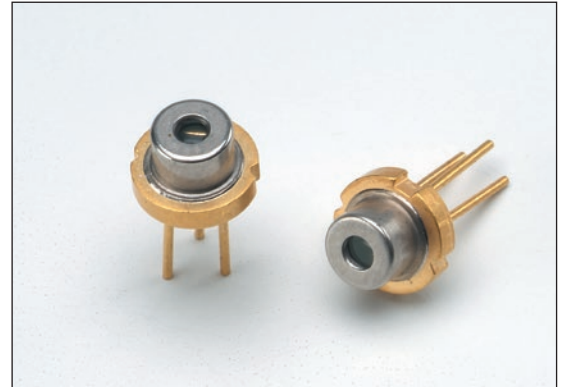


■ **Features**

- 3 stack PLD
- Peak output power: ≥ 75 W
- Peak emission wavelength: 905 nm
- Emitting area size: $230 \mu\text{m} \times 10 \mu\text{m}$

■ **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}	30	A
Reverse voltage	V_{r}	2.5	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}	$I_{\text{fp}} = 25 \text{ A}$	60	75	—	W
Forward voltage	V_{op}		—	13	16	V
Peak emission wavelength	λ_{p}		895	905	915	nm
Spectral radiation half bandwidth	$\Delta\lambda$		—	4	9	nm
Rise time	t_{r}		—	—	2	ns
Beam spread angle	Horizontal	$I_{\text{fp}} = 25 \text{ A}$ FWHM	6	10	14	degree
	Vertical		θ_{\perp}	20	24	
Lasing threshold current	I_{th}	—	—	0.5	1.0	A
Emitting area size	—	Value at designing	—	230×10	—	$\mu\text{m} \times \mu\text{m}$

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

Pulsed Laser Diode L11854-323-51

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

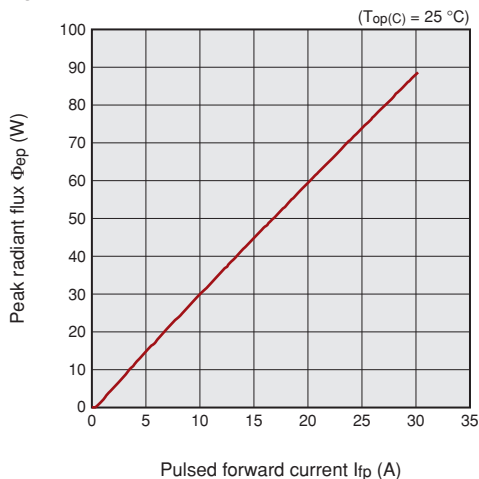


Figure 2: Emission spectrum (Typ.)

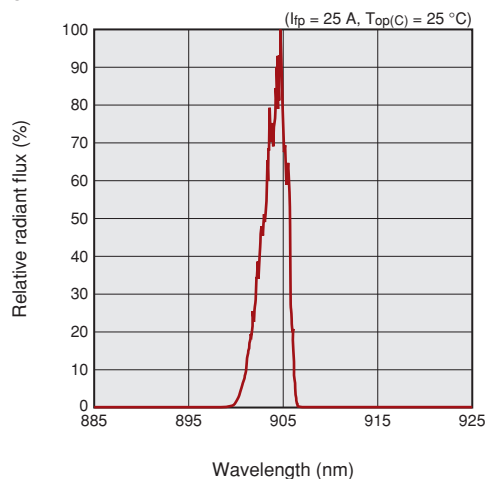


Figure 3: Directivity (Typ.)

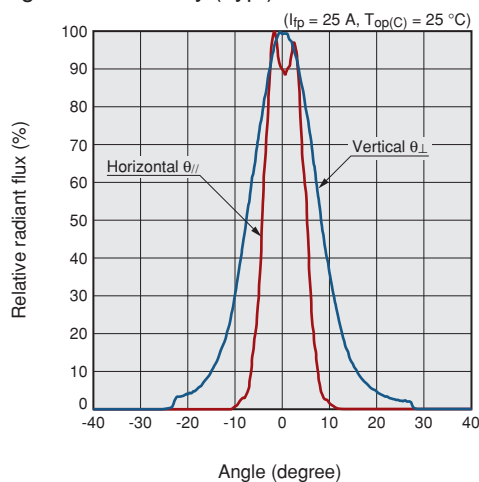


Figure 4: Emitting image of near filed pattern (NFP)

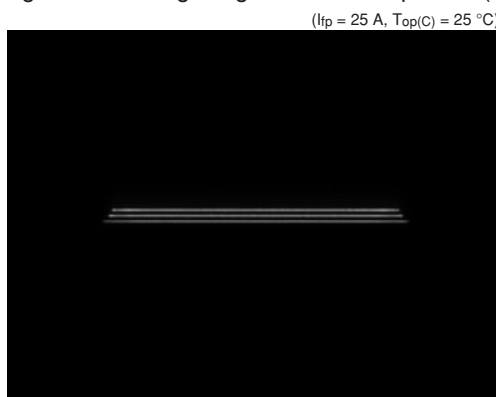
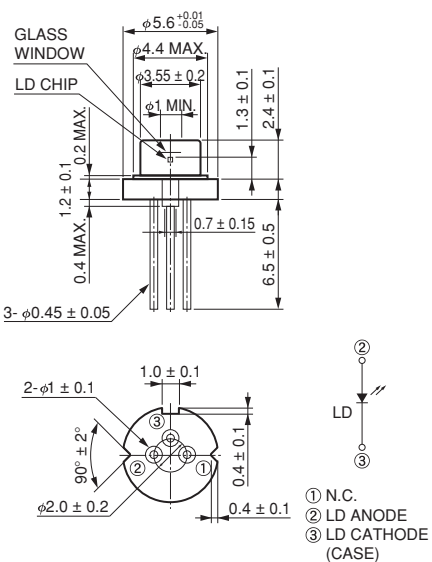
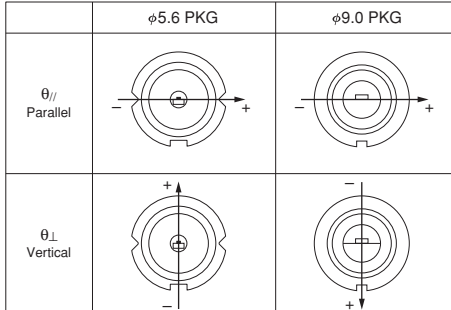


Figure 5: Dimensional outline (unit: mm)



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



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

HAMAMATSU PHOTONICS K.K. www.hamamatsu.com

HAMAMATSU PHOTONICS K.K., Solid State Division
1126-1 Ichino-cho, Higashi-ku, Hamamatsu City, 435-8558 Japan, Telephone: (81)53-434-3311, Fax: (81)53-434-5184

U.S.A.: HAMAMATSU CORPORATION: 360 Foothill Road, Bridgewater, NJ 08807, U.S.A., Telephone: (1)908-231-0960, Fax: (1)908-231-1218 E-mail: usa@hamamatsu.com
Germany: HAMAMATSU PHOTONICS DEUTSCHLAND GMBH.: Arzbergerstr. 10, 82211 Herrsching am Ammersee, Germany, Telephone: (49)8152-375-0, Fax: (49)8152-265-8 E-mail: info@hamamatsu.de
France: HAMAMATSU PHOTONICS FRANCE S.A.R.L.: 19 Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: (33)1 69 53 71 00, Fax: (33)1 69 53 71 10 E-mail: infos@hamamatsu.fr
United Kingdom: HAMAMATSU PHOTONICS UK LIMITED: 2 Howard Court, 10 Tewin Road, Welwyn Garden City, Hertfordshire, AL7 1BW, UK, Telephone: (44)1707-294888, Fax: (44)1707-325777 E-mail: info@hamamatsu.co.uk
North Europe: HAMAMATSU PHOTONICS NORDEN AB: Torshamnsgatan 35, 16440 Kista, Sweden, Telephone: (46)8-509-031-00, Fax: (46)8-509-031-01 E-mail: info@hamamatsu.se
Italy: HAMAMATSU PHOTONICS ITALIA S.R.L.: Strada della Moia, 1 int. 6 20044 Arese (Milano), Italy, Telephone: (39)02-93 58 17 33, Fax: (39)02-93 58 17 41 E-mail: info@hamamatsu.it
China: HAMAMATSU PHOTONICS (CHINA) CO., LTD.: 1201, Tower B, Jiaming Center, 27 Dongsanhuan Beilu, Chaoyang District, 100020 Beijing, P.R. China, Telephone: (86)10-6586-6006, Fax: (86)10-6586-2866 E-mail: hpc@hamamatsu.com.cn
Taiwan: HAMAMATSU PHOTONICS TAIWAN CO., LTD.: 13F-1, No.101, Section 2, Gongdao 5th Road, East Dist., Hsinchu City, 300046, Taiwan (R.O.C) Telephone: (886)3-659-0080, Fax: (886)3-659-0081 E-mail: info@hamamatsu.com.tw