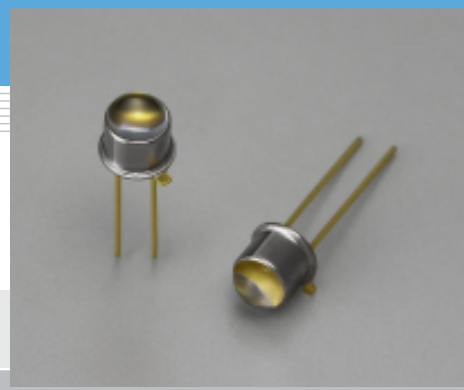


Infrared LED L8957

Low cost LED ideal for optical encoders



L8957 is an infrared LED using a low-cost lens and available at a lower price than other products up to now.

Features

- Low price
Uses low cost lens

Applications

- Optical encoders
- Optical switches

■ Absolute maximum ratings (Ta=25 °C, unless otherwise noted)

Parameter	Symbol	Value	Unit
Reverse voltage	VR	5	V
Forward current	IF	80	mA
Forward current reduction rate	-	0.67	mA/°C
Pulse forward current	IFP	0.5	A
Pulse forward current reduction rate	-	7	mA/°C
Power dissipation	P	150	mW
Operating temperature	Topr	-30 to +85	°C
Storage temperature	Tstg	-40 to +100	°C

■ Electrical and optical characteristics (Ta=25 °C)

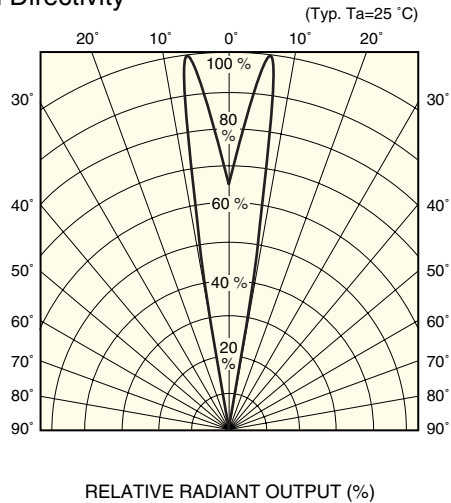
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak emission wavelength	λ_p	IF=50 mA	840	870	900	nm
Spectral half width	$\Delta\lambda$	IF=50 mA	-	45	-	nm
Radiant flux	ϕ_e	IF=50 mA	3.4	5.8	-	mW
Forward voltage	VF	IF=50 mA	-	1.6	1.75	V
Reverse current	IR	VR=5 V	-	-	5	μ A
Spot light size *1	Bw	IF=30 mA	4.5	5.0	-	mm
Optical output *2	Pe	IF=30 mA	1.0	2.0	-	mW
Cut-off frequency *3	fc	IF=30 mA $\pm$ 4 mAp-p	25	40	-	MHz

*1: Full width at half maximum, measurement distance (from the image sensor to the bottom surface of L8957's base)=10 mm

*2: Measurement distance [from the photodiode (active area: ϕ 8 mm) to the bottom surface of L8957's base]=10 mm

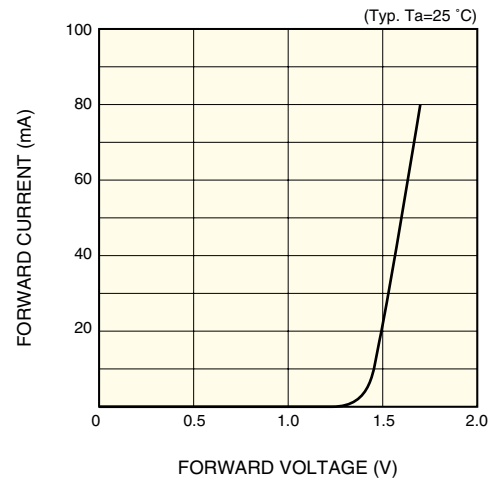
*3: Frequency at which the optical output drops by -3 dB from that at 100 kHz.

■ Directivity



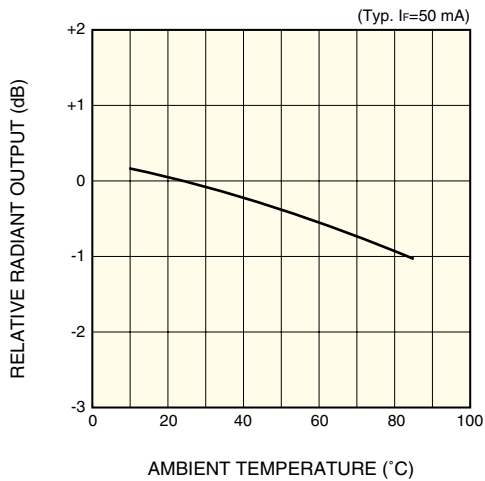
KLEDB0247EA

■ Forward current vs. forward voltage



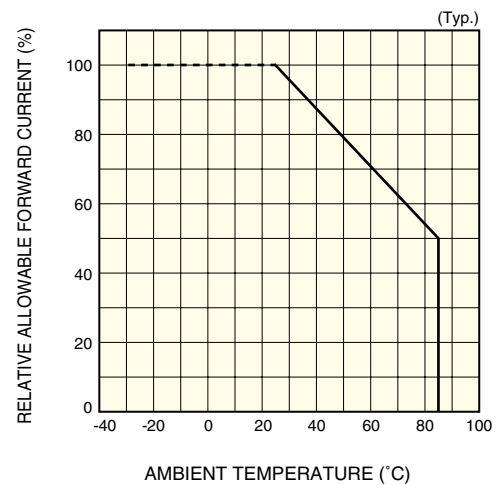
KLEDB0227EA

■ Radiant output vs. ambient temperature



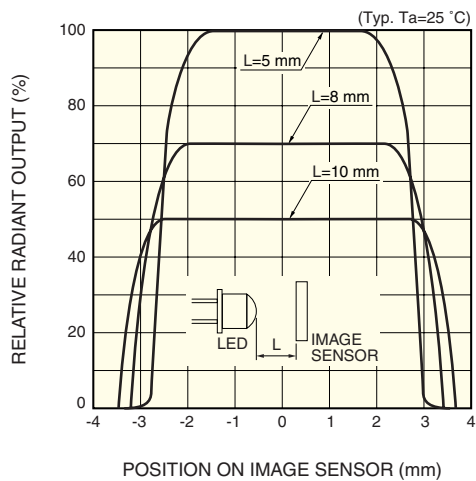
KLEDB0228EA

■ Allowable forward current vs. ambient temperature



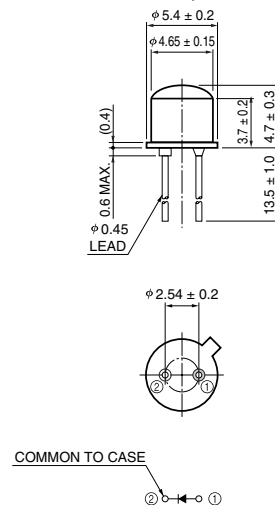
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■ Light intensity distribution



KLEDB0248EA

■ Dimensional outline (unit: mm)



KLEDA0077EA

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HAMAMATSU PHOTONICS K.K., Solid State Division

1126-1 Ichino-cho, Hamamatsu City, 435-8558 Japan, Telephone: (81) 053-434-3311, Fax: (81) 053-434-5184, <http://www.hamamatsu.com>

U.S.A.: Hamamatsu Corporation: 360 Foothill Road, P.O.Box 6910, Bridgewater, N.J. 08807-0910, U.S.A., Telephone: (1) 908-231-0960, Fax: (1) 908-231-1218

Germany: Hamamatsu Photonics Deutschland GmbH: Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49) 08152-3750, Fax: (49) 08152-2658

France: Hamamatsu Photonics France S.A.R.L.: 8, 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

United Kingdom: Hamamatsu Photonics UK Limited: 2 Howard Court, 10 Tewin Road, Welwyn Garden City, Hertfordshire AL7 1BW, United Kingdom, Telephone: (44) 1707-294888, Fax: (44) 1707-325777

North Europe: Hamamatsu Photonics Norden AB: Smidesvägen 12, SE-171 41 Solna, Sweden, Telephone: (46) 8-509-031-00, Fax: (46) 8-509-031-01

Italy: Hamamatsu Photonics Italia S.R.L.: Strada della Moia, 1/E, 20020 Arese, (Milano), Italy, Telephone: (39) 02-935-81-733, Fax: (39) 02-935-81-741

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