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IPD1450-038-SMT

PRELIMINARY

- InGaAs PIN Photodiode
- Peak Responsivity: 1450 nm
- Chip Size: 380 x 380 µm
- PA6T SMD package (3.5x2.7x1.8mm)

RoHS COMPLIANT Pb Pb-Free

Description

IPD1450-038-SMT is an InGaAs PIN photodiode with active a chip size of 380x380 µm and peak spectral response at 1450 nm. It comes in P6AT SMD package with silver plated soldering pads (lead free solderable), and epoxy resin flat window.

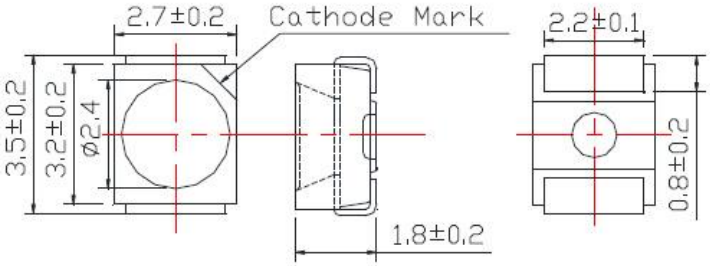
Maximum Ratings (T_{CASE} = 25°C)

Parameter	Symbol	Values Min.	Values Max.	Unit
Reverse Breakdown Voltage	V_{BR}		20	V
Operating Temperature	T_{OPR}	-40 ~ 100		°C
Storage Temperature	T_{STG}	-40 ~ 100		°C
Soldering Temperature (<5s)	T_{SOL}	250		°C

Electro-Optical Characteristics (T_{CASE} = 25°C)

Parameter	Symbol	Conditions	Min.	Values Typ.	Max.	Unit
Peak Spectral Responsivity	λ_P	V_R= 0 V		1450		nm
Responsivity (V_R= 5 V)	R_E	λ= 1300 nm		0.95		A/W
		λ= 1550 nm		1.0		
Photo Current	I_L	V_R= 0 V, λ= 1450 nm		10		µA
Dark Current	I_D	V_R= 5 V			1	nA
Viewing Angle	$2\theta_{1/2}$	V_R= 0 V		116		deg.
Total Capacitance	C_T	V_R= 5 V, f= 1 MHz		4.5		pF

Outline Dimensions



all dimensions in mm

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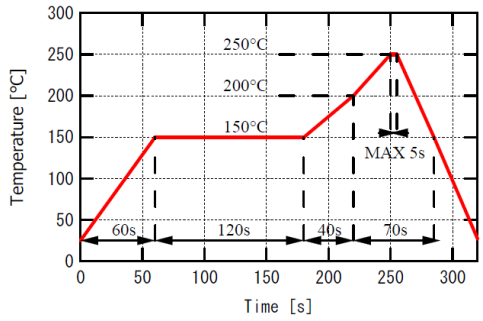
Precautions

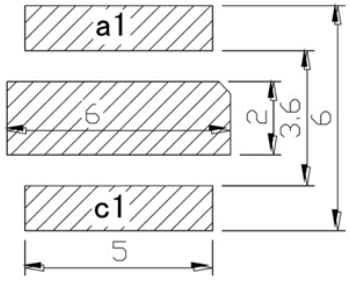
Soldering

- Do avoid overheating of the LED
- Do avoid electrostatic discharge (ESD)
- Do avoid mechanical stress, shock, and vibration
- Do only use non-corrosive flux
- Do not apply current to the LED until it has cooled down to room temperature after soldering

Recommended soldering conditions



Recommended soldering patterns



Unit: mm

Cleaning

Cleaning with isopropyl alcohol, propanol, or ethyl alcohol is recommended
DO NOT USE acetone, chloroseen, trichloroethylene, or MKS
DO NOT USE ultrasonic cleaners

Static Electricity

LEDs are sensitive to electrostatic discharge (ESD). Precautions against ESD must be taken when handling or operating these LEDs. Surge voltage or electrostatic discharge can result in complete failure of the device.

Radiation

During operation these LEDs do emit light, which **could be hazardous to skin and eyes**, and **may cause cancer**. Do avoid exposure to the emitted light. Protective glasses if needed. It is further advised to attach a warning label on products/systems.

Operation

Do *only* operate LEDs with a current source.
Running these LEDs from a voltage source will result in complete failure of the device.
Current of a LED is an exponential function of the voltage across it. Usage of current regulated drive circuits is mandatory.