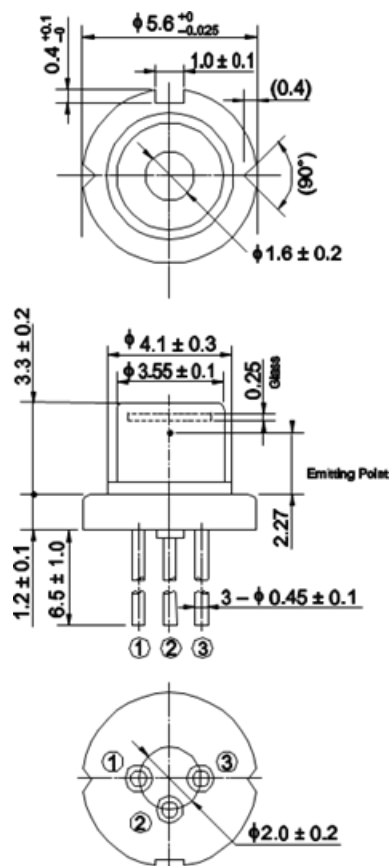


## HL65221DG/222DG/223DG

660nm/210mW(CW)/420mW(Pulse)

AlGaInP Laser Diode

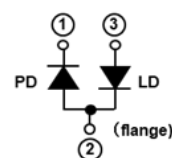
### Outline



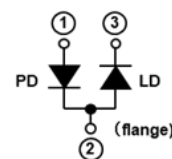
(Unit: mm)

### Internal Circuit

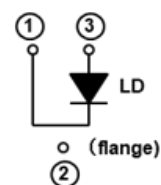
HL65221DG



HL65222DG



HL65223DG



### Features

- Visible light output: 660nm Typ.
- Optical output power:  
210mW (CW), 420mW (Pulse)
- Low operating current:  
230mA Typ. (200mW (CW))  
405mA Typ. (400mW (Pulse))
- Operating temperature: +75°C
- Single transverse mode
- TE mode oscillation

### Application

- Sensor application
- Light source of optical equipments

**Absolute Maximum Ratings (Tc=25°C)**

Item	Symbol	Ratings	Unit
Optical output power (1) (Tc=-10~60°C)	Po(1)	210	mW
Optical output power (2) (Tc=75°C)	Po(2)	150	mW
Pulse optical output power (1) (Tc=-10~60°C) <sup>Note1)</sup>	PO(pulse)(1)	420	mW
Pulse optical output power (2) (Tc=75°C) <sup>Note1)</sup>	PO(pulse)(2)	300	mW
LD Reverse Voltage	VR(LD)	2	V
PD Reverse Voltage <sup>Note2)</sup>	VR(PD)	30	V
Operating Temperature	Topr	-10 ~ +75	°C
Storage Temperature	Tstg	-40 ~ +85	°C

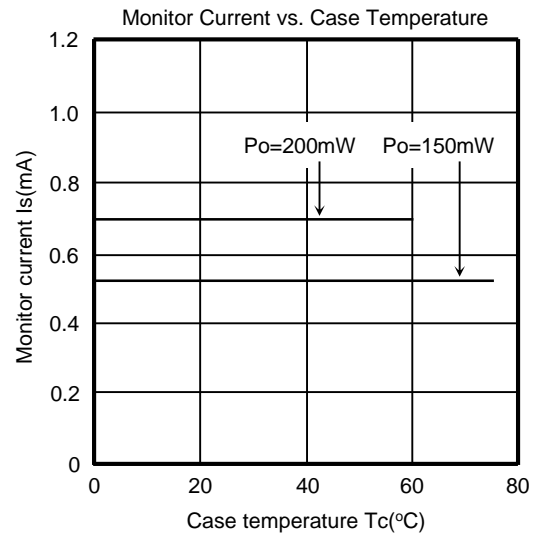
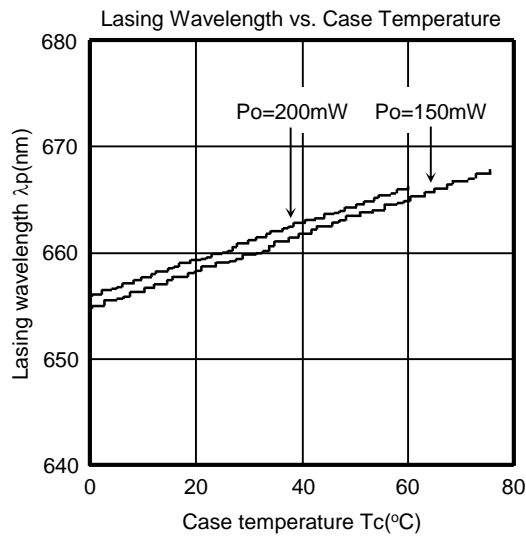
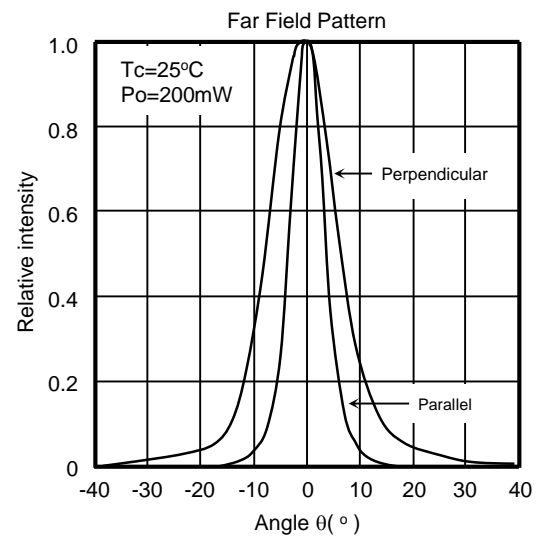
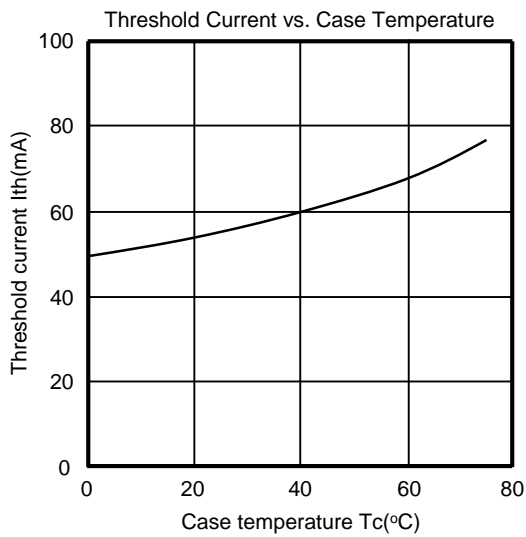
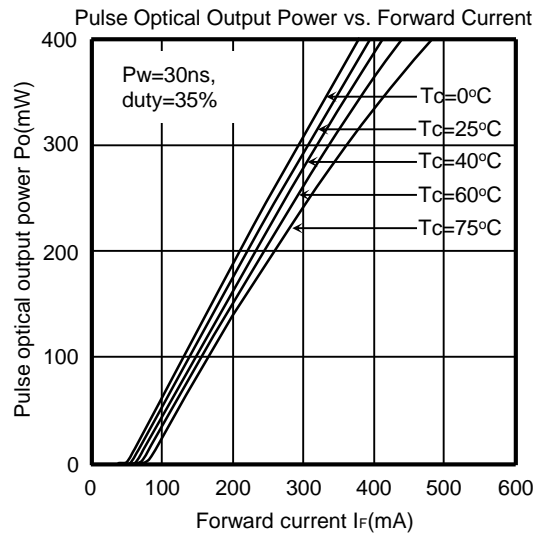
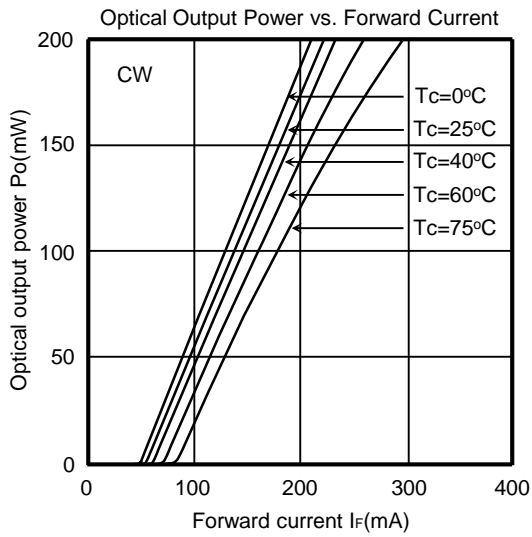
**Optical and Electrical Characteristics (Tc=25°C)**

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Threshold current	Ith	-	60	90	mA	-
Operating current	Iop	-	230	270	mA	Po=200mW
	Iop(pulse)	-	405	-	mA	Po(Pulse)=400mW, Note1
Operating voltage	Vop	-	2.7	3.2	V	Po=200mW
Beam divergence Parallel to the junction	$\theta_{//}$	5	8	11	°	Po=200mW, FWHM
Beam divergence Perpendicular to the junction	$\theta_{\perp}$	11	15	19	°	Po=200mW, FWHM
Lasing Wavelength	$\lambda_p$	652	660	665	nm	Po=200mW
Monitor current <sup>Note2)</sup>	Is	0.1	0.7	1.3	mA	Po=200mW, VR(PD)=5V

Note1) Pulse condition: Pulse width = 30nsec, duty = 35%

Note2) Not applicable to HL65223DG.

## Typical Characteristic Curves



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