	deg	-

### TECHNICAL DATA

#### RELATIVE SPECTRAL SENSITIVITY vs. WAVELENGTH



#### RELATIVE RADIANT SENSITIVITY vs. ANGULAR DISPLACEMENT



### PHOTODIODE

