

L1050-__ __

Infrared LED Lamp

This series of L1050-__ __ is an InGaAsP LED mounted on a lead frame and encapsulated in various types of epoxy lens which offer different design settings.

On forward bias, it emits a high power radiation of typical 2.0mW with a peak wavelength at 1050nm.

Specifications

- | | |
|--------------------|-------------|
| 1. Chip material | InGaAsP |
| 2. Peak wavelength | 1050nm |
| 3. Resin Material | Epoxy resin |
| 4. Solder | Lead free |



Absolute Maximum Ratings

Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	P_D	140	mW	$T_a=25^{\circ}\text{C}$
Forward Current	I_F	100	mA	$T_a=25^{\circ}\text{C}$
Pulse Forward Current	I_{FP}	1000	mA	$T_a=25^{\circ}\text{C}$
Reverse Voltage	V_R	5	V	$T_a=25^{\circ}\text{C}$
Operating Temperature	T_{OPR}	-30 ~ +85	$^{\circ}\text{C}$	
Storage Temperature	T_{STG}	-40 ~ +100	$^{\circ}\text{C}$	
Soldering Temperature	T_{SOL}	265	$^{\circ}\text{C}$	

Electro-Optical Characteristics ($T_a=25^{\circ}\text{C}$)

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	V_F	$I_F=50\text{mA}$		1.2	1.5	V
Reverse Current	I_R	$V_R=5\text{V}$			10	μA
Radiated Power	P_O	$I_F=50\text{mA}$	1.0	2.0		mW
Peak Wavelength	λ_P	$I_F=50\text{mA}$	1000	1050	1100	nm
Half Width	$\Delta\lambda$	$I_F=50\text{mA}$		50		nm
Rise Time	t_r	$I_F=50\text{mA}$		10		ns
Fall Time	t_f	$I_F=50\text{mA}$		10		ns

Marubeni America Corporation

3945 Freedom Circle, Suite 1000, Santa Clara, CA 95054 408-330-0650 (Ext. 330), 408-330-0655 (Fax), sales@tech-led.com

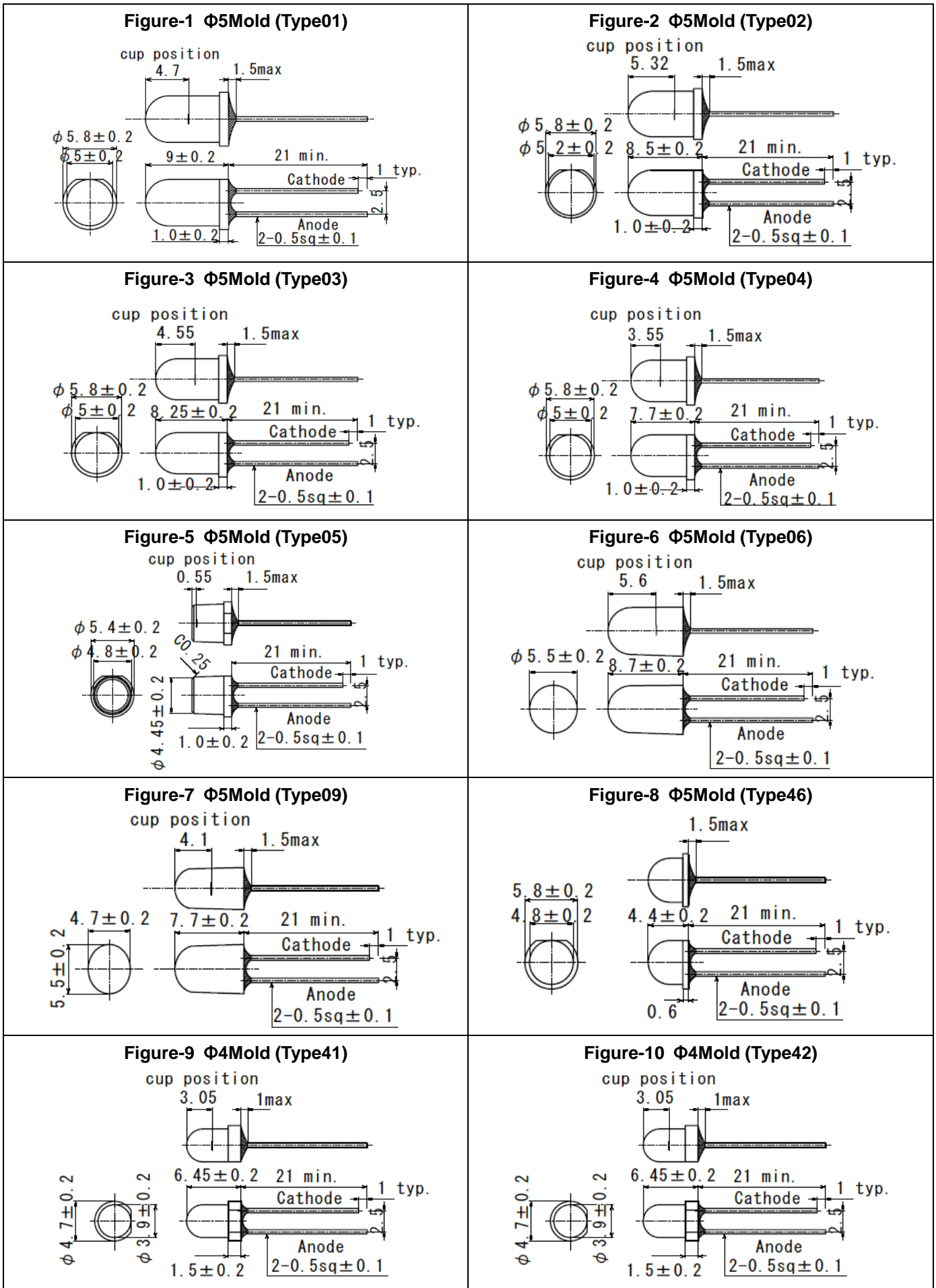
Characteristics of Radiant Intensity (Ta=25°C)

Type	Viewing Half Angle	Radiant Intensity I _F =50mA Unit : mW/sr			Outer Dimension	Dimension Figure
		Minimum	Typical	Maximum		
L1050-01					Φ5	1
L1050-02					Φ5	2
L1050-03	±10°		14		Φ5	3
L1050-04					Φ5	4
L1050-05					Φ5	5
L1050-06	±7°		30		Φ5	6
L1050-09					Φ5 Oval	7
L1050-46					Φ5	8
L1050-41					Φ4	9
L1050-42					Φ4	10
L1050-31					Φ3	11
L1050-33	±18°		10		Φ3	12
L1050-34					Φ3	13
L1050-36	±33°		3		Φ3	14

Radiant Power is measured by G8370-85

Brightness is measured by Tektronix J-16

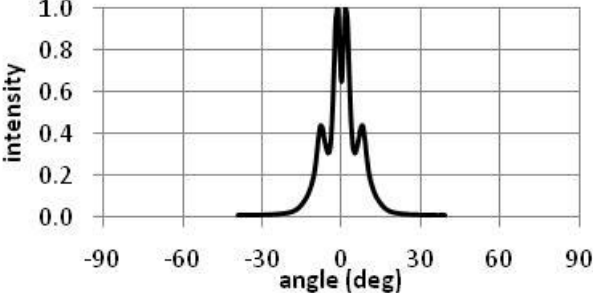
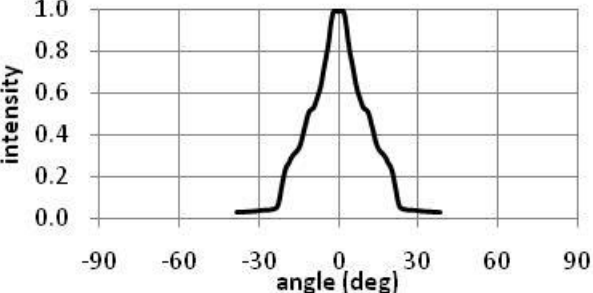
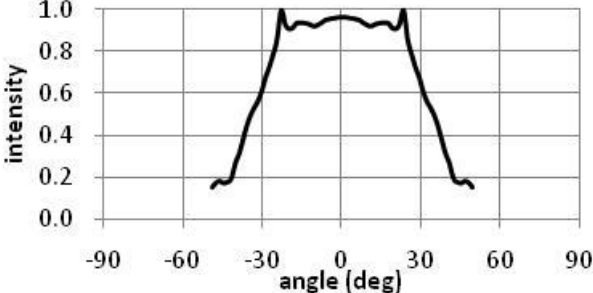
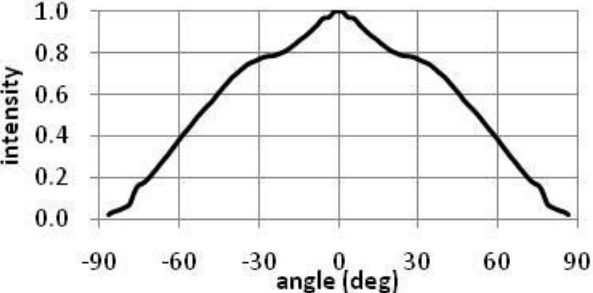
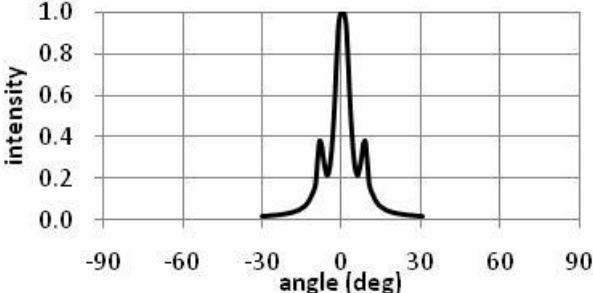
Outer Dimension of LED Lamp



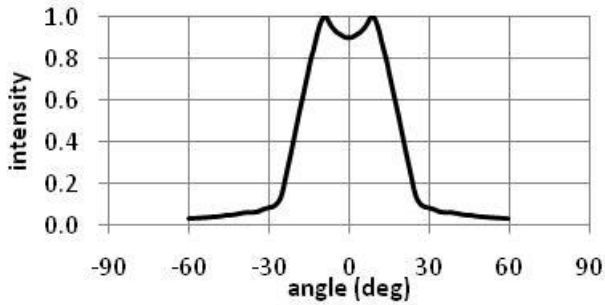
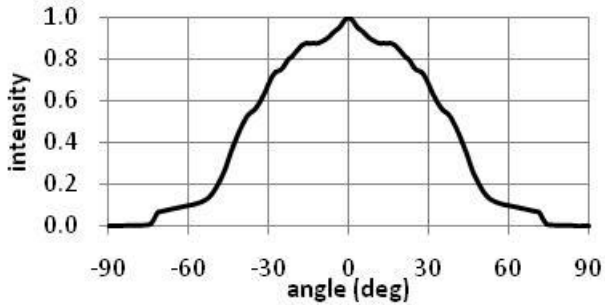
Outer Dimension of LED Lamp

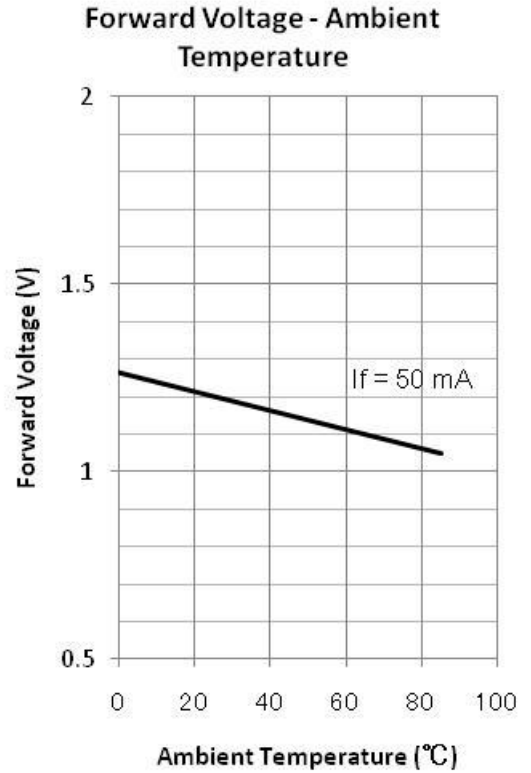
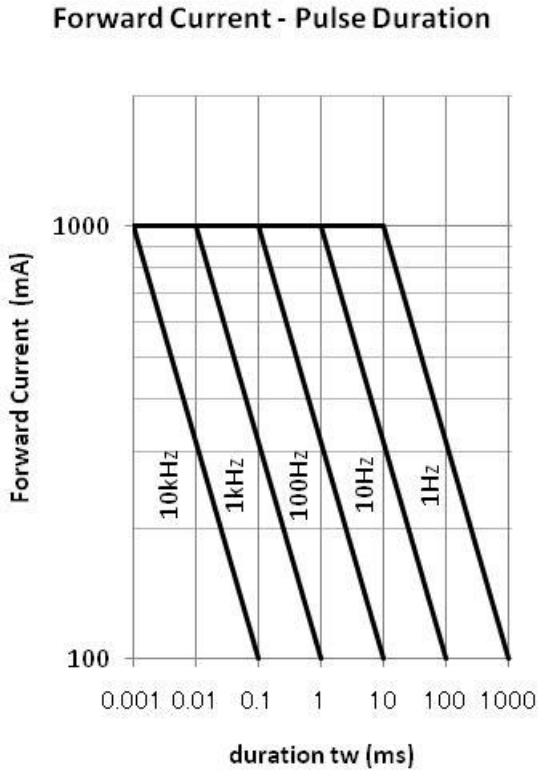
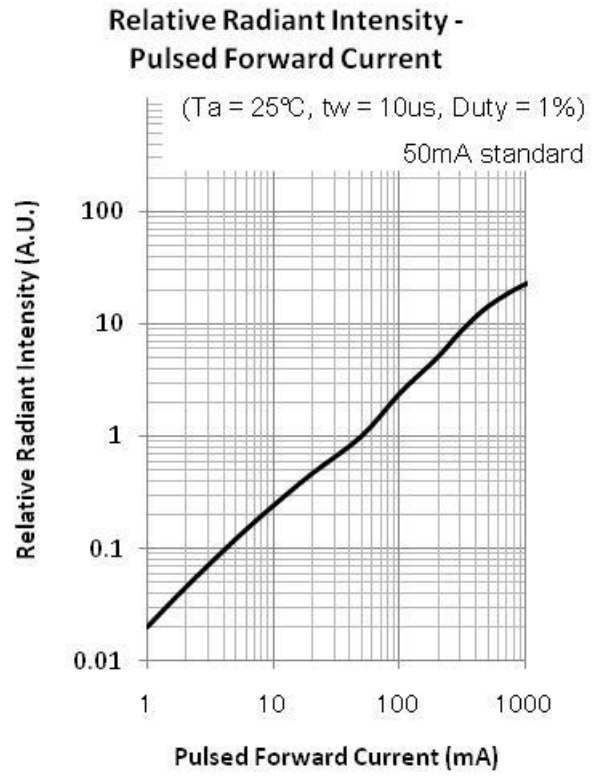
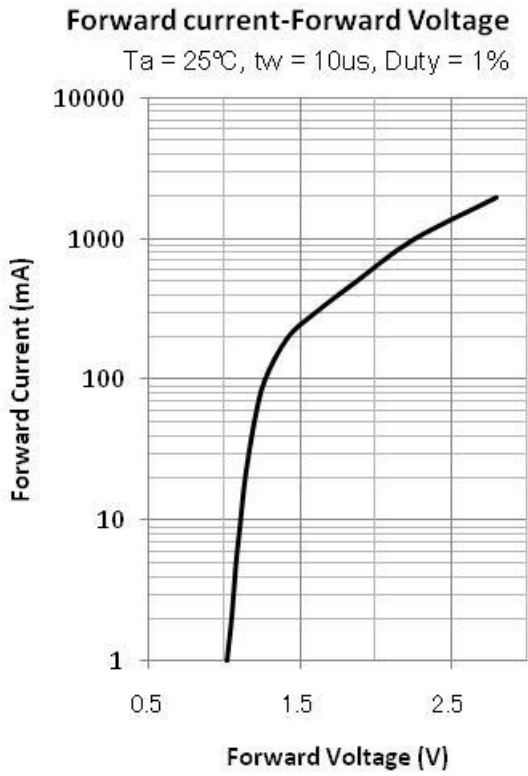
<p>Figure-11 $\Phi 3$Mold (Type31) cup position</p> <p>0.37 1max $\phi 3.6 \pm 0.2$ $\phi 3 \pm 0.2$ 3.5 ± 0.2 21 min. 1 typ. Cathode Anode $2-0.5sq \pm 0.1$ 1.5 typ.</p>	<p>Figure-12 $\Phi 3$Mold (Type33) cup position</p> <p>2.65 1max $\phi 3.8 \pm 0.2$ $\phi 3 \pm 0.2$ 5.3 21 min. 1 typ. Cathode Anode $2-0.5sq \pm 0.1$ 0.8 typ.</p>
<p>Figure-13 $\Phi 3$Mold (Type34) cup position</p> <p>3.25 1max $\phi 3.8 \pm 0.2$ $\phi 3 \pm 0.2$ 5.3 ± 0.2 21 min. 1 typ. Cathode Anode $2-0.5sq \pm 0.1$ 1.5 typ.</p>	<p>Figure-14 $\Phi 3$Mold (Type36) cup position</p> <p>2.1 1max $\phi 4 \pm 0.2$ $\phi 3 \pm 0.2$ 5.3 ± 0.2 21 min. 1 typ. Cathode Anode $2-0.5sq \pm 0.1$ 2 ± 0.4</p>
<p>Figure-15</p>	<p>Figure-16</p>
<p>Figure-17</p>	<p>Figure-18</p>
<p>Figure-19</p>	<p>Figure-20</p>

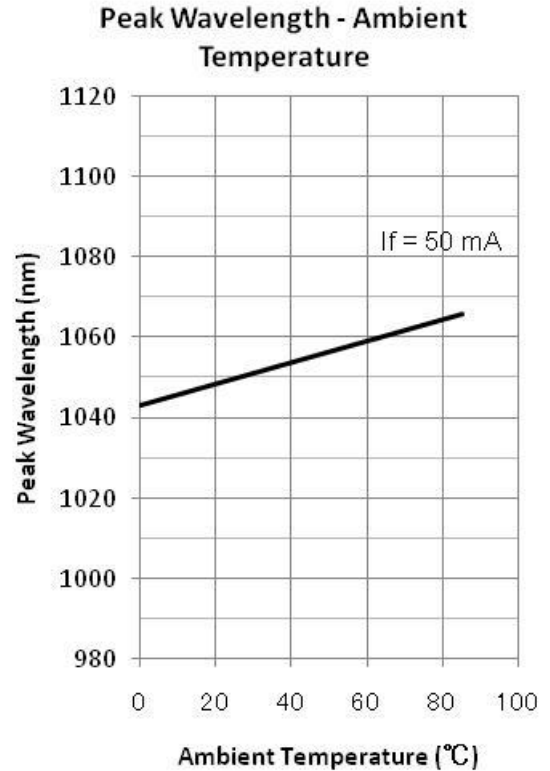
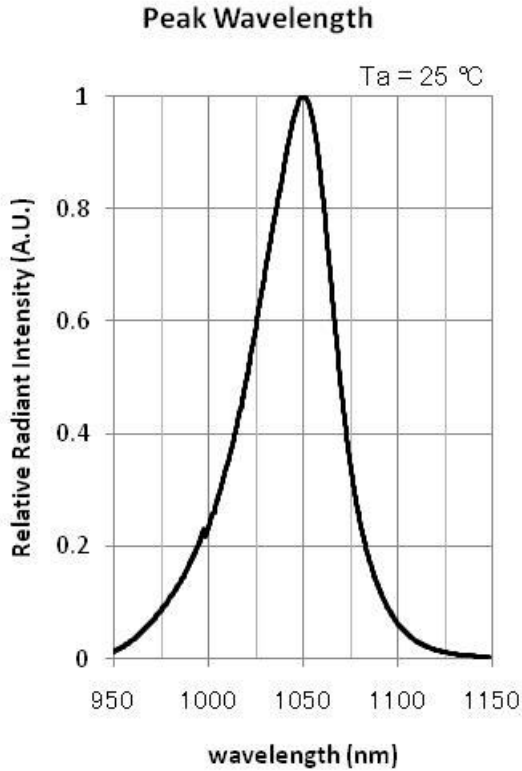
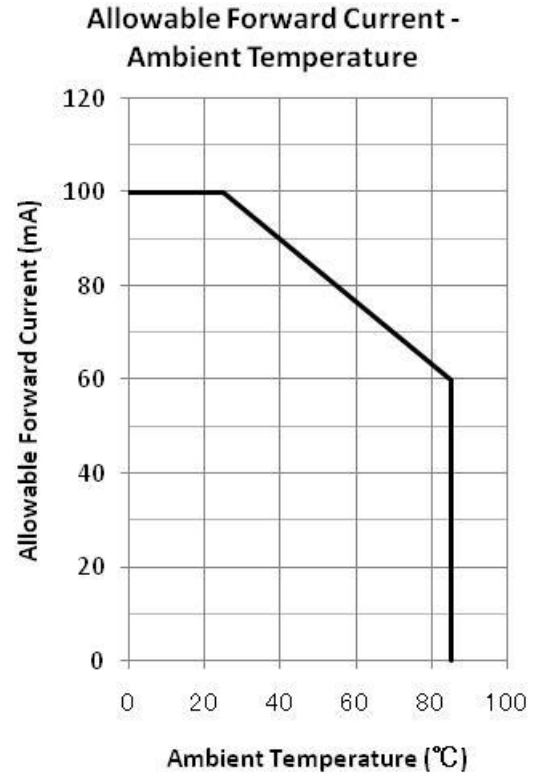
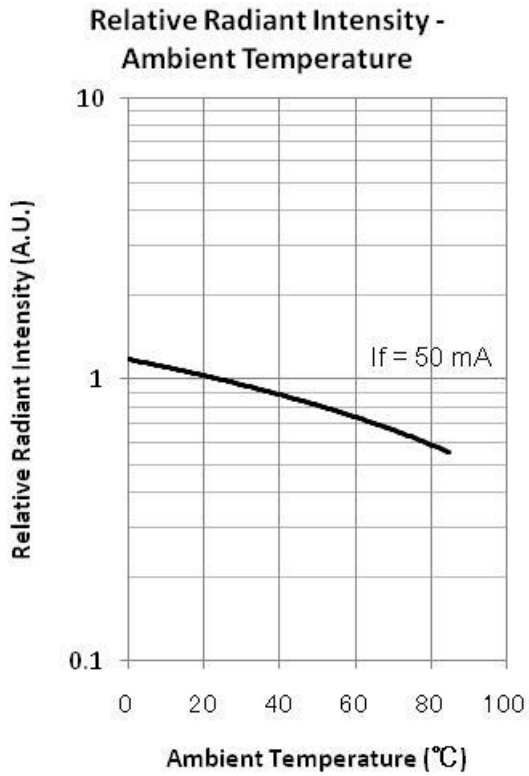
The Viewing half angle

<p>Figure-1 $\Phi 5$Mold (Type01)</p>	<p>Figure-2 $\Phi 5$Mold (Type02)</p> 
<p>Figure-3 $\Phi 5$Mold (Type03)</p> 	<p>Figure-4 $\Phi 5$Mold (Type04)</p> 
<p>Figure-5 $\Phi 5$Mold (Type05)</p> 	<p>Figure-6 $\Phi 5$Mold (Type06)</p> 
<p>Figure-7 $\Phi 5$Mold (Type09)</p>	<p>Figure-8 $\Phi 5$Mold (Type46)</p>
<p>Figure-9 $\Phi 4$Mold (Type41)</p>	<p>Figure-10 $\Phi 4$Mold (Type42)</p>

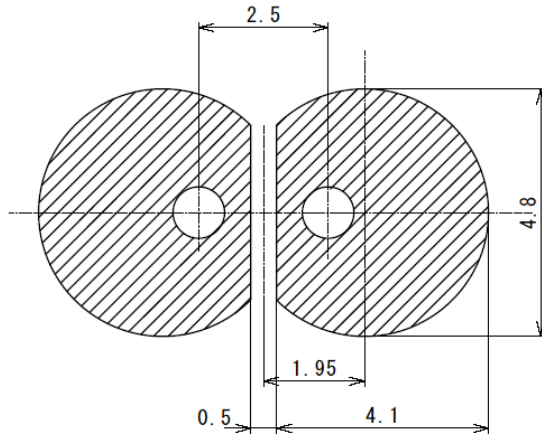
The Viewing half angle

<p>Figure-11 Φ3Mold (Type31)</p>	<p>Figure-12 Φ3Mold (Type33)</p> 
<p>Figure-13 Φ3Mold (Type34)</p>	<p>Figure-14 Φ3Mold (Type36)</p> 
<p>Figure-15</p>	<p>Figure-16</p>
<p>Figure-17</p>	<p>Figure-18</p>
<p>Figure-19</p>	<p>Figure-20</p>





Recommended Land Layout (unit: mm)



Soldering Conditions

