

■ Features

- Single emitter PLD
- Peak output power: ≥ 20 W
- Peak emission wavelength: 870 nm
- Emitting area size: $200 \mu\text{m} \times 1 \mu\text{m}$

■ Applications

- Laser range finder
- Security
- Measuring instruments



■ Absolute maximum ratings ($T_{\text{op}(c)} = 25 \text{ }^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Pulsed forward current	I_{fp}	25	A
Reverse voltage	V_{r}	2	V
Pulse duration	t_{w}	100	ns
Duty ratio	DR	0.1	%
Operating temperature	$T_{\text{op}(c)}$	-40 to +85	$^\circ\text{C}$
Storage temperature	T_{stg}	-40 to +100	$^\circ\text{C}$

■ Characteristics ($T_{\text{op}(c)} = 25 \text{ }^\circ\text{C}$)

Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Pulsed radiant power (Peak power)	Φ_{ep}	$I_{\text{fp}} = 20 \text{ A}$	19	22	—	W
Peak emission wavelength	λ_{p}		860	870	880	nm
Forward voltage	V_{f}		—	7	—	V
Spectral radiation half bandwidth	$\Delta\lambda$		—	4	—	nm
Rise time	t_{r}		—	—	2	ns
Beam spread angle	Horizontal	$I_{\text{fp}} = 20 \text{ A}$ FWHM	7	10	13	degree
	Vertical		θ_{\perp}	25	30	35
Lasing threshold current	I_{th}	—	—	0.8	—	A
Emitting area size	—	Value at designing	—	200×1	—	$\mu\text{m} \times \mu\text{m}$

Note: General operating condition: pulse width $t_{\text{w}} = 50 \text{ ns}$, repetition frequency $f_{\text{r}} = 1 \text{ kHz}$

Pulsed Laser Diode L11649-120-04

Figure 1: Radiant flux vs. Forward current (Typ.)

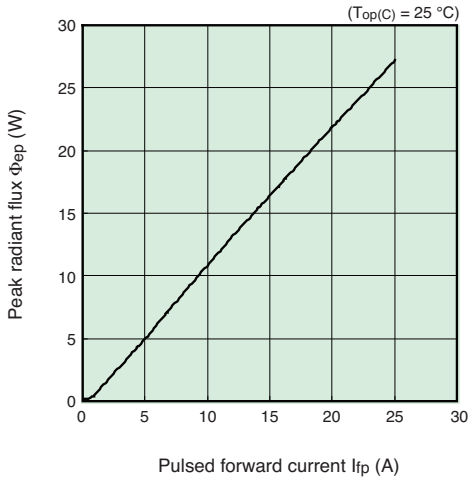


Figure 2: Emission spectrum (Typ.)

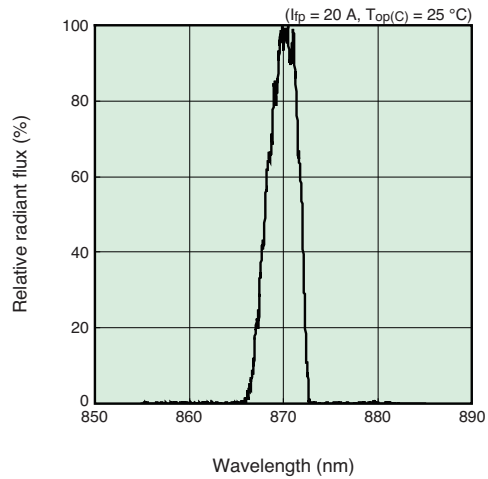


Figure 3: Directivity (Typ.)

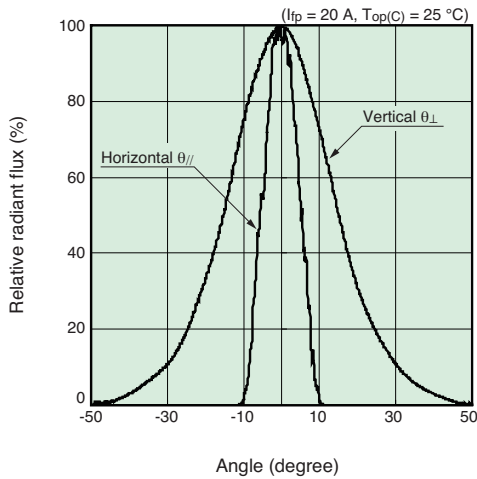
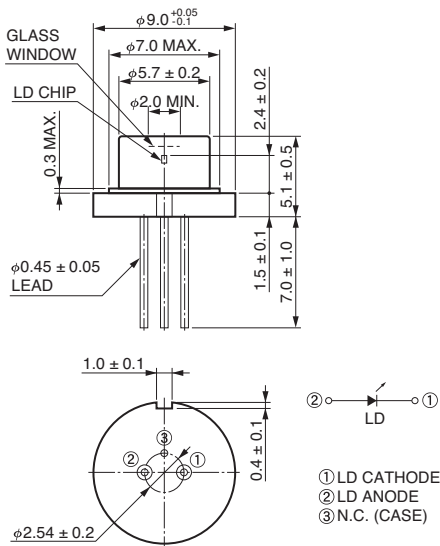
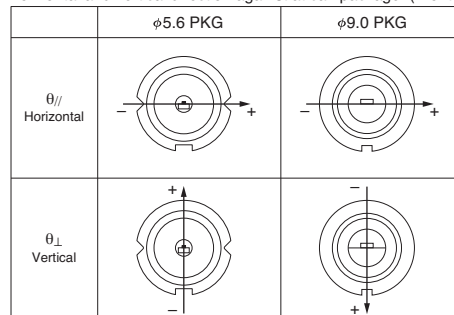


Figure 4: Dimensional outline (unit: mm)



Directions of far field patterns (FFP), horizontal and vertical direction against at can package. (Front of view)



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