



SPD64-04



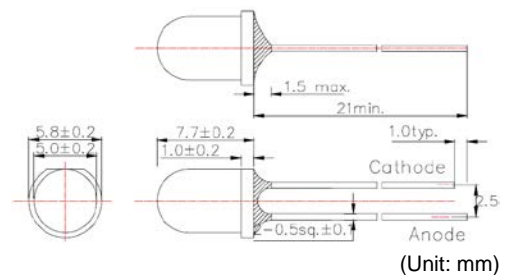
TECHNICAL DATA

Silicone PD, 5 mm package

SPD64-04 is a PIN-photodiode containing a chip with 0.8x0.8 mm active area, mounted into on a lead frame with a clear epoxy lens. This device is featuring excellent responsibility of 10ns and a high photocurrent. It's designed to be easy of setting up optically with a wide angle of half sensitivity of ± 45 degrees.

Specifications

- Spectral Responsivity (Peak): 900 nm
- Chip Size: 1.0 x 1.0 mm
- Active Area: 0.8 x 0.8 mm
- Package: 5mm molding
- Type: Lead frame
- Resin Material: Epoxy resin



Absolute Maximum Ratings ($T_A=25^\circ\text{C}$)

Item	Symbol	Value	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	170	V
Operating Temperature	T_{opr}	-25 ... +100	$^\circ\text{C}$
Storage Temperature	T_{stg}	-30 ... +125	$^\circ\text{C}$
Soldering Temperature * ¹	T_{sol}	240	$^\circ\text{C}$

*¹ must be completed within 3 seconds at 240 $^\circ\text{C}$

Electro-Optical Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse Photo Current	I_L	$V_R=10\text{V}, L=1000\text{Lx}$	-	20	-	μA
Reverse Dark Current	I_D	$V_R=10\text{V}$	-		10	nA
Open Circuit Voltage	V_{OC}	$V_R=10\text{V}, L=1000\text{Lx}$	-	410	-	mV
Spectral Responsivity (Peak)	λ_P		-	900	-	nm
Half Angle of Sensitivity	$\Theta_{1/2}$			± 45	-	deg
Total Capacitance	C_T	$V_R=10\text{V}, f=1\text{MHz}$	-	6	-	pF
Rise Time (10-90%)	t_r	$R_L=1\text{K}\Omega, V_R=10\text{V}$	-	10	-	ns
Fall Time (10-90%)	t_f		-	10	-	ns

Note: The above specifications are for reference purpose only and subjected to change without prior notice.



Precaution for Use

1. Lead Forming

- Lead forming should be done before soldering.
- When forming leads, the leads should be bent at a point at least 3 mm from the base of the lead. DO NOT use the base of the lead frame as a fulcrum during lead forming!
- DO NOT apply any bending stress to the base of the lead. The stress to the base may damage the PD's characteristics or it may break the PDs.
- When mounted the PDs onto the printed circuit board, the holes on the circuit board should be exactly aligned with the leads of PDs. If the PDs are mounted with stress at the leads, it causes deterioration of the lead and it will degrade the PDs.

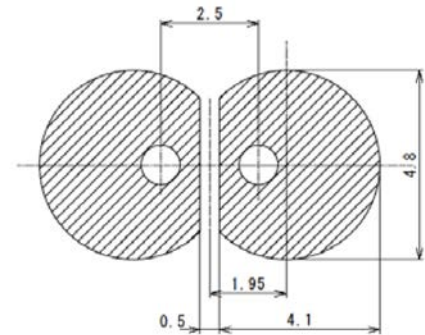
2. Soldering Conditions

- Solder the PDs no closer than 3 mm from the base of the lead.
- DO NOT apply any stress to the lead particularly when heat.
- After soldering the PDs, the lead should be protected from mechanical shock or vibration until the PDs return to room temperature.
- The PDs must not be reposition after soldering.
- When it is necessary to clamp the PDs to prevent soldering failure, it is important to minimize the mechanical stress on the PDs.
- Cut the PD leads at room temperature. Cutting the leads at high temperature may cause the failure of the PDs.

3. Static Electricity

- The PDs are very sensitive to Static Electricity and surge voltage. So it is recommended that a wrist band and/or an anti-electrostatic glove be used when handling the PDs.
- All devices, equipment and machinery must be grounded properly. It is recommended that precautions should be taken against surge voltage to the equipment that mounts the PDs.

Recommended Land Layout



(Unit: mm)

Soldering Conditions

