

L7560



High-speed, high output power LED with mini-lens

The L7560 is a high-speed, high-power LED with a micro-ball lens bonded to the surface of the LED chip having an internal confined structure. In addition to the micro-ball lens, the LED chip is sealed with a cap with a mini-lens to make the output beam even narrower. This allows highly efficient input of the beam into an optical fiber, making the L7560 well suited for optical fiber communications.

Features

- ➔ **High-speed response: 100 MHz Typ. ($I_F=50$ mA)**
- ➔ **High radiant output power: 30 μ W Typ. ($I_F=50$ mA, GI 50)**

Applications

- ➔ **Optical fiber communication**
- ➔ **Range-finder**

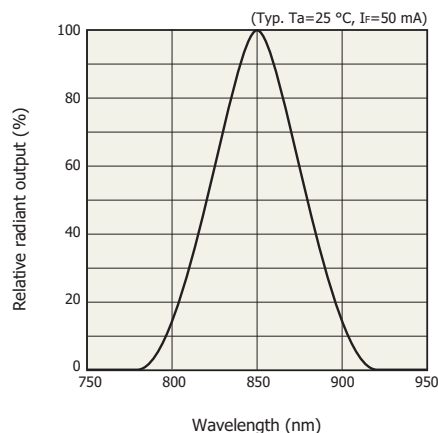
Absolute maximum ratings ($T_a=25$ °C)

Parameter	Symbol	Condition	Value	Unit
Forward current	I_F		70	mA
Reverse voltage	V_R		3	V
Pulse forward current	I_{FP}	Pulse width=10 μ s Duty ratio=1 %	0.25	A
Operating temperature	T_{opr}		-30 to +85	°C
Storage temperature	T_{stg}		-40 to +100	°C

Electrical and optical characteristics ($T_a=25$ °C)

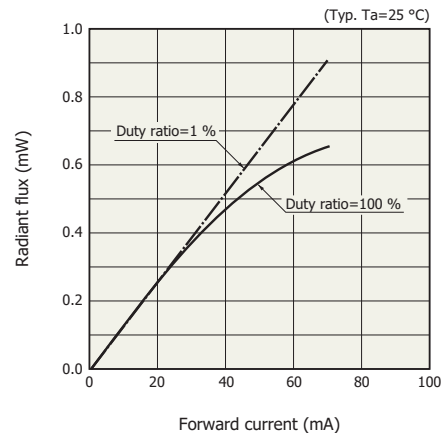
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak emission wavelength	λ_p	$I_F=50$ mA	820	850	880	nm
Spectral half width	$\Delta\lambda$	$I_F=50$ mA	-	60	-	nm
Forward voltage	V_F	$I_F=50$ mA	-	1.8	2.0	V
Reverse current	I_R	$V_R=3$ V	-	-	20	μ A
Fiber end output	Pf	$I_F=50$ mA, GI 50	15	30	-	μ W
Cut-off frequency	fc	$I_F=50$ mA + 1 mAp-p	70	100	-	MHz

Emission spectrum



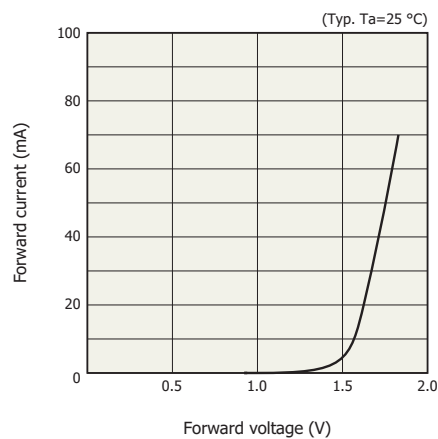
KLED80172EB

Radiant flux vs. forward current



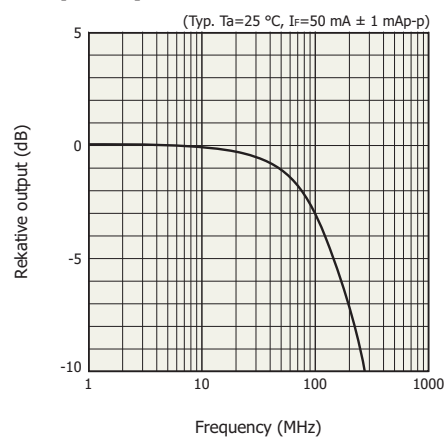
KLED80173EA

Forward current vs. forward voltage



KLED80174EA

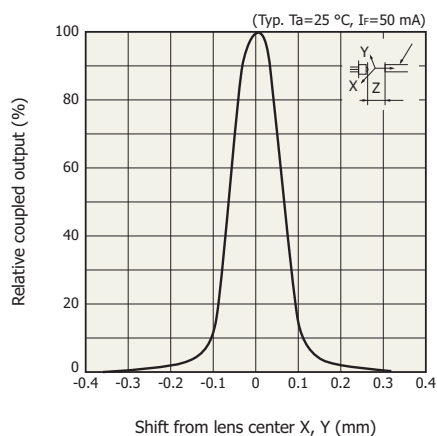
Frequency characteristic



KLED80320EA

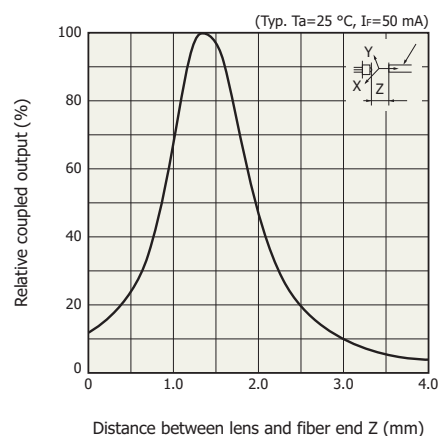
Fiber coupling characteristics (GI 50)

X, Y axes



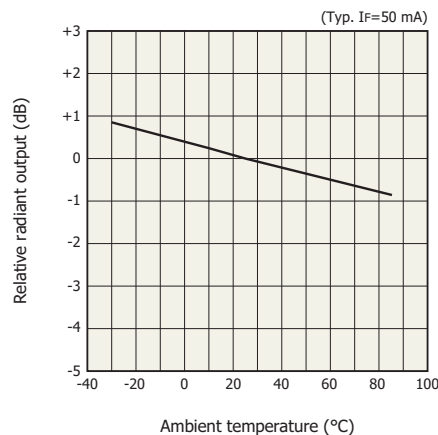
KLED80100EA

Z axis



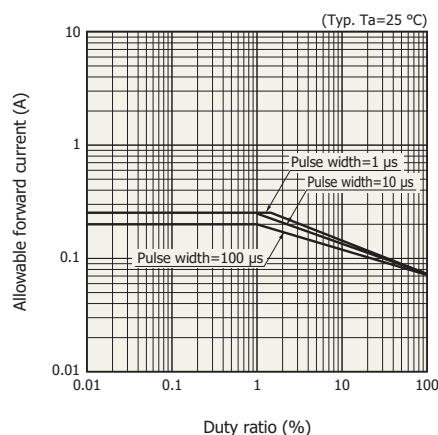
KLED80101EA

Radiant output vs. ambient temperature



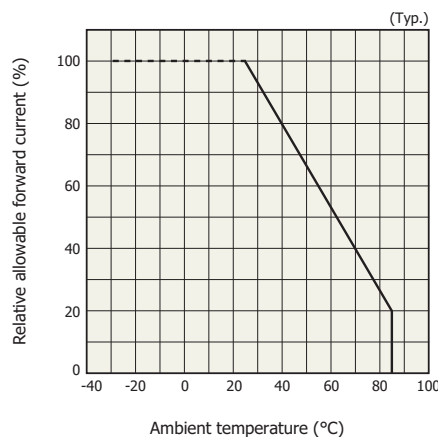
KLED80175EA

Allowable forward current vs. duty ratio



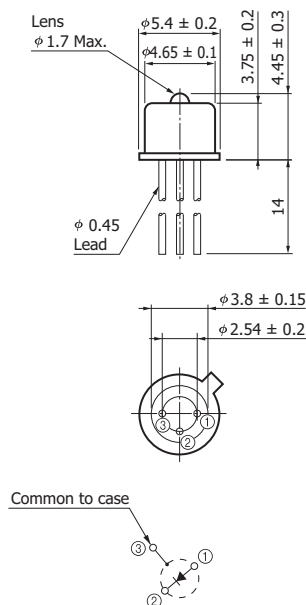
KLED80176EA

Allowable forward current vs. ambient temperature



KLED80027EB

Dimensional outline (unit: mm)



KLEDA0029EB

Information furnished by HAMAMATSU is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions. Specifications are subject to change without notice. No patent rights are granted to any of the circuits described herein. ©2008 Hamamatsu Photonics K.K.

HAMAMATSU

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, 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.: 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

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