



Lead (Pb) Free Product – RoHS Compliant

LED830-series

Blue LED Lamp

This series of LED830-xx is an AlGaAs LED mounted on a lead frame and encapsulated in various types of epoxy lens which offers different design settings.

On forward bias, it emits a high power radiation of typical 18mW with a peak wavelength at 830nm.

• Specifications

- | | |
|--------------------|-------------|
| 1) Chip material | AlGaAs |
| 2) Peak wavelength | 830nm |
| 3) Package | Epoxy resin |
| 4) Solder | Lead free |



• Absolute Maximum Ratings

Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	P _D	170	mW	T _a =25°C
Forward Current	I _F	100	mA	T _a =25°C
Reverse Voltage	V _R	5	V	T _a =25°C
Operating Temperature	T _{OPR}	-30 ~ +85	°C	
Storage Temperature	T _{STG}	-40 ~ +100	°C	
Soldering Temperature	T _{SOL}	265	°C	

• Electro-Optical Characteristics [T_a=25°C]

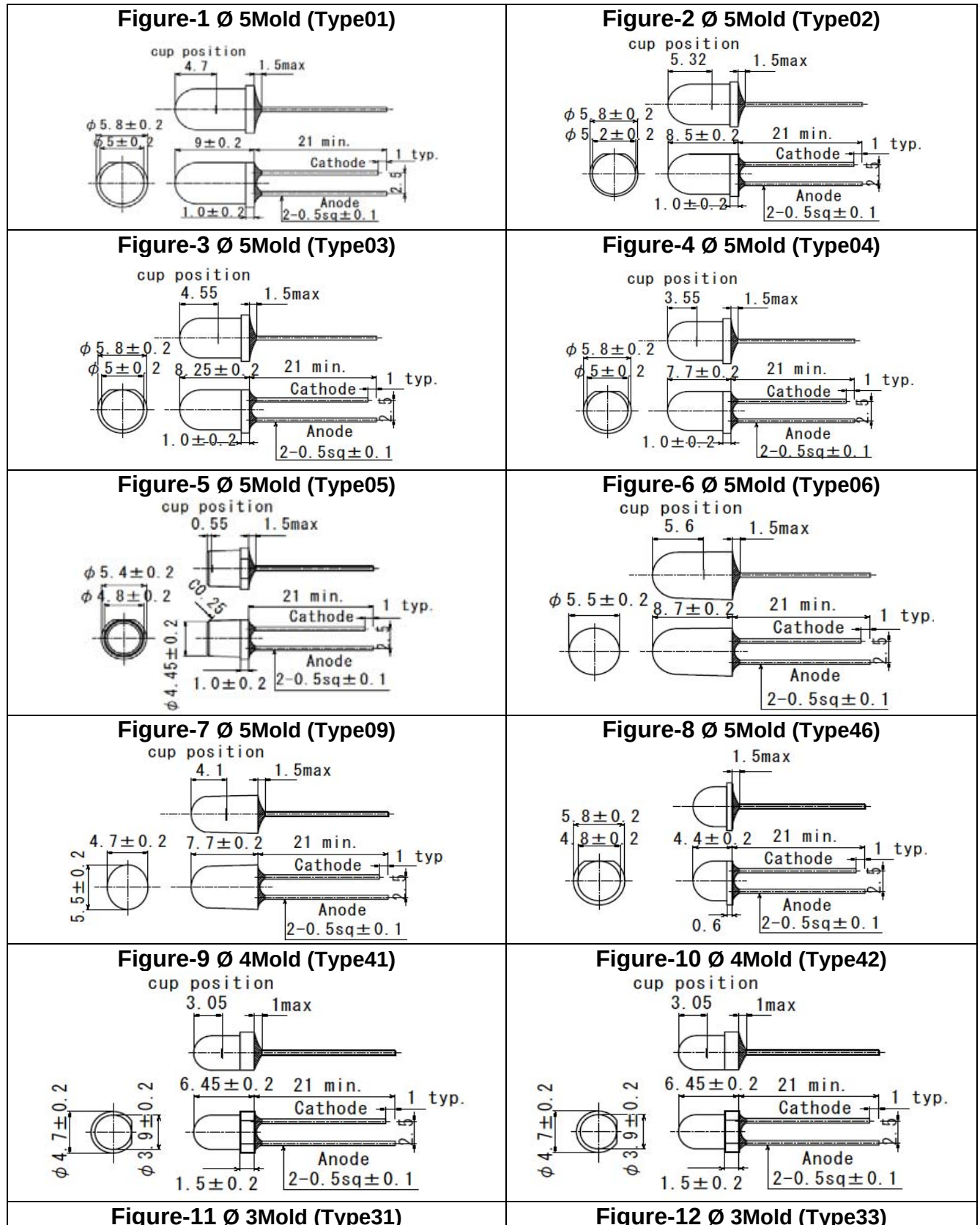
Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	V _F	I _F =50mA		1.6	1.8	V
Reverse Current	I _R	V _R =5V			10	uA
Radiated Power	P _O	I _F =50mA	16.0	18.0		mW
Peak Wavelength	λ _P	I _F =50mA		830		nm
Half Width	Δλ	I _F =50mA		35		nm
Rise Time	t _r	I _F =50mA		50		ns
Fall Time	t _f	I _F =50mA		25		ns



• **Characteristics of Radiant Intensity [Ta=25°C]**

Type	Viewing Half Angle	Radiant Intensity IF= 50mA [mW/sr]			Outer Dimension	Dimension Figure
		Minimum	Typical	Maximum		
LED830-01AU	± 10°		100		Ø 5	1
LED830-02AU	± 7°		100		Ø 5	2
LED830-03AU	± 10°		110		Ø 5	3
LED830-04AU	± 20°		45		Ø 5	4
LED830-05AU	± 40°		12		Ø 5	5
LED830-06AU	± 7°		130		Ø 5	6
LED830-09AU	± 25° (Long)		60		Ø 5	7
	± 10° (Short)				Oval	
LED830-46AU					Ø 5	8
LED830-41AU	± 16°		75		Ø 4	9
LED830-42AU	± 23°		40		Ø 4	10
LED830-31AU					Ø 3	11
LED830-33AU	± 18°		45		Ø 3	12
LED830-34AU					Ø 3	13
LED830-36AU	± 33°		200		Ø 3	14

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

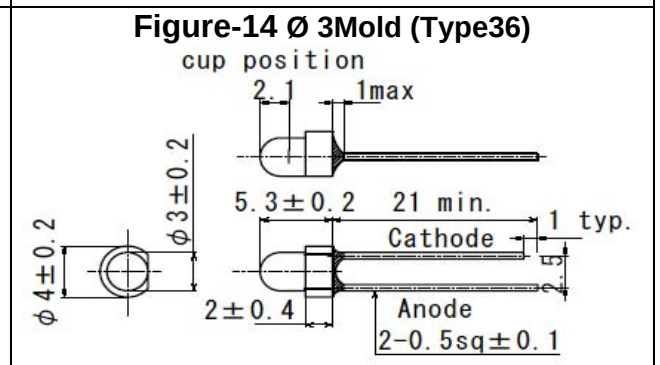
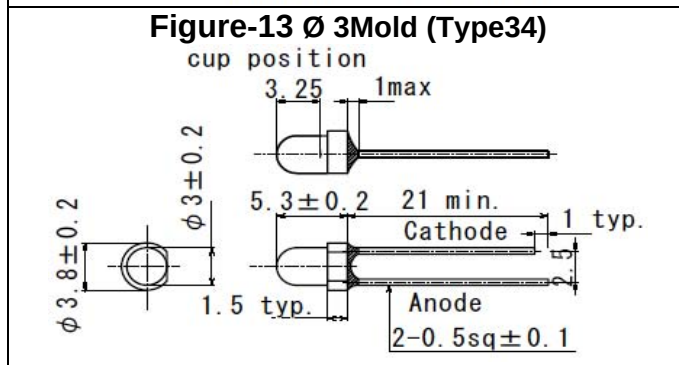
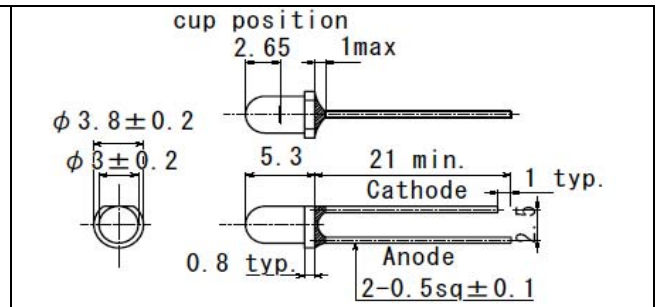
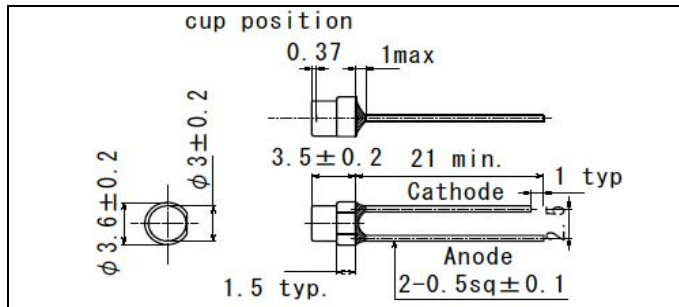




ROITHNER LASERTECHNIK

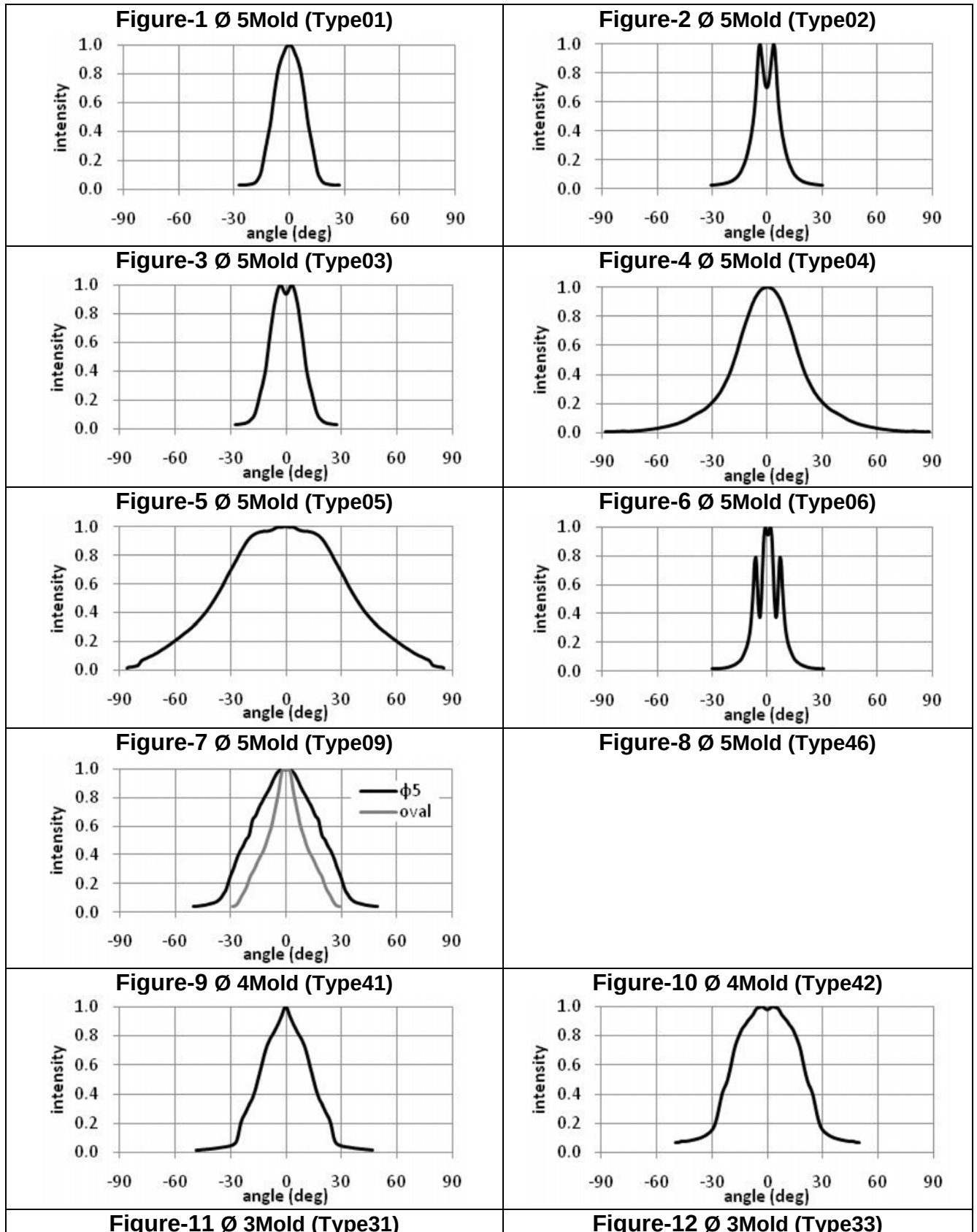
Wiedner Hauptstraße 76, A-1040 Vienna, Austria

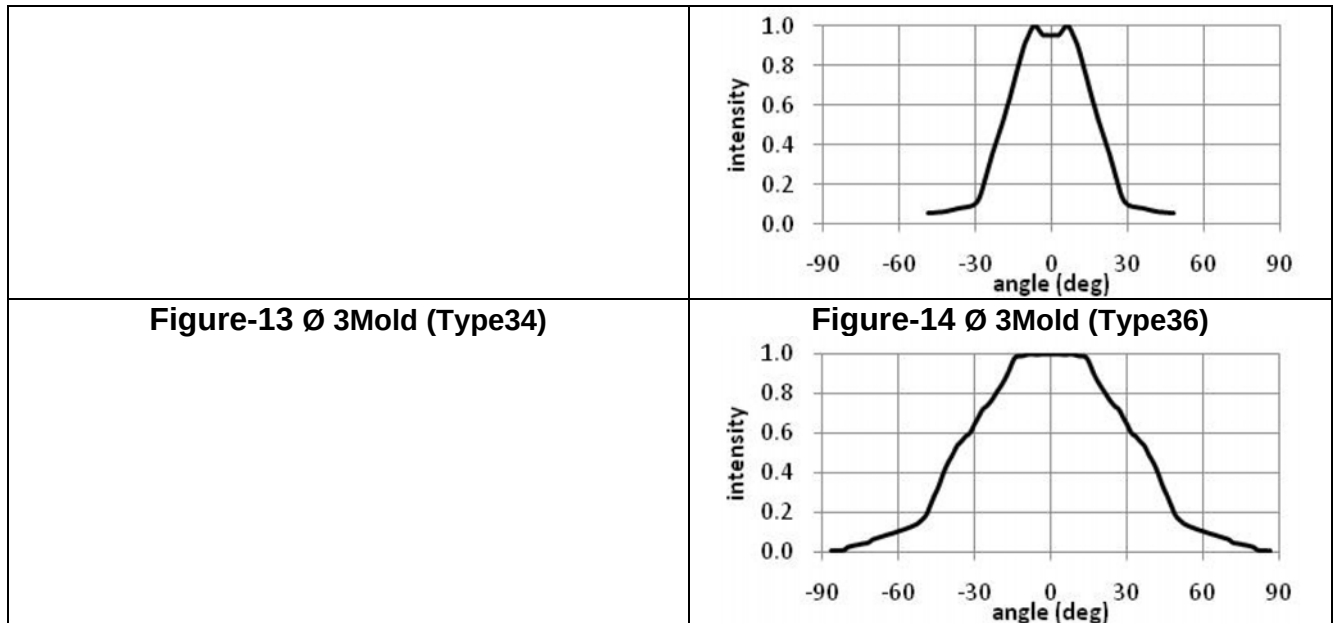
Tel.: ++43 1 586 52 43-0, Fax -44, office@roithner-laser.com





• The Viewing half angle



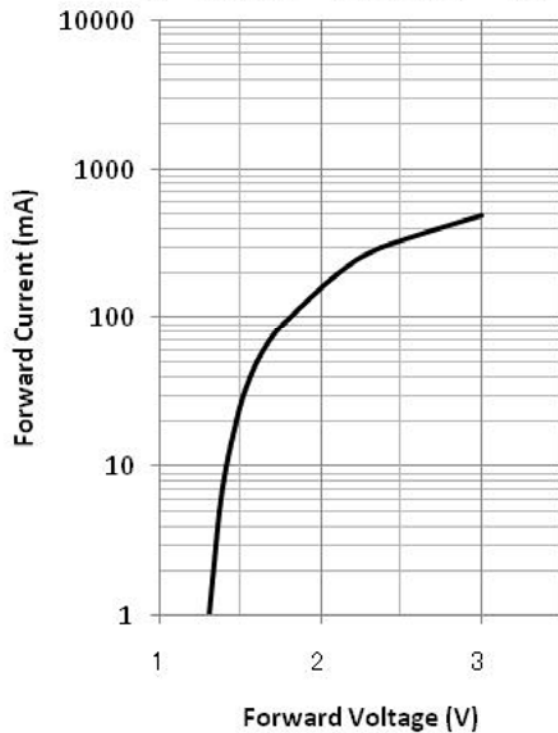




• **LED450 - serie**

Forward current-Forward Voltage

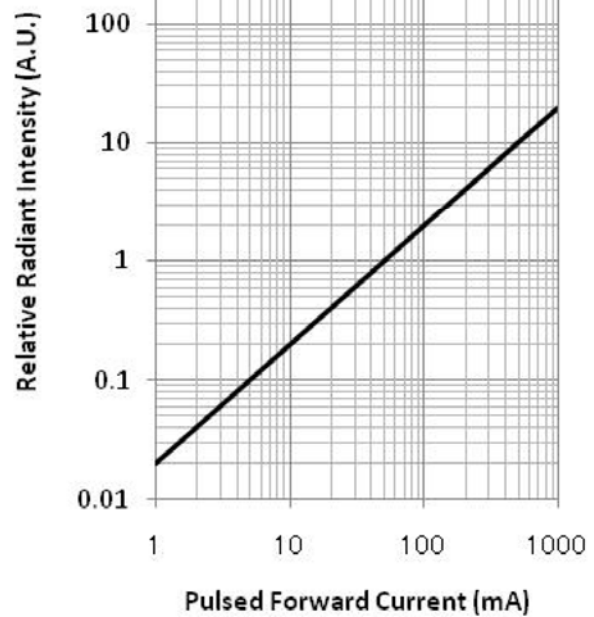
$T_a = 25^\circ\text{C}$, $t_w = 10\mu\text{s}$, Duty = 1%



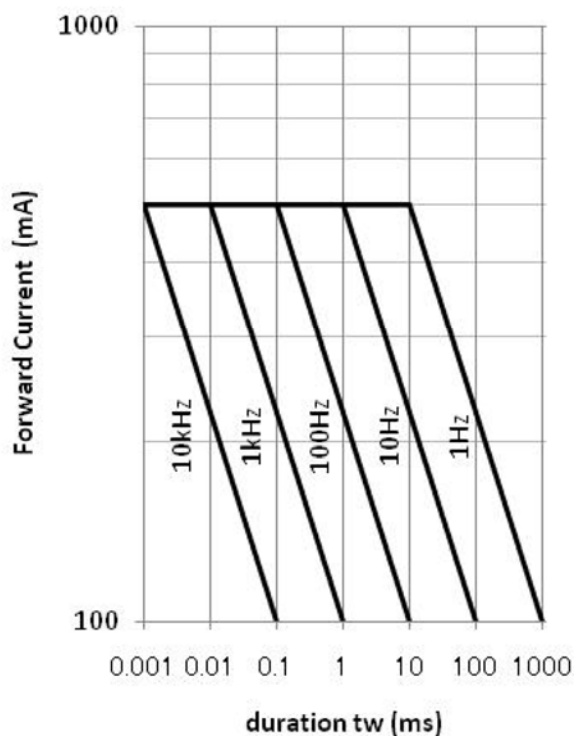
Relative Radiant Intensity - Pulsed Forward Current

($T_a = 25^\circ\text{C}$, $t_w = 10\mu\text{s}$, Duty = 1%)

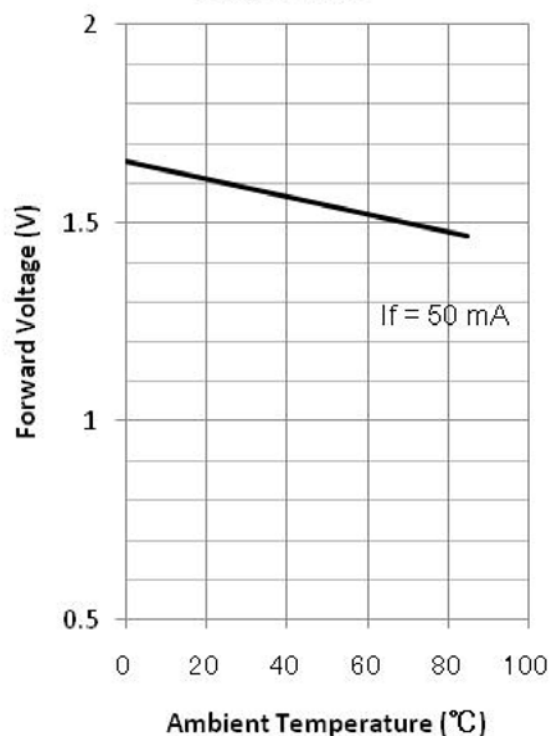
50mA standard

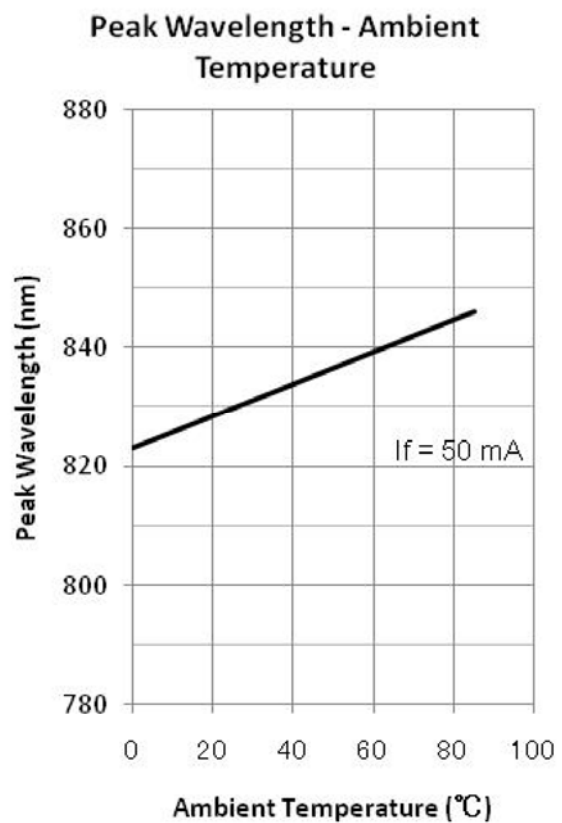
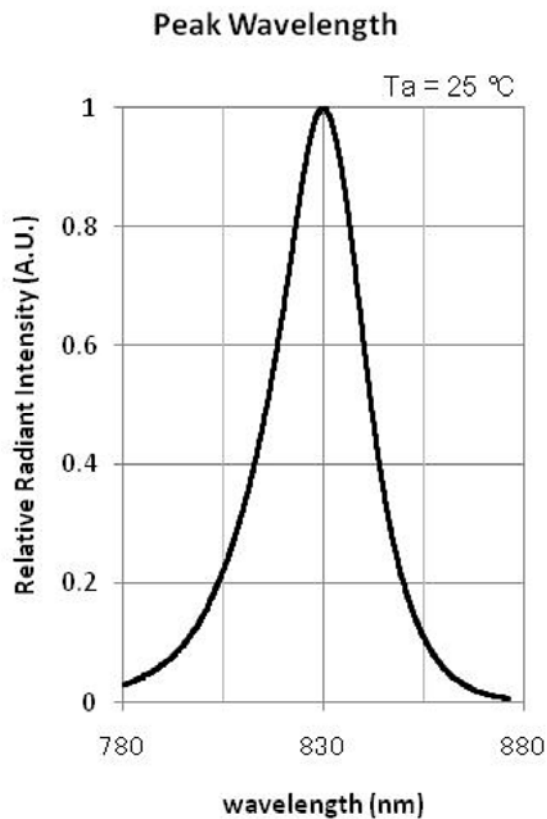
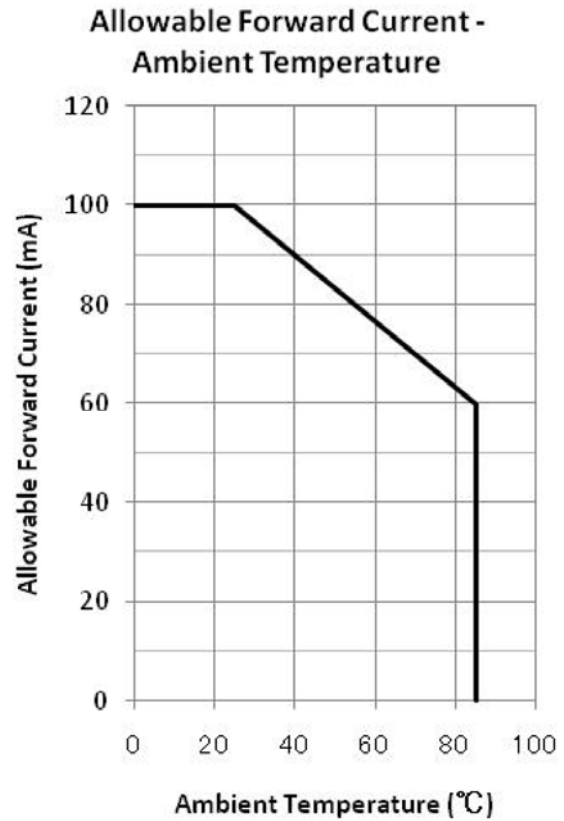
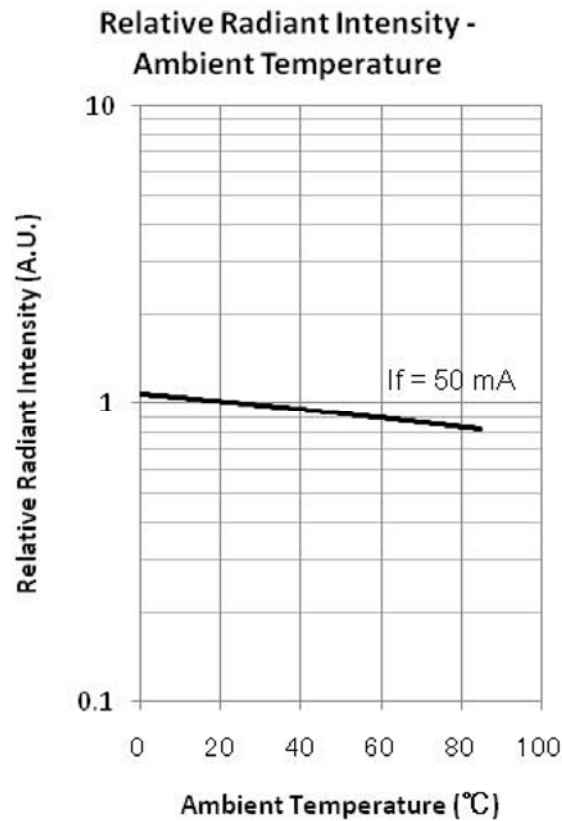


Forward Current - Pulse Duration



Forward Voltage - Ambient Temperature







Recommended Land Layout (mm)

