

L10762



## Resonant cavity LED for POF data communication

The L10762 is a red LED designed for POF data communications. A microball lens is bonded to the LED chip to enhance fibre-coupling efficiency.

### Features

- **Improved fiber-coupling efficiency**  
A microball lens is bonded to the LED chip surface to enhance the coupling efficiency to optical fibers. Fiber end output power <sup>\*2</sup> was boosted about 7 times higher than our conventional type.
- **High-speed response: 70 MHz**

### Applications

- **POF (plastic optical fiber) data communication**

### Absolute maximum ratings

Parameter	Symbol	Value	Unit
Reverse voltage	VR	3	V
Forward current	IF	50	mA
Pulsed forward current <sup>*1</sup>	IFP	80	mA
Operating temperature	Topr	-30 to +85	°C
Storage temperature	Tstg	-40 to +100	°C

\*1: Pulse width: 1  $\mu$ s, Duty ratio=50 %

Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

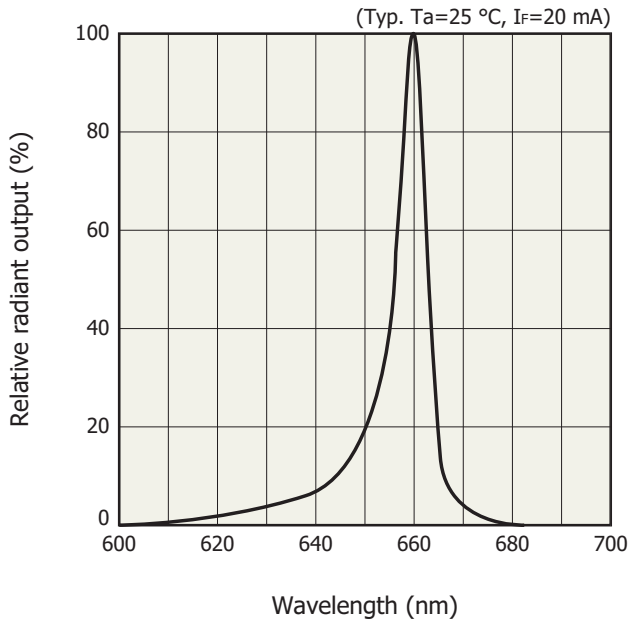
### Electrical and optical characteristics (Ta=25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak emission wavelength	$\lambda_p$	IF=20 mA	640	660	670	nm
Spectral half width	$\Delta\lambda$	IF=20 mA	-	15	25	nm
Fiber end output <sup>*2</sup>	Pf	IF=20 mA	0.7	1.0	-	mW
Forward voltage	VF	IF=20 mA	-	1.9	2.4	V
Reverse current	IR	VR=3 V	-	-	10	$\mu$ A
Cut-off frequency <sup>*3</sup>	fc	IF=20 mA $\pm$ 1 mAp-p	60	70	-	MHz

\*2: Plastic fiber: 1 mm in core diameter, 1 meter in length, and Z (distance between cap surface and fiber end)=0.3 mm

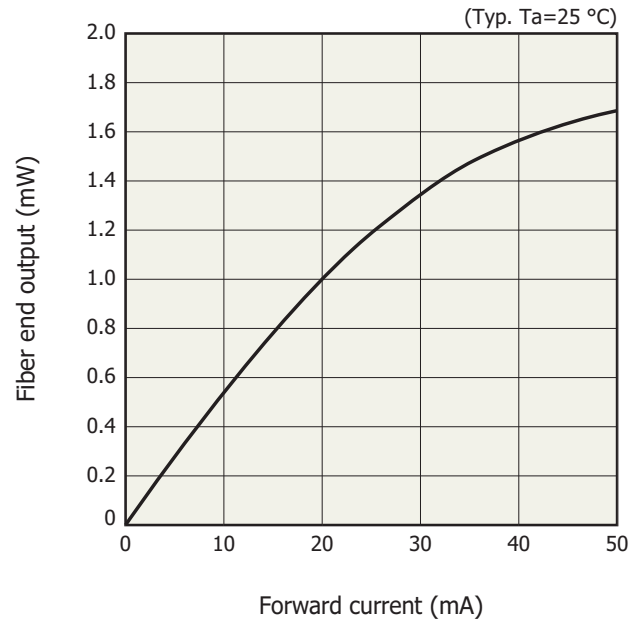
\*3: Frequency at which the radiant output drops by 3 dB relative to the output at 100 kHz

▣ Emission spectrum



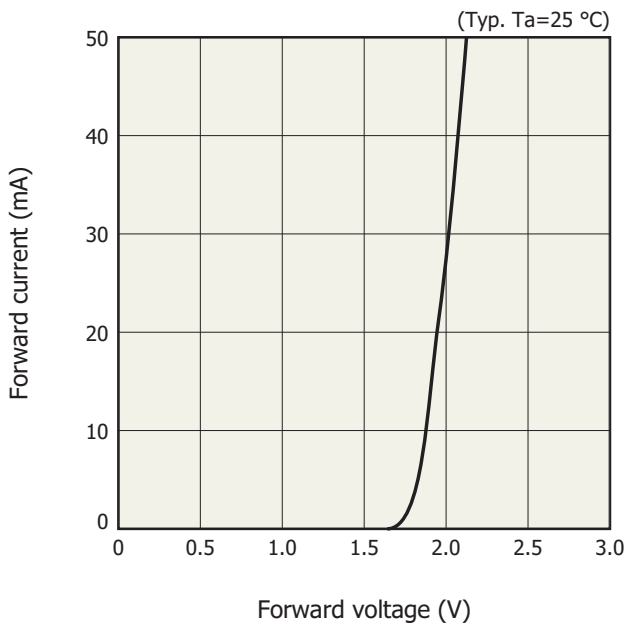
KLEDB0264EA

▣ Fiber end output vs. forward current



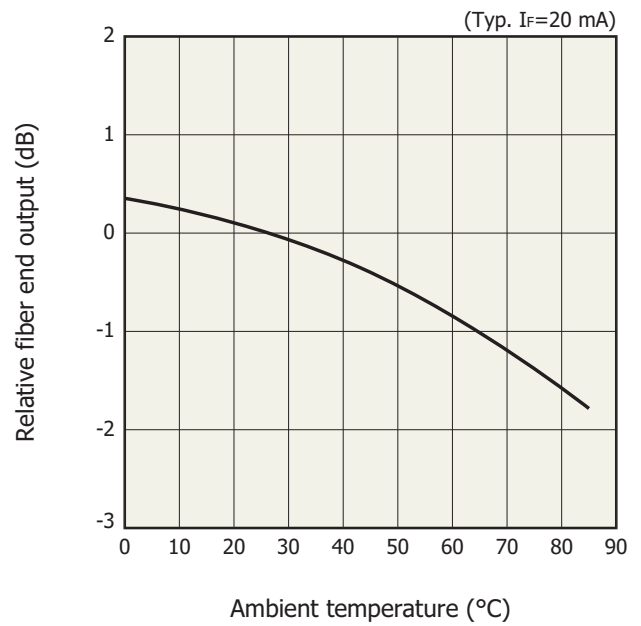
KLEDB0331EA

▣ Forward current vs. forward voltage



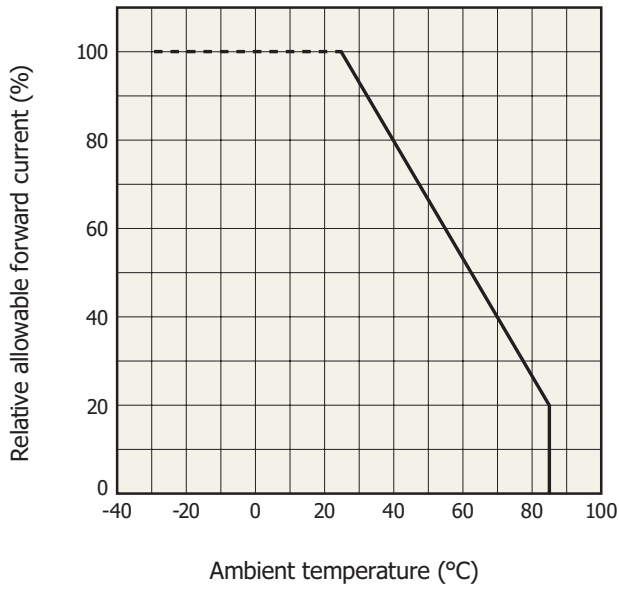
KLEDB0267EA

▣ Fiber end output vs. ambient temperature



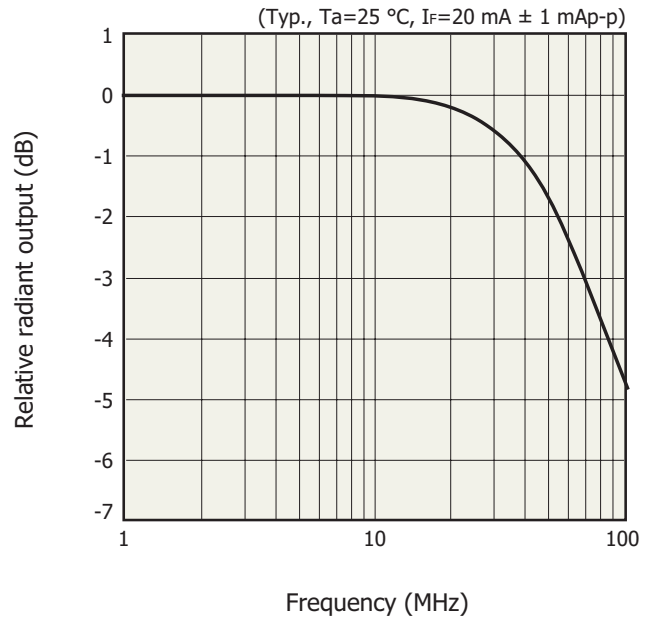
KLEDB0330EA

Allowable forward current vs. ambient temperature



KLED80027EC

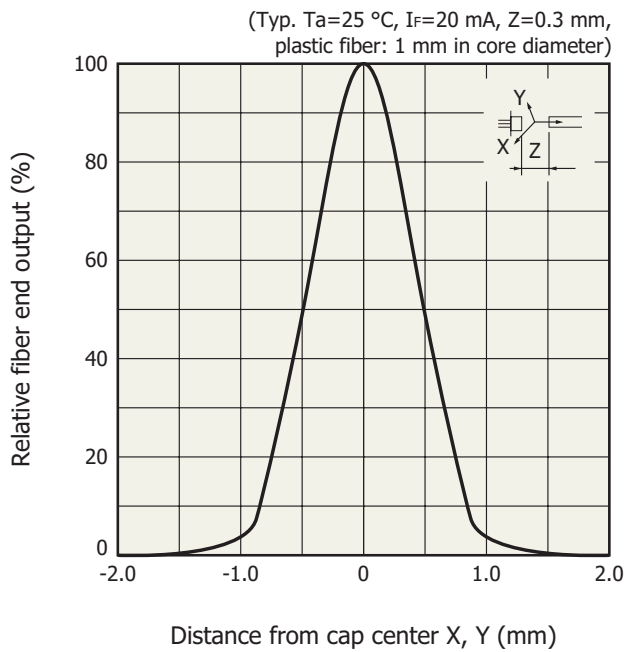
Frequency characteristics



KLED80318EA

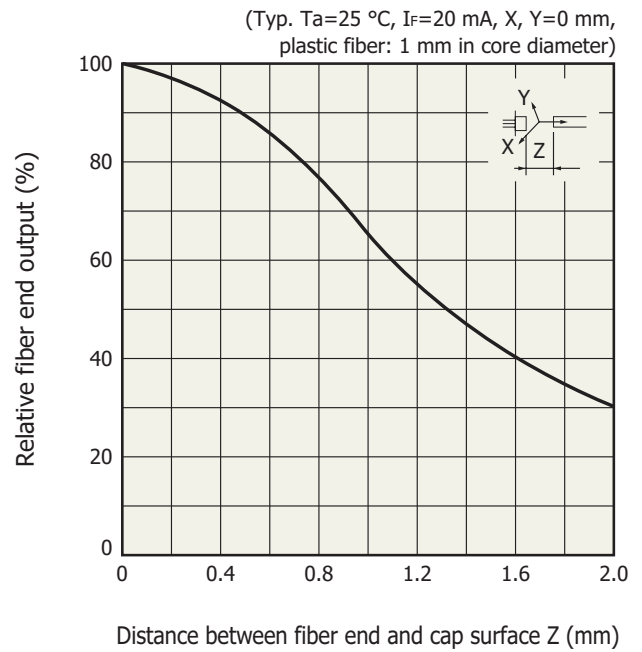
Fiber coupling characteristics

X, Y directions



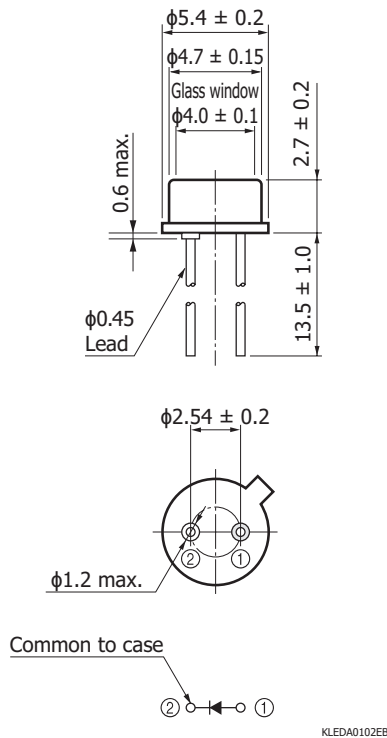
KLED80313EA

Z direction



KLED80314EA

### Dimensional outline (unit: mm)



### Related information

[www.hamamatsu.com/sp/ssd/doc\\_en.html](http://www.hamamatsu.com/sp/ssd/doc_en.html)

#### Precautions

- Disclaimer
- Safety consideration
- Compound opto-semiconductors (photosensors, light emitters)

#### Technical information

- LED / Technical note

Information described in this material is current as of May, 2022.

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