# (S) 

Light It Up
Xeon 3 Power 940nm Infrared Emitter LED

## OSI5XNE3E1E

VER C. 0

## -Features

## _Outline Dimension

- Highest luminous flux
- Super energy efficiency
- Very long operating life
- Superior ESD protection


## -Applications



- Night Vision
- Camera
- Outdoor./Indoor applications


| (Thbsolute Maximum Rating | (Ta=25 $\left.{ }^{\circ} \mathrm{C}\right)$ |  |  |
| :--- | :---: | :---: | :---: |
| Symbol | Value | Unit |  |
| DC Forward Current | $\mathrm{I}_{\mathrm{F}}$ | 1,000 | mA |
| Pulse Forward Current* | $\mathrm{I}_{\mathrm{FP}}$ | 7,000 | mA |
| Reverse Voltage | $\mathrm{V}_{\mathrm{R}}$ | 5 | V |
| Power Dissipation | $\mathrm{P}_{\mathrm{D}}$ | 2,000 | mW |
| Operating Temperature | Topr | $-30 \sim+85$ | ${ }^{\circ} \mathrm{C}$ |
| Storage Temperature | Tstg | $-40 \sim+100$ | ${ }^{\circ} \mathrm{C}$ |
| Lead Soldering Temperature | Tsol | $260^{\circ} \mathrm{C} / 5 \mathrm{sec}$ | - |

## .Directivity


*Pulse width Max.10ms Duty ratio max 1/10

## -Electrical -Optical Characteristics $\quad\left(\mathbf{T a}=\mathbf{2 5}{ }^{\circ} \mathrm{C}\right) \quad$ ©Forward Operating Current (DC)

| Item | Symbol | Condition | Min. | Typ. | Max. | Unit |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| DC Forward Voltage | $\mathrm{V}_{\mathrm{F}}$ | $\mathrm{I}_{\mathrm{F}}=700 \mathrm{~mA}$ | 1.2 | 1.5 | 2.0 | V |
| DC Reverse Current | $\mathrm{I}_{\mathrm{R}}$ | $\mathrm{V}_{\mathrm{R}}=5 \mathrm{~V}$ | - | - | 10 | $\mu \mathrm{~A}$ |
| Peak Wavelength | $\lambda_{\mathrm{P}}$ | $\mathrm{I}_{\mathrm{F}}=700 \mathrm{~mA}$ | - | 940 | - | nm |
| Radiant Intensity | Ie | $\mathrm{I}_{\mathrm{F}}=700 \mathrm{~mA}$ | 50 | 68 | - | $\mathrm{mW} / \mathrm{Sr}$ |
| $50 \%$ Power Angle | $2 \theta 1 / 2$ | $\mathrm{I}_{\mathrm{F}}=700 \mathrm{~mA}$ | - | 140 | - | $\operatorname{deg}$ |



Note: Advises please attach heat sink to use if Power Dissipation is more than 0.5 W .

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## ■ Soldering Heat Reliability :

Reflow soldering Profile

- Reflow soldering should not be done more than two times.
- When soldering, do not put stress on the LEDs during heating.
- After soldering, do not warp the circuit board.
- Repairing should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used. It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.

| Solder |
| :--- |
| Average ramp-up rate $=3^{\circ} \mathrm{C} /$ sec. max. |
| Preheat temperature: $150^{\circ} \sim 180^{\circ} \mathrm{C}$ |
| Preheat time $=120$ sec. max. |
| Ramp-down rate $=6^{\circ} \mathrm{C} /$ sec. max. |
| Peak temperature $=220^{\circ} \mathrm{C}$ max. |
| Time within $3^{\circ} \mathrm{C}$ of actual <br> peak temperature $=25$ sec. max. <br> Duration above $200^{\circ} \mathrm{C}$ is 40 sec. max. |



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