

L1300-__ __

Infrared LED Lamp

This series of L1300-__ __ 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 4.5mW with a peak wavelength at 1300nm.

Specifications

- | | |
|--------------------|-------------|
| 1. Chip material | InGaAsP |
| 2. Peak wavelength | 1300nm |
| 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	$I_F=50\text{mA}$		1.0	1.5	V
Reverse Current	I_R	$V_R=5\text{V}$			10	μA
Radiated Power	P_O	$I_F=50\text{mA}$	2.5	4.5		mW
Peak Wavelength	λ_P	$I_F=50\text{mA}$	1250	1300	1450	nm
Half Width	$\Delta\lambda$	$I_F=50\text{mA}$		80		nm
Rise Time	t_r	$I_F=50\text{mA}$		10		ns
Fall Time	t_f	$I_F=50\text{mA}$		10		ns

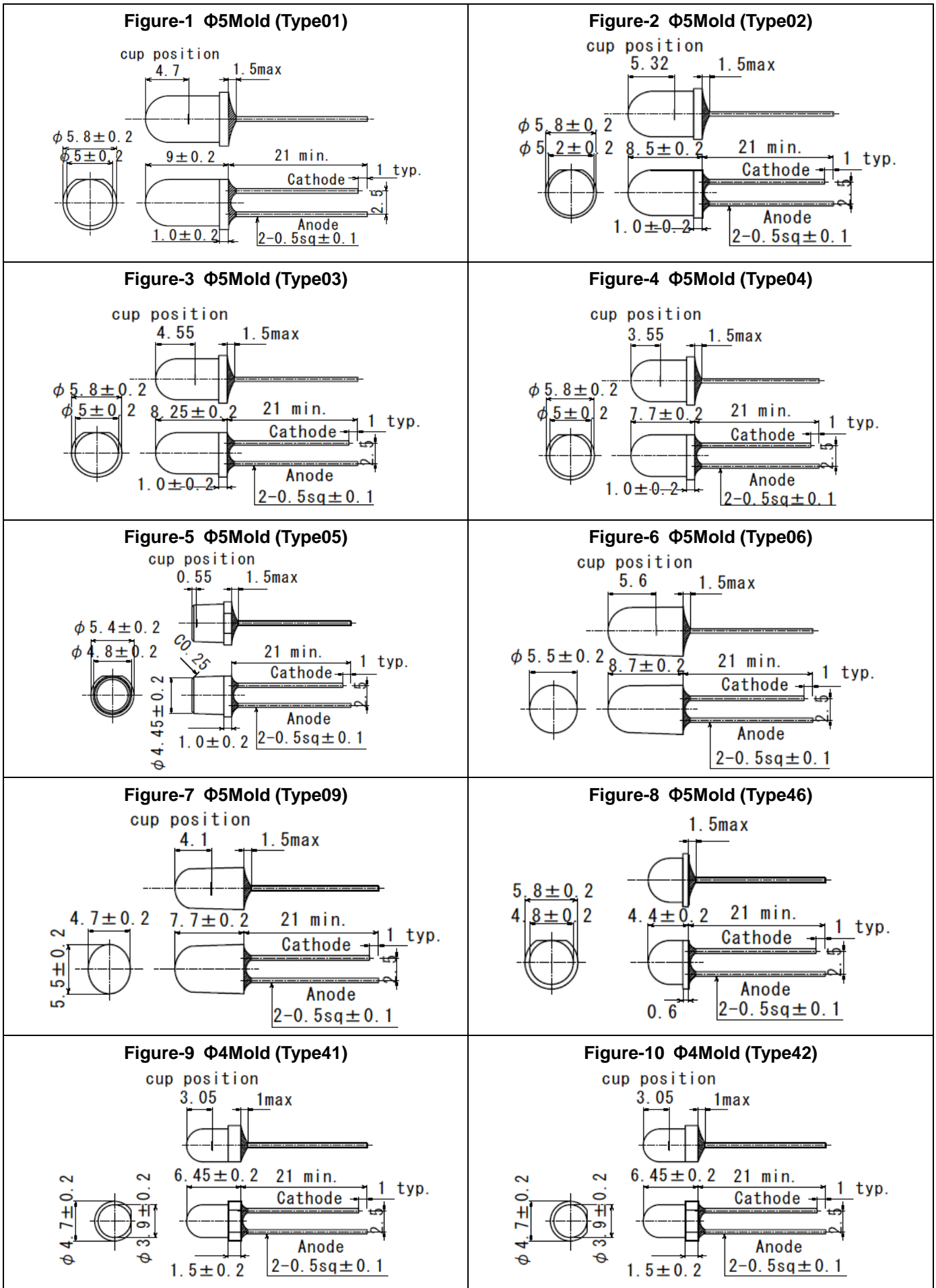
Characteristics of Radiant Intensity ($T_a=25^{\circ}\text{C}$)

Type	Viewing Half Angle	Radiant Intensity $I_F=50\text{mA}$ Unit : mW/sr			Outer Dimension	Dimension Figure
		Minimum	Typical	Maximum		
L1300-01					$\Phi 5$	1
L1300-02					$\Phi 5$	2
L1300-03	$\pm 10^{\circ}$		14		$\Phi 5$	3
L1300-04					$\Phi 5$	4
L1300-05					$\Phi 5$	5
L1300-06	$\pm 7^{\circ}$		38		$\Phi 5$	6
L1300-09					$\Phi 5$ Oval	7
L1300-46					$\Phi 5$	8
L1300-41					$\Phi 4$	9
L1300-42					$\Phi 4$	10
L1300-31					$\Phi 3$	11
L1300-33	$\pm 18^{\circ}$		9		$\Phi 3$	12
L1300-34					$\Phi 3$	13
L1300-36	$\pm 33^{\circ}$		4		$\Phi 3$	14

Radiant Power is measured by G8370-85

Brightness is measured by Tektronix J-16

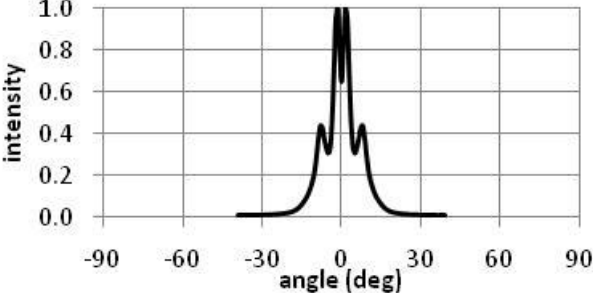
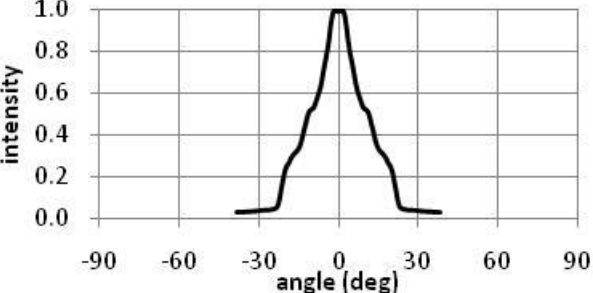
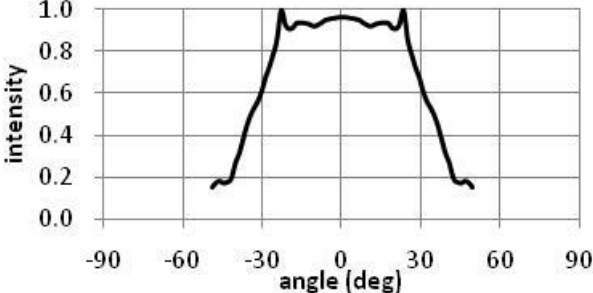
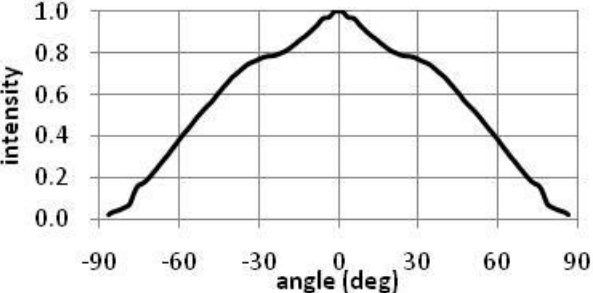
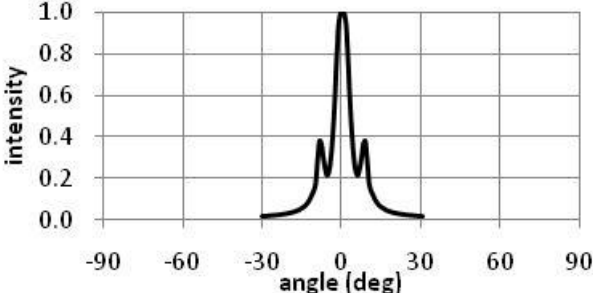
Outer Dimension of LED Lamp



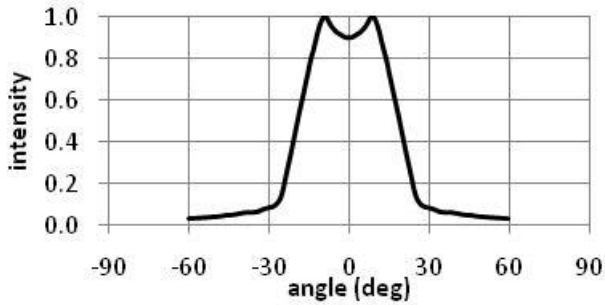
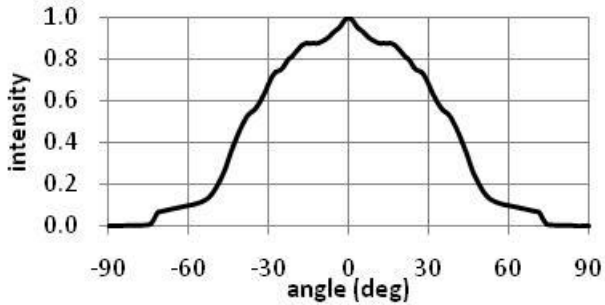
Outer Dimension of LED Lamp

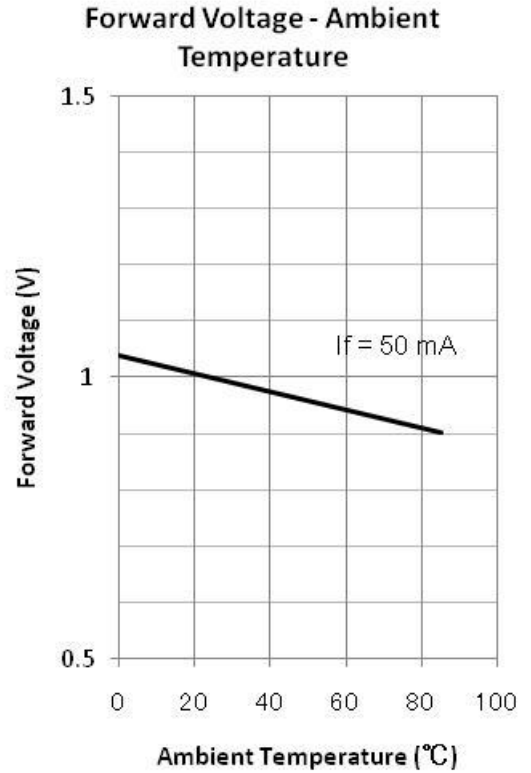
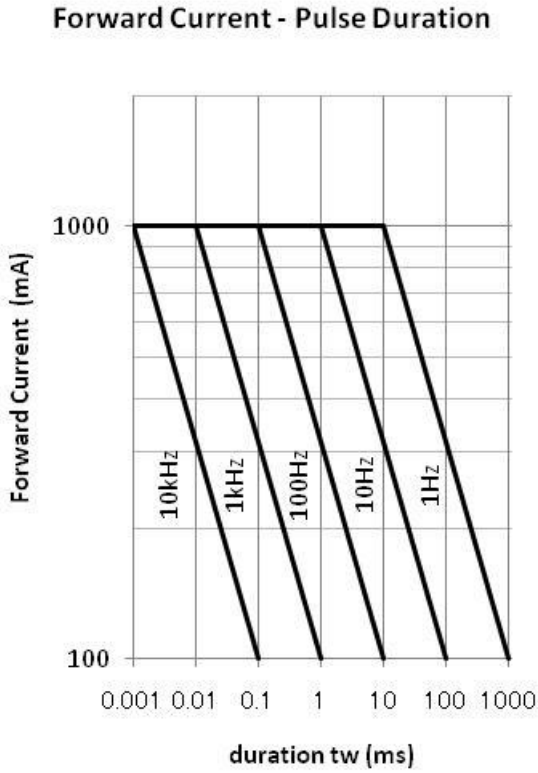
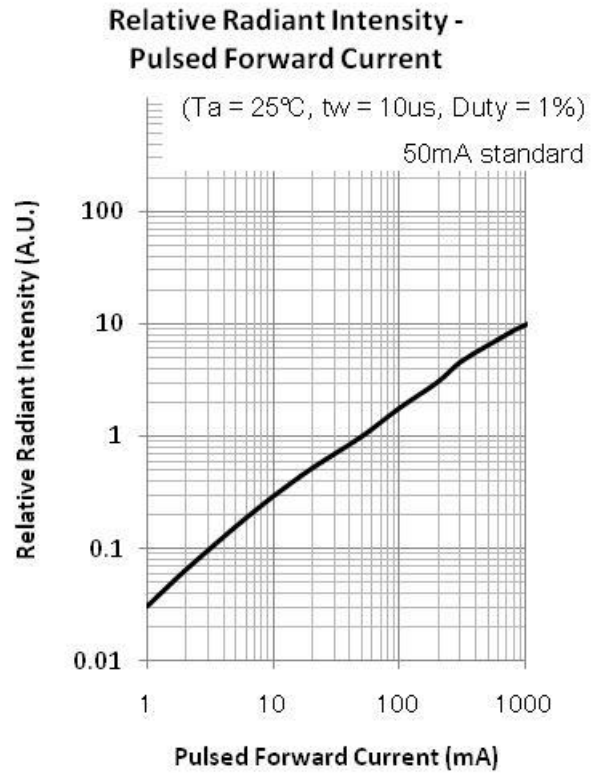
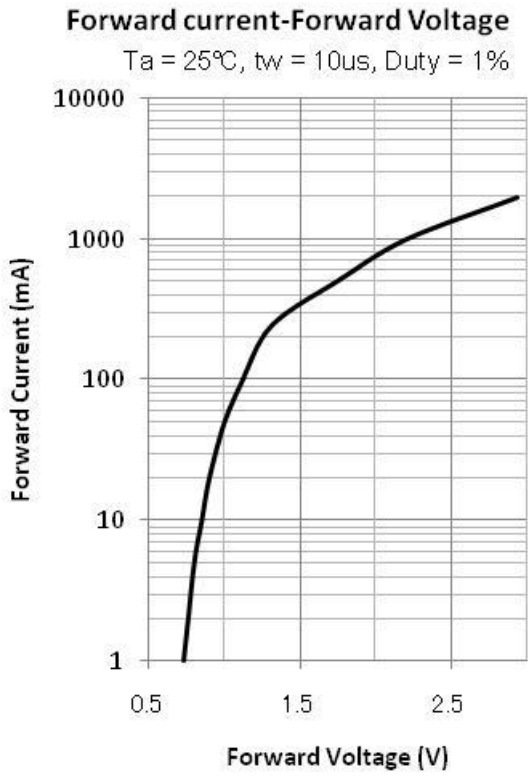
<p>Figure-11 $\Phi 3$Mold (Type31) cup position</p> <p>0.37 1max $\phi 3.6 \pm 0.2$ $\phi 3 \pm 0.2$ 3.5 ± 0.2 21 min. Cathode 1 typ. Anode 1.5 typ. $2-0.5sq \pm 0.1$</p>	<p>Figure-12 $\Phi 3$Mold (Type33) cup position</p> <p>2.65 1max $\phi 3.8 \pm 0.2$ $\phi 3 \pm 0.2$ 5.3 21 min. Cathode 1 typ. Anode 0.8 typ. $2-0.5sq \pm 0.1$</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. Cathode 1 typ. Anode 1.5 typ. $2-0.5sq \pm 0.1$</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. Cathode 1 typ. Anode 2 ± 0.4 $2-0.5sq \pm 0.1$</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>

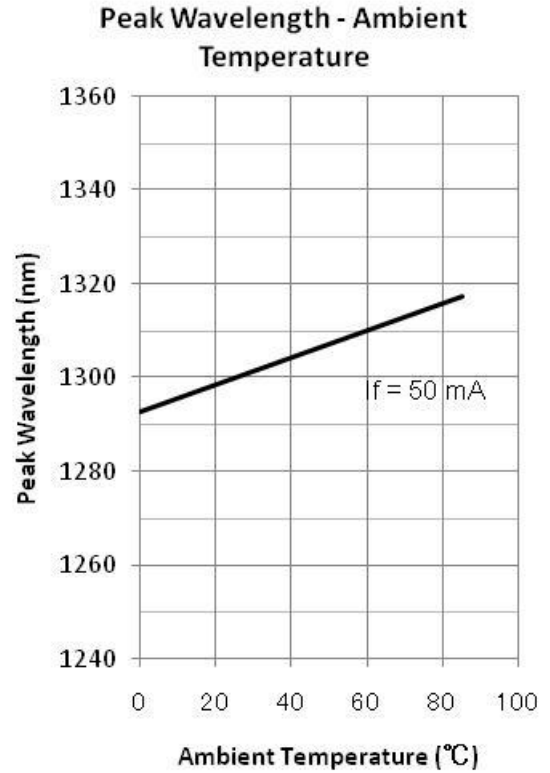
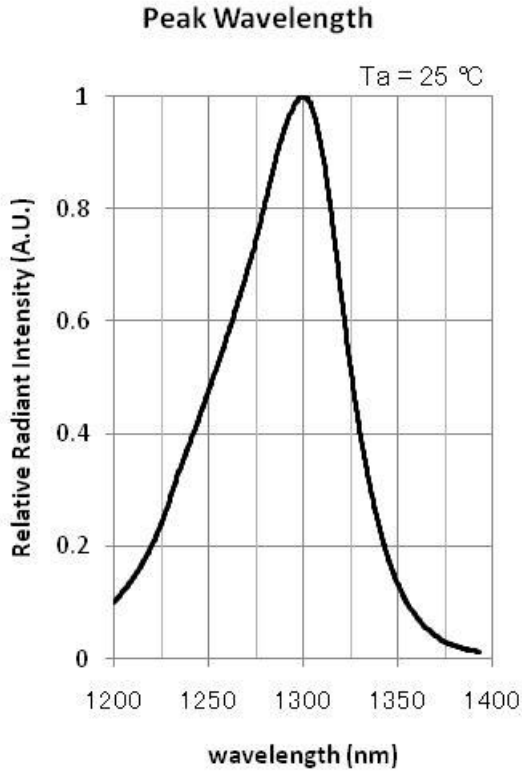
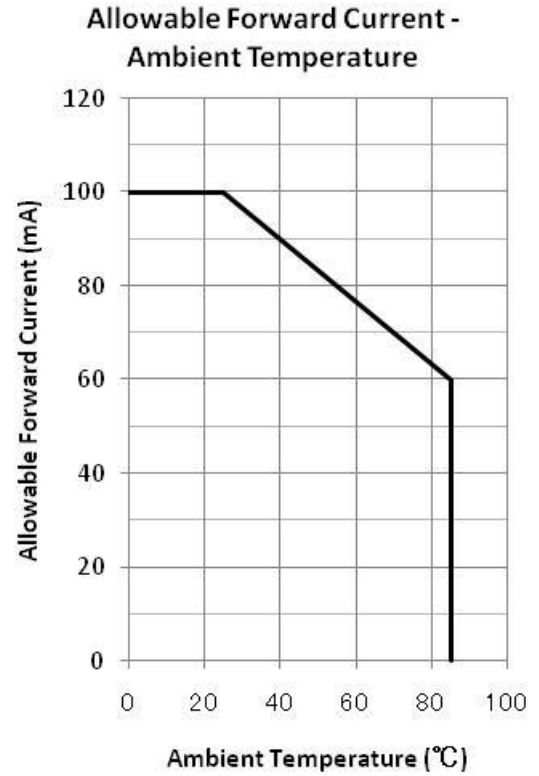
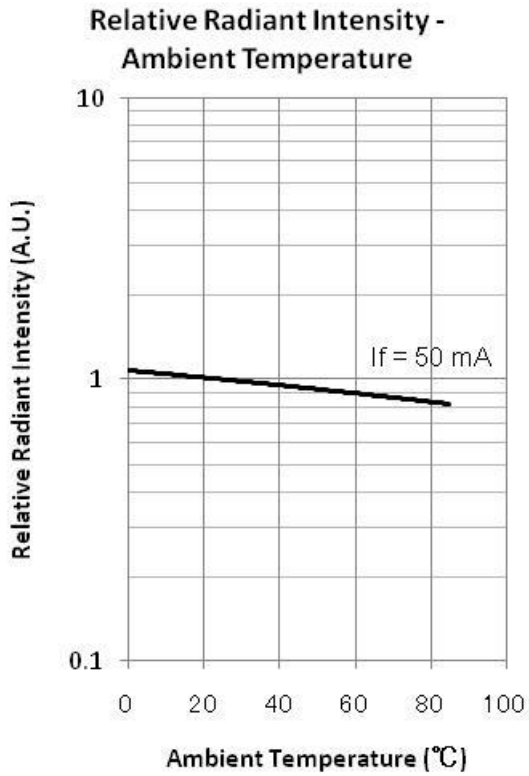
The Viewing half angle

<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>

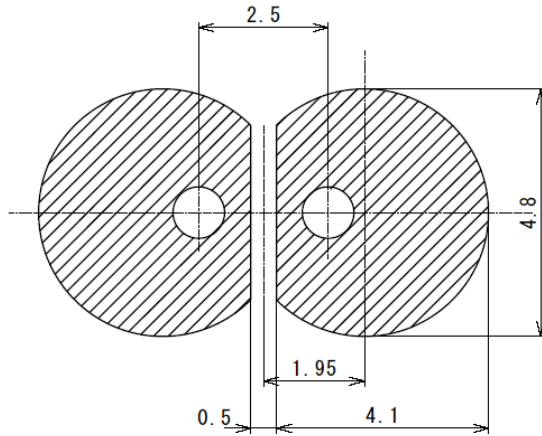
The Viewing half angle

<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>
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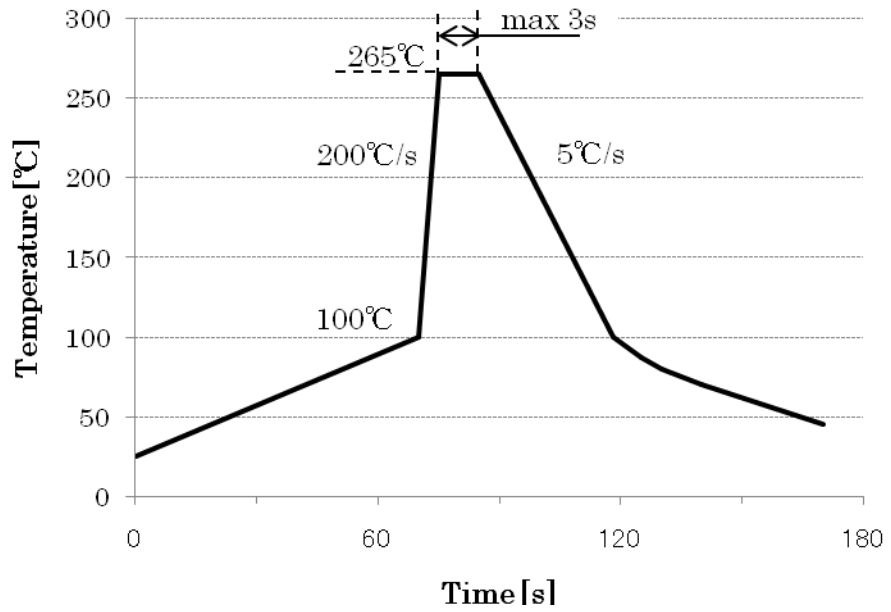




Recommended Land Layout (unit: mm)



Soldering Conditions



Marubeni America Corporation

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