

# Red LED/Infrared LED L5766/L6287

## Miniature LED



L5766 is a red LED molded into a clear plastic package that emits light at a peak wavelength of 660 nm. L6287 is a high-power infrared LED having the same type of package that emits light at a peak wavelength of 940 nm.

### Features

- L5766: Red LED (peak emission wavelength: 660 nm)
- L6287: High-power infrared LED (peak emission wavelength: 940 nm)
- Miniature plastic package with lens

### Applications

- Displacement meters
- Optical proximity switches
- Low-speed optical links (L5766)

#### ■ Absolute maximum ratings (Ta=25 °C)

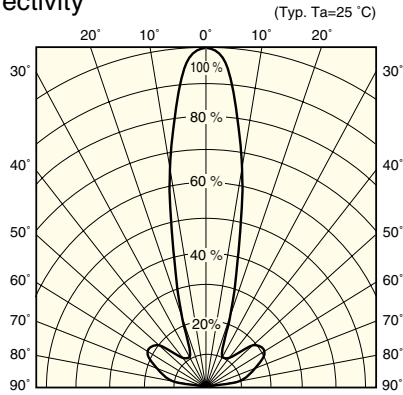
Parameter	Symbol	Condition	L5766	L6287	Unit
Forward current	IF		60		mA
Reverse voltage	VR		5		V
Pulse forward current	IFP	Pulse width: 100 μs Duty ratio: 1 %	0.5	1.0	A
Power dissipation	P		90		mW
Operating temperature	Topr		-25 to +85		°C
Storage temperature	Tstg		-30 to +85		°C
Soldering	-		260 °C, 3 s at least 2.5 mm away from package surface		-

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

Parameter	Symbol	Condition	L5766			L6287			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Peak emission wavelength	$\lambda_p$	IF=20 mA	-	660	-	-	940	-	nm
Spectral half width	$\Delta\lambda$	IF=20 mA	-	20	-	-	45	-	nm
Forward voltage	VF	IF=20 mA	-	1.8	2.3	-	1.25	1.45	V
Reverse current	IR	VR=5 V	-	-	10	-	-	10	μA
Fiber coupled optical power *	Po	IF=20 mA	8	-	-	-	-	-	μW
Radiant flux	$\phi_e$	IF=20 mA	-	-	-	1.4	-	-	mW
Terminal capacitance	Ct	VR=0 V, f=1 MHz	-	30	-	-	20	-	pF
Rise time	tr	IF=20 mA	-	-	300	-	-	-	ns
Fall time	tf	IF=20 mA	-	-	300	-	-	-	ns

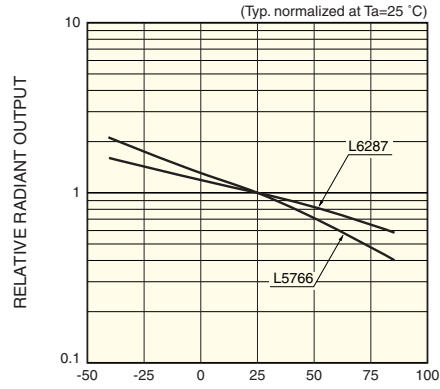
\* Optical fiber: APF 485/500 μm, L=1 m, open area ratio=0.5; Measurement conditions: The center of the optical fiber is aligned with the center of the lens on the package. The distance between the fiber end and the lens top is 0.2 mm.

### Directivity



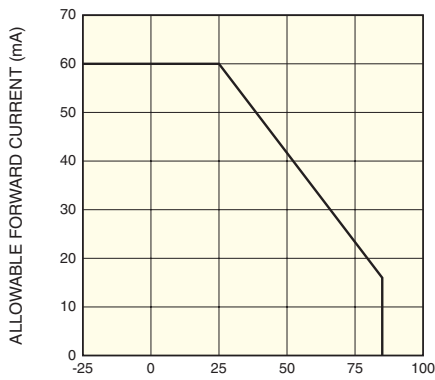
RELATIVE RADIANT OUTPUT KLEDB0061EA

### Radiant output vs. ambient temperature



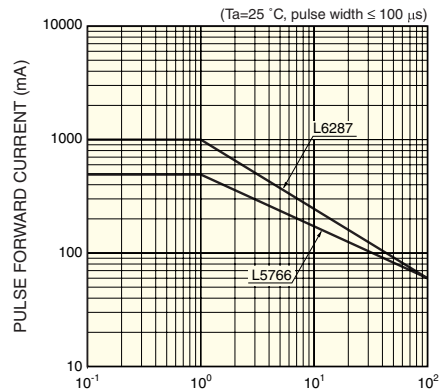
AMBIENT TEMPERATURE (°C) KLEDB0106EA

### Allowable forward current vs. ambient temperature



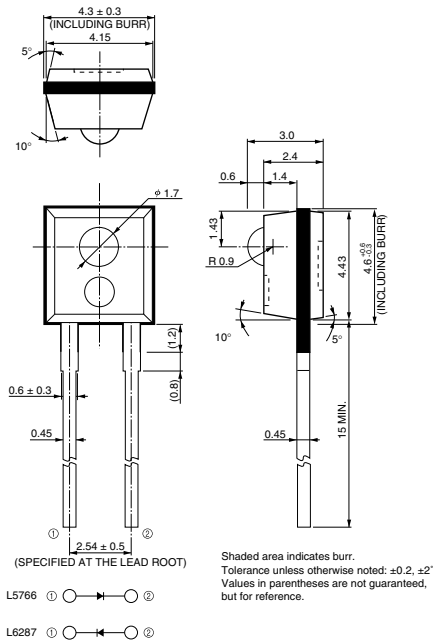
AMBIENT TEMPERATURE (°C) KLEDB0083EA

### Pulse forward current vs. duty ratio



DUTY RATIO (%) KLEDB0107EA

### Dimensional outline (unit: mm)



KLEDA0024EA

## HAMAMATSU

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. ©2001 Hamamatsu Photonics K.K.

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