

### ■ Features

- Single emitter PLD
- Peak output power:  $\geq 20$  W
- Peak emission wavelength: 870 nm
- Emitting area size:  $230 \mu\text{m} \times 1 \mu\text{m}$

### ■ 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	$I_{\text{fp}}$	25	A
Reverse voltage	$V_{\text{r}}$	2	V
Pulse duration	$t_{\text{w}}$	100	ns
Duty ratio	DR	0.1	%
Operating temperature	$T_{\text{op}(c)}$	-40 to +85	$^\circ\text{C}$
Storage temperature	$T_{\text{stg}}$	-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)	$\Phi_{\text{ep}}$	$I_{\text{fp}} = 20 \text{ A}$	19	22	—	W
Peak emission wavelength	$\lambda_{\text{p}}$		860	870	880	nm
Forward voltage	$V_{\text{f}}$		—	7	—	V
Spectral radiation half bandwidth	$\Delta\lambda$		—	4	—	nm
Rise time	$t_{\text{r}}$		—	—	2	ns
Beam spread angle	Horizontal	$I_{\text{fp}} = 20 \text{ A}$ FWHM	7	10	13	degree
	Vertical		$\theta_{\perp}$	25	30	35
Lasing threshold current	$I_{\text{th}}$	—	—	0.8	—	A
Emitting area size	—	Value at designing	—	$230 \times 1$	—	$\mu\text{m} \times \mu\text{m}$

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.)

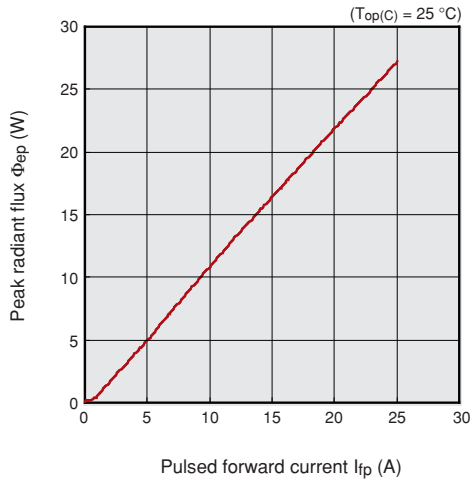


Figure 2: Emission spectrum (Typ.)

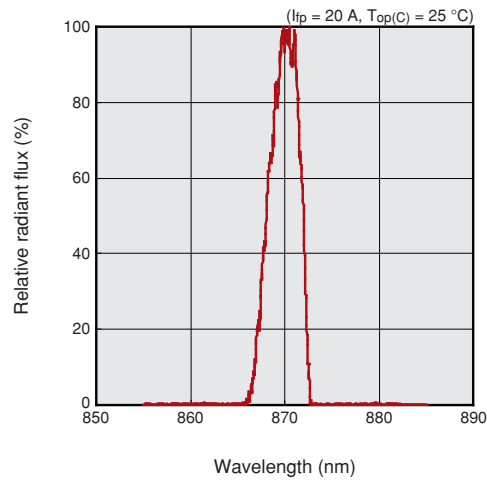


Figure 3: Directivity (Typ.)

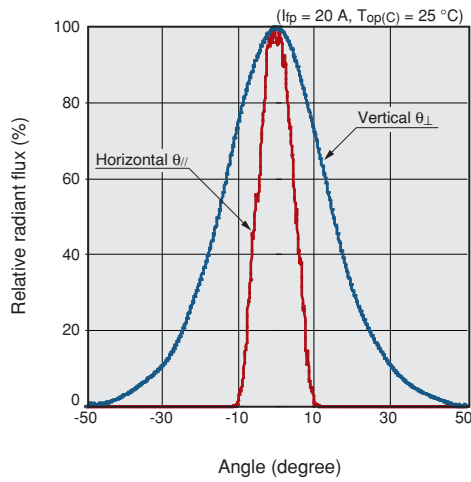
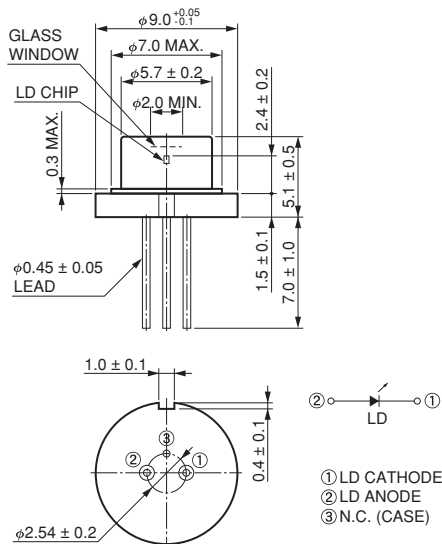
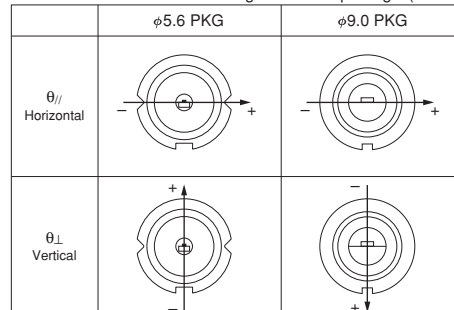


Figure 4: Dimensional outline (unit: mm)



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



Information described in this material current as of October 2023. Specifications are subject to change without notice.

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