

1.6x0.8 x0.6mm 850nm Infrared Chip LED

OSI30603C1E

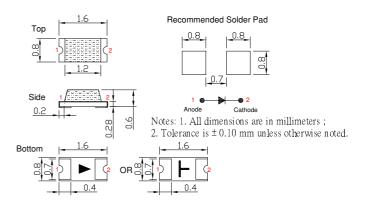
■Features

- · Single chip
- Compact package outline
 (L x W x T) of 1.6mm x 0.8mm x0.6mm
- · Compatible to IR reflow soldering.
- Water Clear Lens Type

■Applications

- Automatic Control System
- · Photo Detector
- · Computer I/O Peripheral

■Outline Dimension

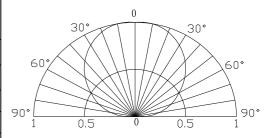


■Absolute Maximum Rating

Item	Symbol	Value	Unit
DC Forward Current	I_{F}	30	mA
Pulse Forward Current*	I_{FP}	100	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_{D}	45	mW
Operating Temperature	Topr	-40 ~ +85	$^{\circ}\!\mathbb{C}$
Storage Temperature	Tstg	-40~ +85	$^{\circ}\!\mathbb{C}$
Lead Soldering Temperature	Tsol	260°€/5sec	-

(Ta=25°C)

■Directivity



■ Electrical -Optical Characteristics (Ta=25°C)

Item	Symbol	Conditio n	Min.	Тур.	Max.	Unit
DC Forward Voltage	V_{F}	I _F =20mA	-	1.2	1.5	V
DC Reverse Current	I_R	V _R =5V	-	-	10	μΑ
Peak Wavelength	λ_{p}	I _F =20mA	1	850	1	nm
Transmit Bandwidth	λ	I _F =20mA	-	20	-	nm
Radiant Intensity	Ie	I _F =20mA	0.8	1.5	-	mW/Sr
50% Power Angle	2θ1/2	I _F =20mA	-	120	-	deg

^{*1} Tolerance of measurements of Peak wavelength is ±1nm

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^{*}Pulse width Max 0.1ms, Duty ratio max 1/10

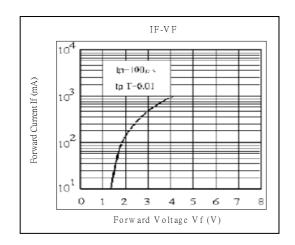
^{*2} Tolerance of measurements of radiant intensity is ±15%

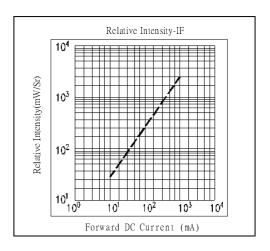
^{*3} Tolerance of measurements of forward voltage is ±0.1V

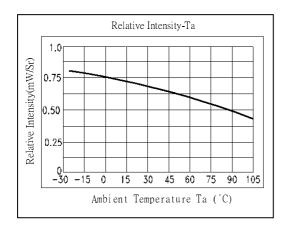


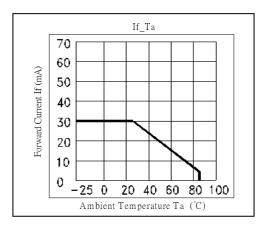
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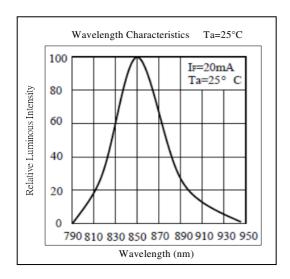
■ Typical Electrical/Optical/Characteristics Curves











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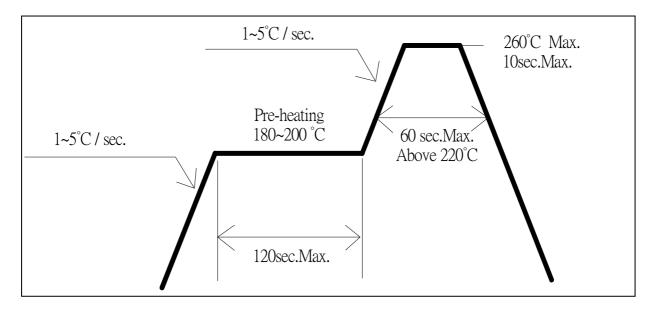
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■ Soldering Conditions

Reflow Soldering		Hand Soldering		
Pre-Heat	180 ~ 200°C			
Pre-Heat Time	120 sec. Max.		350°C Max. 3 sec. Max.	
Peak temperature	260°C Max.	Temperature Soldering time		
Dipping Time	10 sec. Max.			
Condition	Refer to Temperature-profile		(one time only)	

• Reflow Soldering Condition(Lead-free Solder)



- *Recommended soldering conditions vary according to the type of LED
- *Although the recommended soldering conditions are specified in the above table, reflow, or hand soldering at the lowest possible temperature is desirable for the LEDs.
- *A rapid-rate process is not recommended for cooling the LEDs down from the peak temperature.
- •All SMD LED products are pb-free soldering available.
- Occasionally there is a brightness decrease caused by the influence of heat or ambient atmosphere during air reflow. It is recommended that the User use the nitrogen reflow method.
- 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.
- 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.



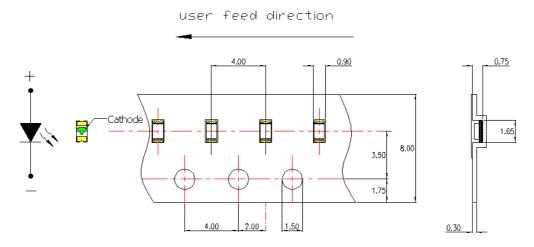




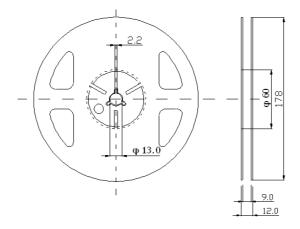


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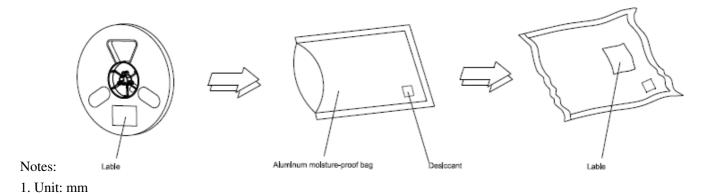
TAPING



Reel Dimensions



■ Moisture Resistant Packaging



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■ Cautions:

- 1. After open the package, the LED's floor life is 4 Weeks under 30°C or less and 60%RH or less(MSL:2a).
- 2. Heat generation must be taken into design consideration when using the LED.
- 3. Power must be applied resistors for protection, over current would be caused the optic damage to the devices and wavelength shift.
- 4. Manual tip solder may cause the damage to Chip devices, so advised that heat of iron should be lower than 15W with temperature control under 5 seconds at 230-260 deg. C. (The device would be got damage in re working process, recommended under 5 seconds at 230-260 deg. C)
- 5. All equipment and machinery must be properly grounded. It is recommended to use a wristband or anti-electrostatic glove when handing the LED.
- 6. Use IPA as a solvent for cleaning the LED. The other solvent may dissolve the LED package and the epoxy, Ultrasonic cleaning should not be done.
- 7. Damaged LED will show unusual characteristics such as leak current remarkably increase, turn-on voltage becomes lower and the LED get unlight at low current.

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