

L910 Series

Infrared LED Lamp

This series of L910-__ is an AlGaAs 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 12mW with a peak wavelength at 910nm.

Specifications

1. Chip material	AlGaAs
2. Peak wavelength	910nm
3. Resin Material	Epoxy resin
4. Solder	Lead free



Absolute Maximum Ratings

Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	P_D	150	mW	$T_a=25^{\circ}\text{C}$
Forward Current	I_F	100	mA	$T_a=25^{\circ}\text{C}$
Pulse Forward Current	I_{FP}	500	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	$^{\circ}\text{C}$	$T_a=25^{\circ}\text{C}$
Storage Temperature	T_{STG}	-40 ~ +100	$^{\circ}\text{C}$	
Soldering Temperature	T_{SOL}	265	$^{\circ}\text{C}$	

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

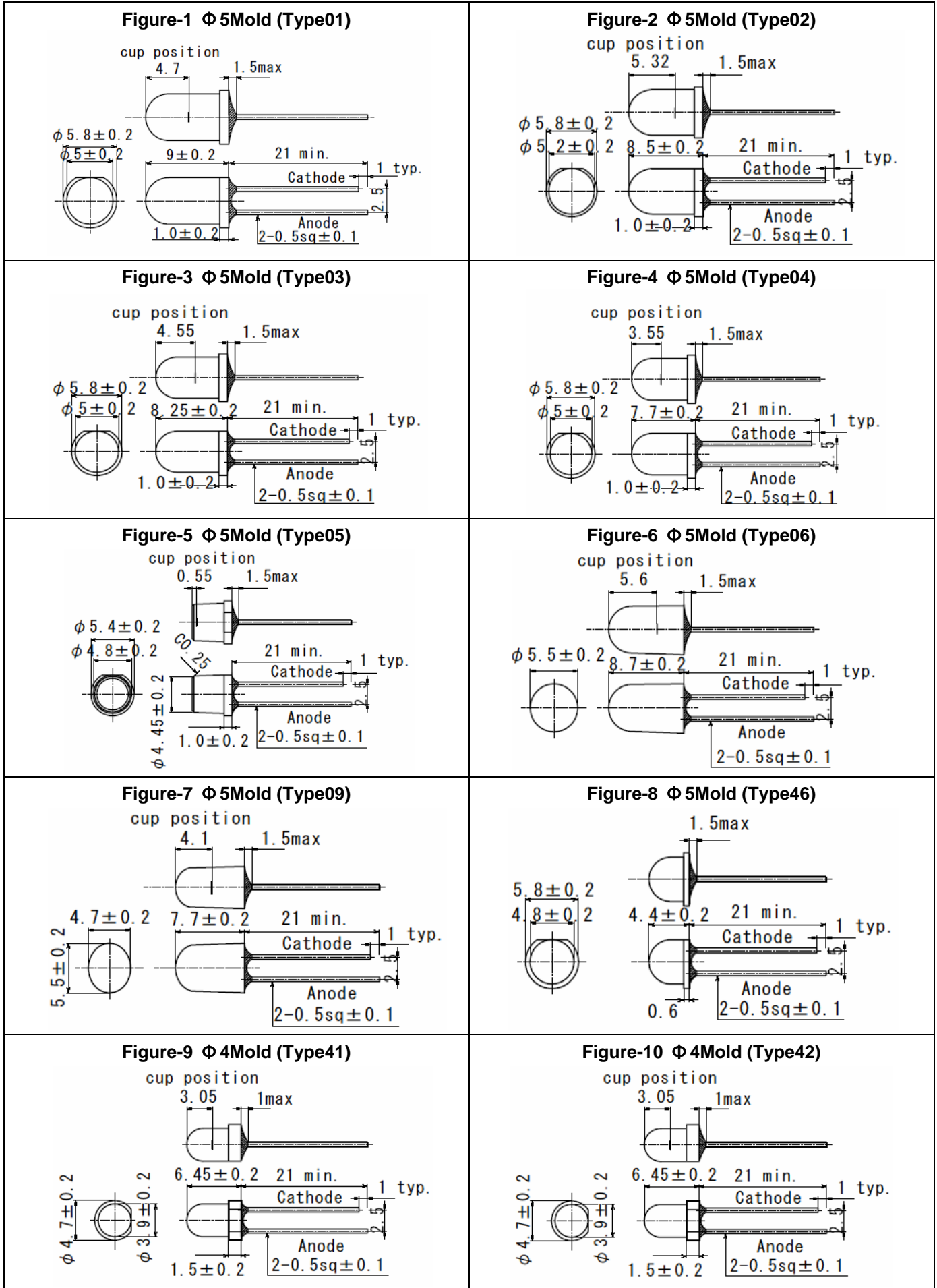
Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	V_F	$I_F=50\text{mA}$		1.4	1.6	V
Reverse Current	I_R	$V_R=5\text{V}$			10	μA
Total Radiated Power	P_O	$I_F=50\text{mA}$	7.0	12.0		mW
Peak Wavelength	λ_P	$I_F=50\text{mA}$		910		nm
Half Width	$\Delta\lambda$	$I_F=50\text{mA}$		45		nm
Rise Time	t_r	$I_F=50\text{mA}$		300		ns
Fall Time	t_f	$I_F=50\text{mA}$		150		ns

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		
L910-01	±10°		70		Φ 5	1
L910-02	±7°		70		Φ 5	2
L910-03	±10°		70		Φ 5	3
L910-04	±20°		20		Φ 5	4
L910-05	±40°		7		Φ 5	5
L910-06	±7°		65		Φ 5	6
L910-09	±25°(Long) ±15°(Short)		35		Φ 5 Oval	7
L910-46					Φ 5	8
L910-41	±16°		32		Φ 4	9
L910-42	±23°		17		Φ 4	10
L910-31					Φ 3	11
L910-33	±18°		25		Φ 3	12
L910-34					Φ 3	13
L910-36	±33°		15		Φ 3	14

Total Radiant Power is measured by Photodyne #500
 Brightness is measured by Tektronix J-16

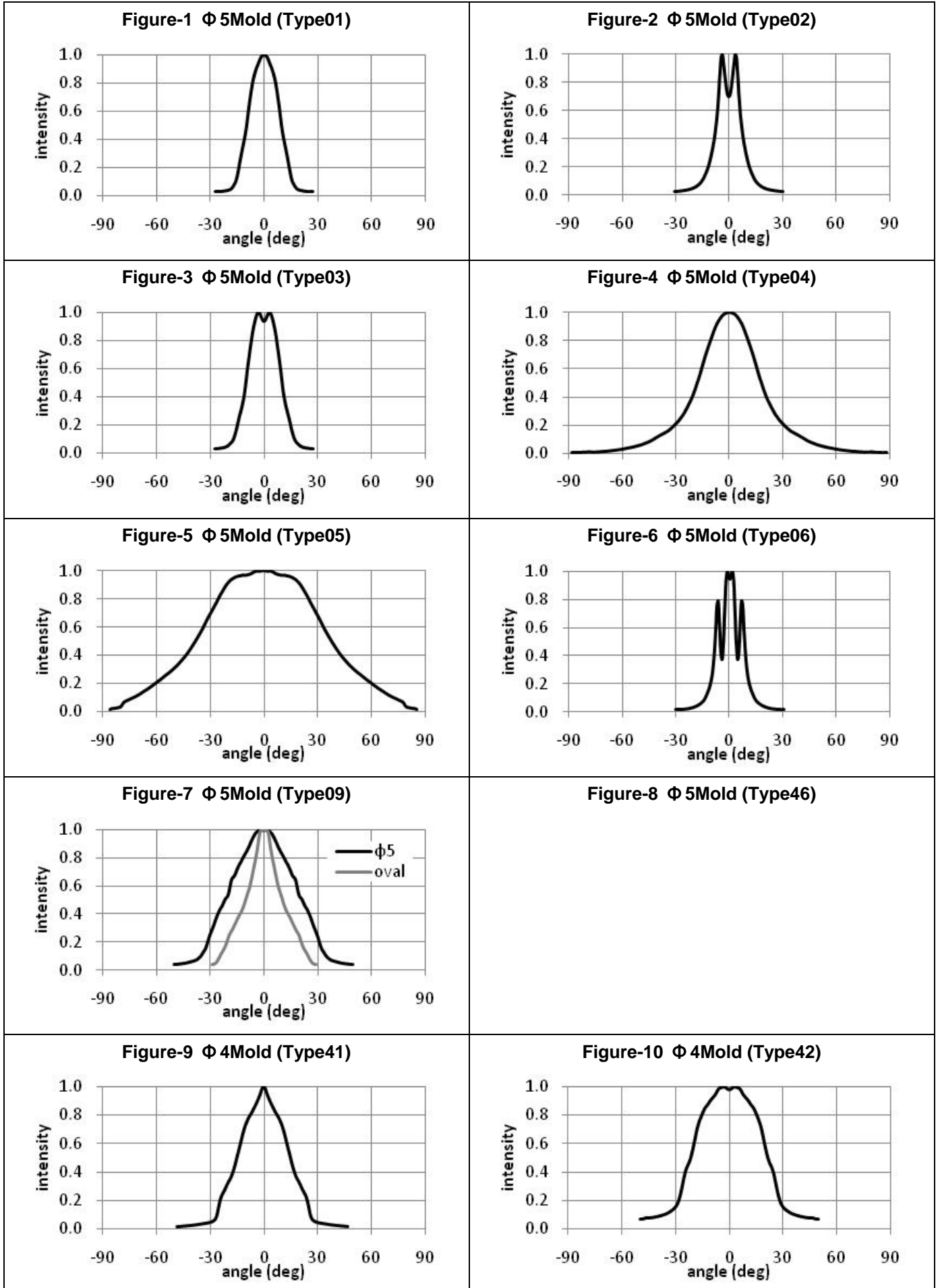
Outer Dimension of LED Lamp (1/2)



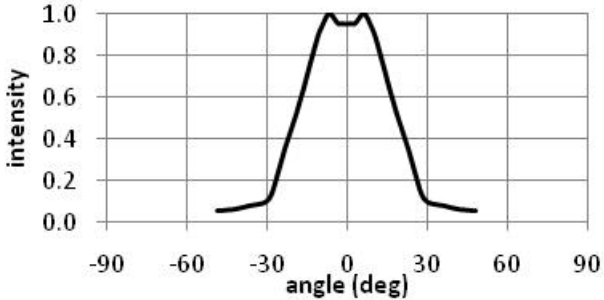
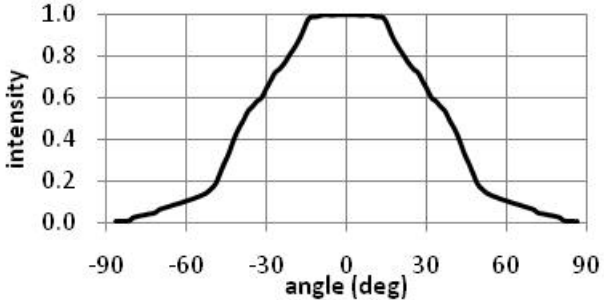
Outer Dimension of LED Lamp (2/2)

<p>Figure-11 Φ 3Mold (Type31) cup position</p> <p>0.37 1max ϕ 3.6\pm0.2 ϕ 3\pm0.2 3.5\pm0.2 21 min. Cathode 1 typ. Anode 1.5 typ. 2-0.5sq\pm0.1</p>	<p>Figure-12 Φ 3Mold (Type33) cup position</p> <p>2.65 1max ϕ 3.8\pm0.2 ϕ 3\pm0.2 5.3 21 min. Cathode 1 typ. Anode 0.8 typ. 2-0.5sq\pm0.1</p>
<p>Figure-13 Φ 3Mold (Type34) cup position</p> <p>3.25 1max ϕ 3.8\pm0.2 ϕ 3\pm0.2 5.3\pm0.2 21 min. Cathode 1 typ. Anode 1.5 typ. 2-0.5sq\pm0.1</p>	<p>Figure-14 Φ 3Mold (Type36) cup position</p> <p>2.1 1max ϕ 4\pm0.2 ϕ 3\pm0.2 5.3\pm0.2 21 min. Cathode 1 typ. Anode 2\pm0.4 2-0.5sq\pm0.1</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>

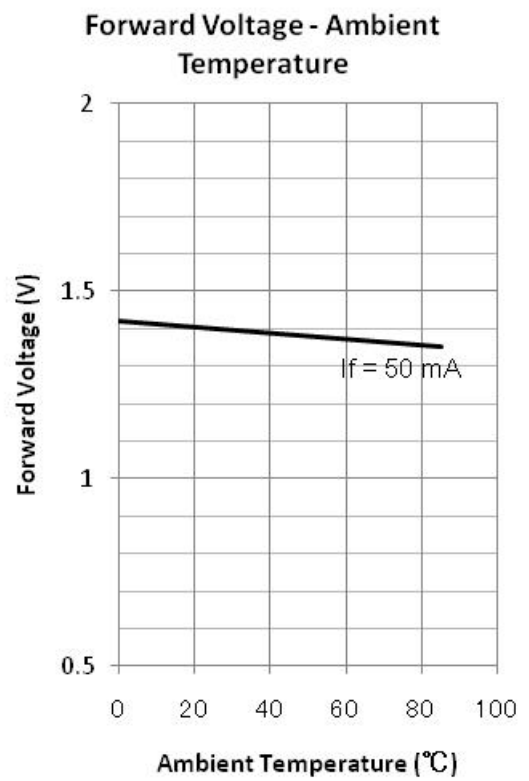
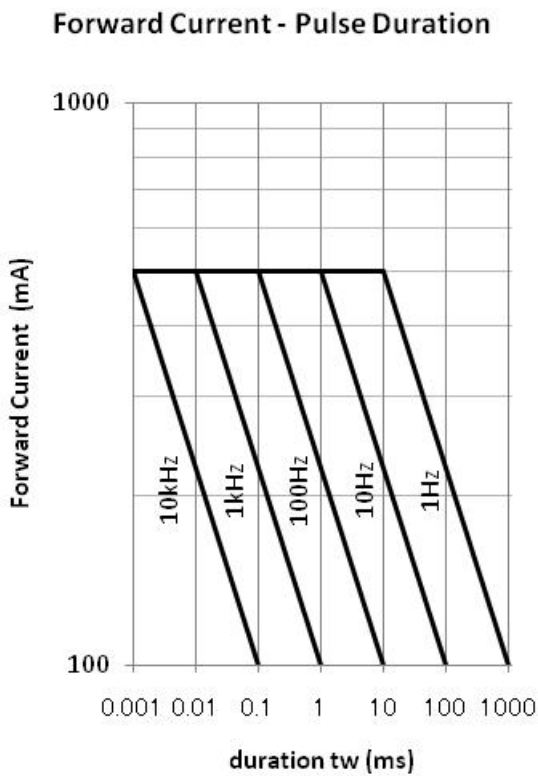
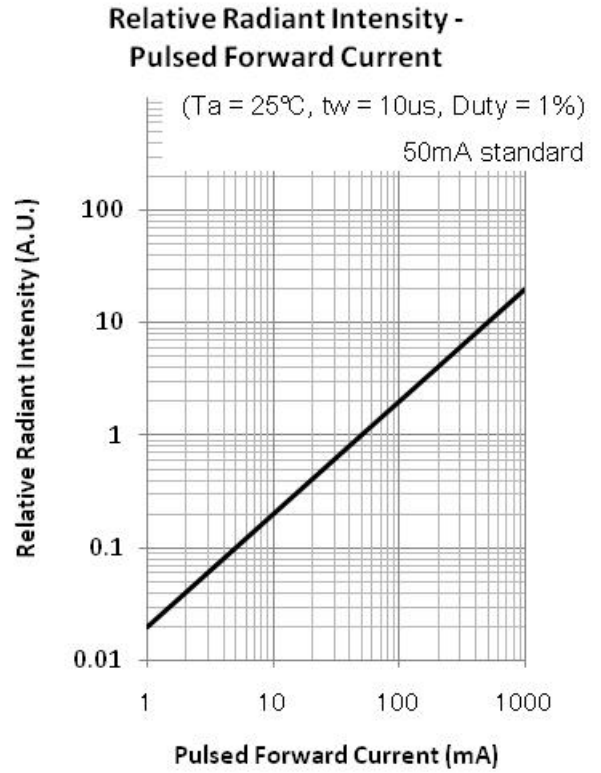
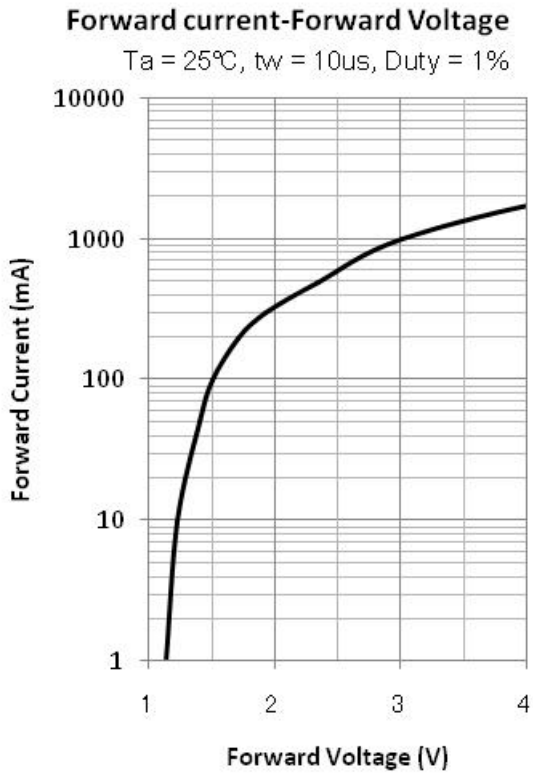
The Viewing half angle (1/2)



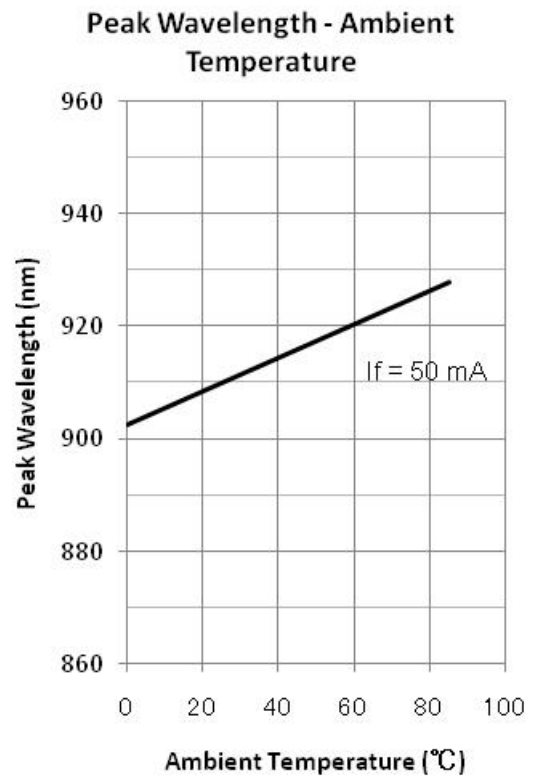
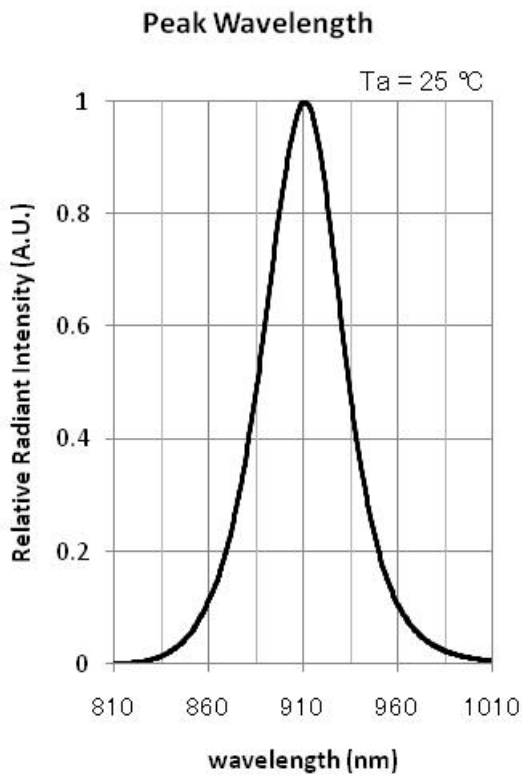
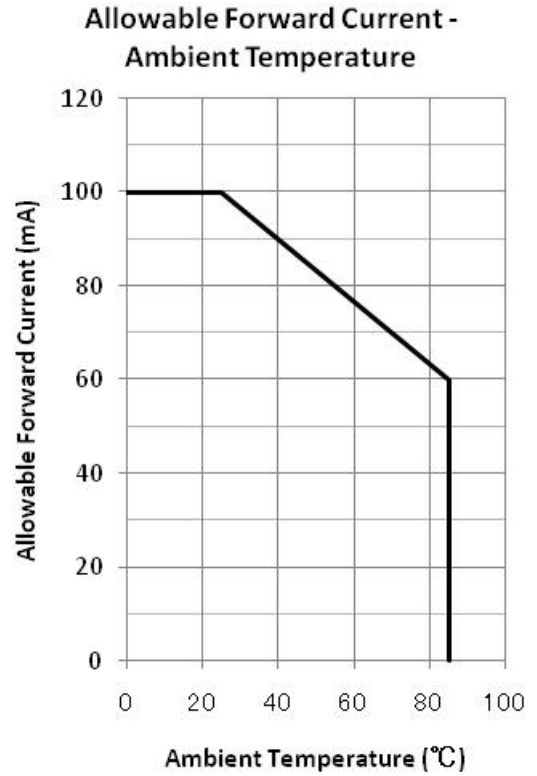
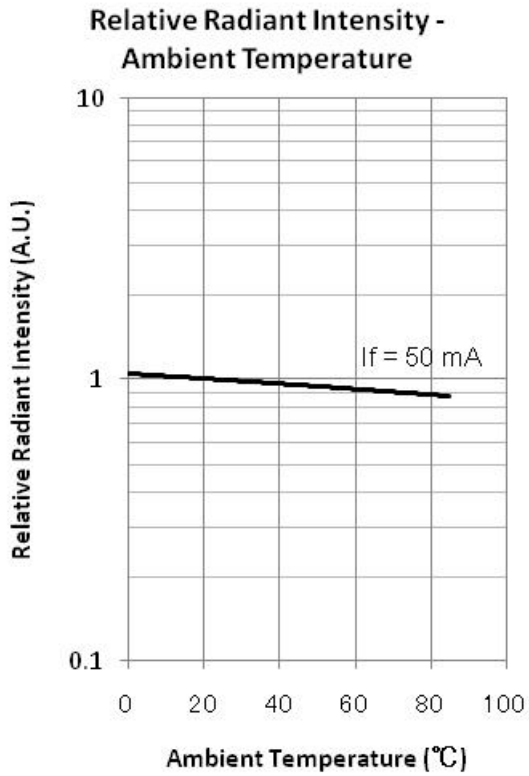
The Viewing half angle (2/2)

<p>Figure-11 Φ 3Mold (Type31)</p>	<p>Figure-12 Φ 3Mold (Type33)</p> 
<p>Figure-13 Φ 3Mold (Type34)</p>	<p>Figure-14 Φ 3Mold (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>

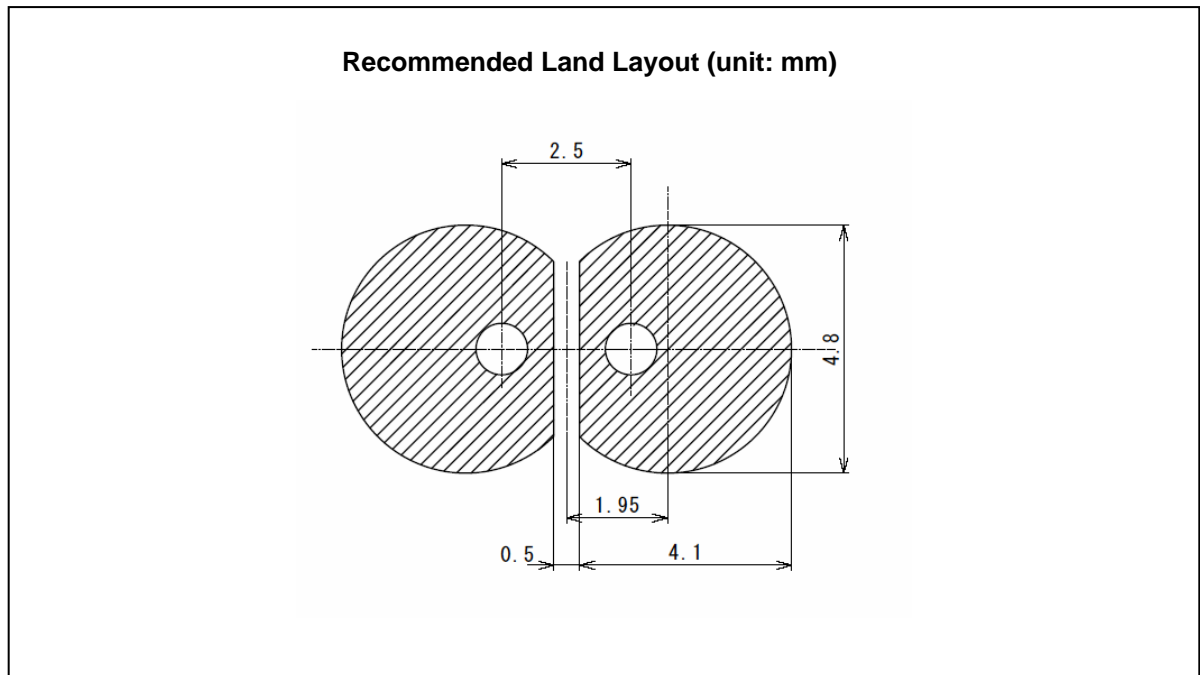
L910 Series Operating Conditions (1/2)



L910 Series Operating Conditions (2/2)



Recommended Land Layout



Soldering Conditions

