

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 ^{*2} 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	V _R	3	V
Forward current	I _F	50	mA
Pulsed forward current ^{*1}	I _{FP}	80	mA
Operating temperature	T _{opr}	-30 to +85	°C
Storage temperature	T _{stg}	-40 to +100	°C

*1: Pulse width: 1 μs, 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.

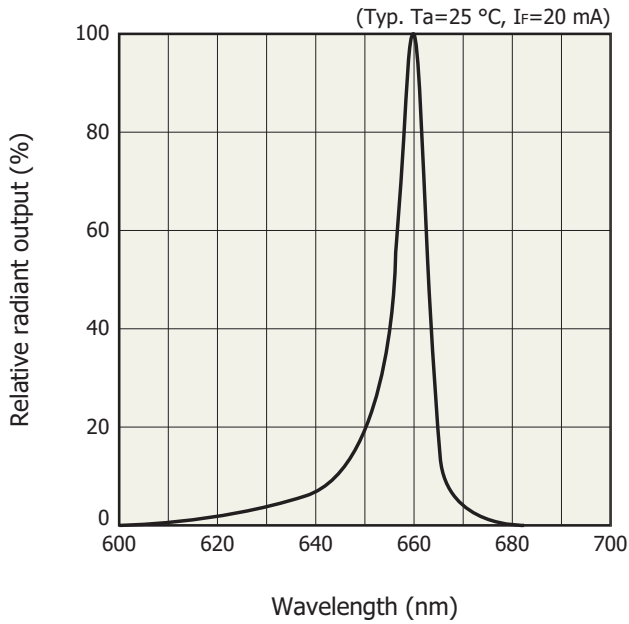
Electrical and optical characteristics (T_a=25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak emission wavelength	λ _p	I _F =20 mA	640	660	670	nm
Spectral half width	Δλ	I _F =20 mA	-	15	25	nm
Fiber end output ^{*2}	P _f	I _F =20 mA	0.7	1.0	-	mW
Forward voltage	V _F	I _F =20 mA	-	1.9	2.4	V
Reverse current	I _R	V _R =3 V	-	-	10	μA
Cut-off frequency ^{*3}	f _c	I _F =20 mA ±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

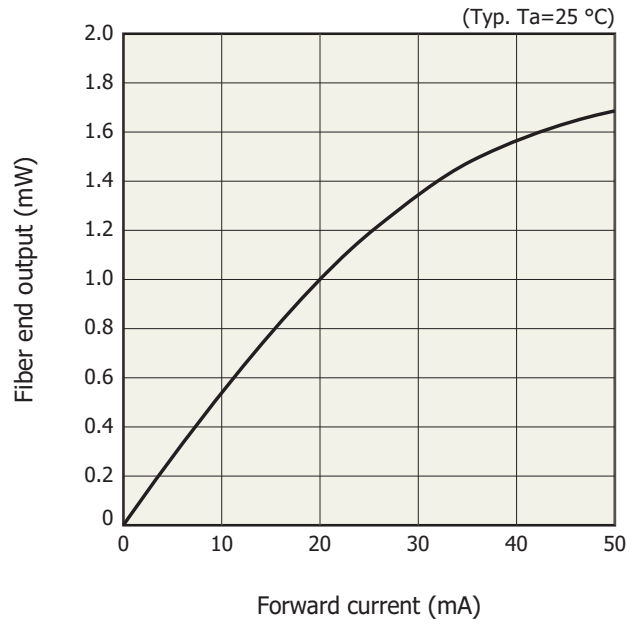
*3: Frequency at which the radiant output drops by 3 dB relative to the output at 100 kHz

Emission spectrum



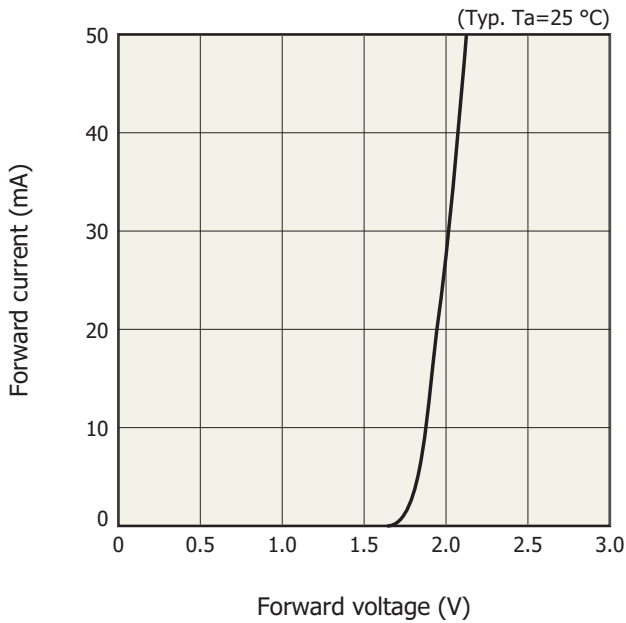
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Fiber end output vs. forward current



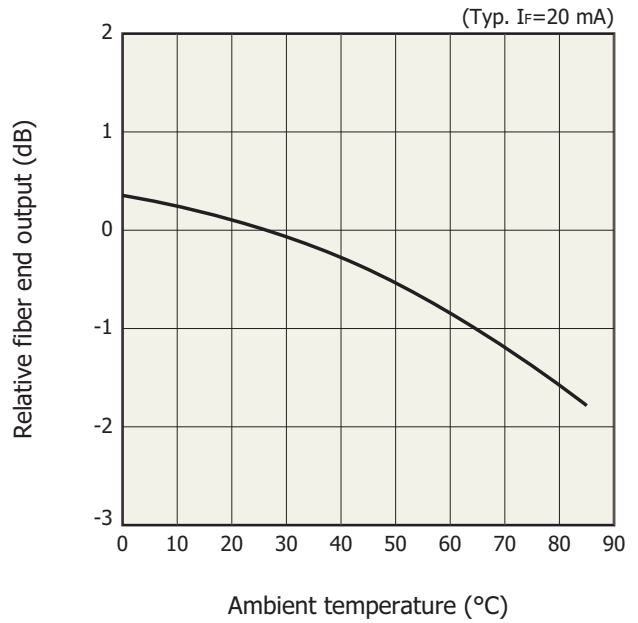
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Forward current vs. forward voltage



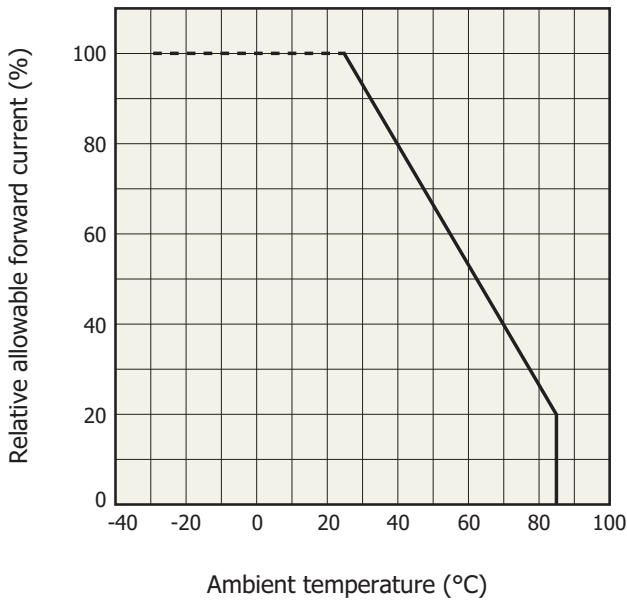
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Fiber end output vs. ambient temperature



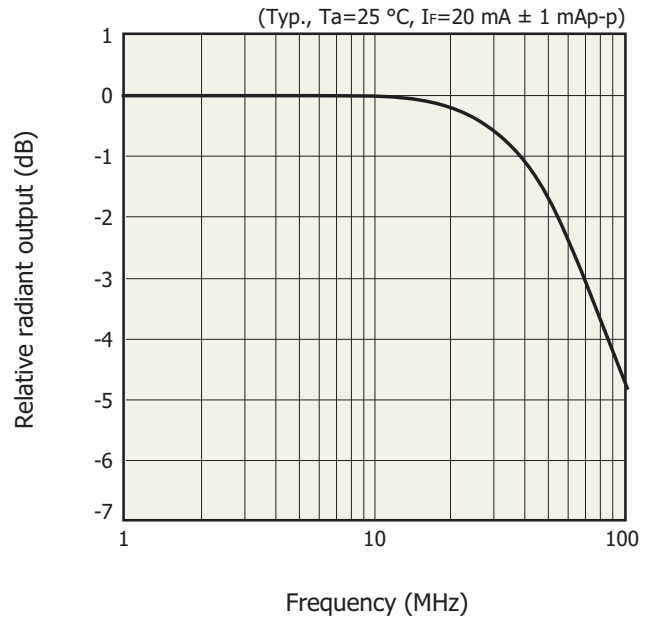
KLEDB0330EA

Allowable forward current vs. ambient temperature



KLEDB0027EC

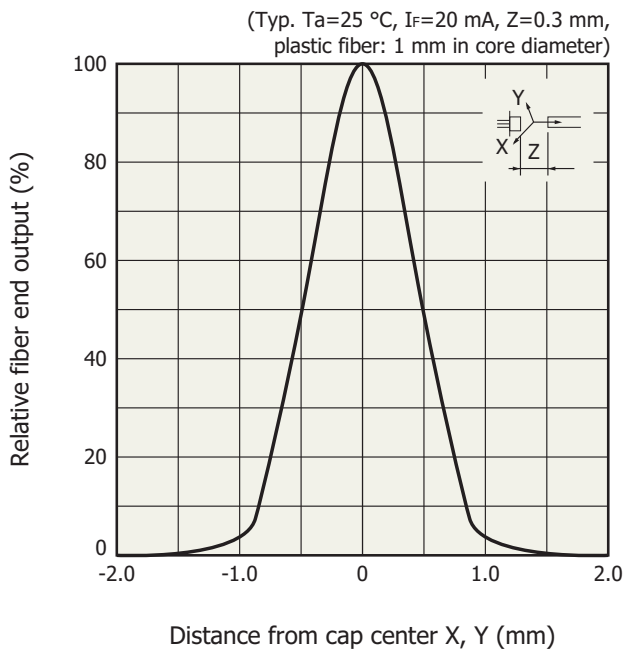
Frequency characteristics



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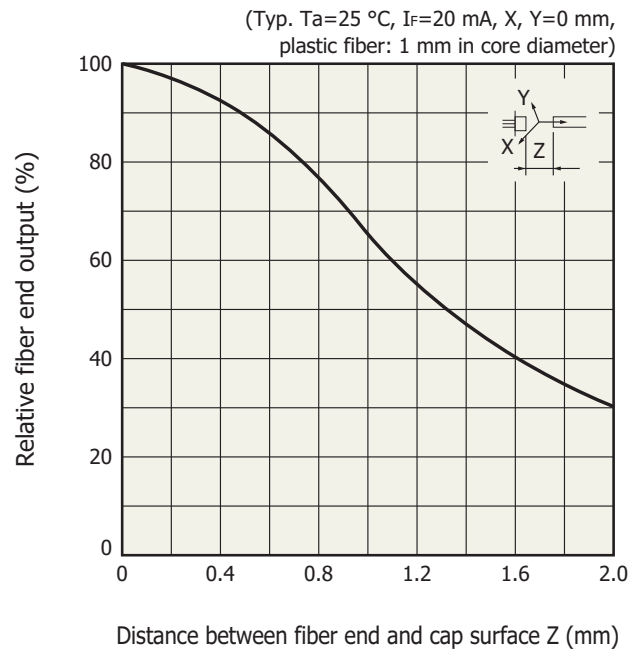
Fiber coupling characteristics

X, Y directions



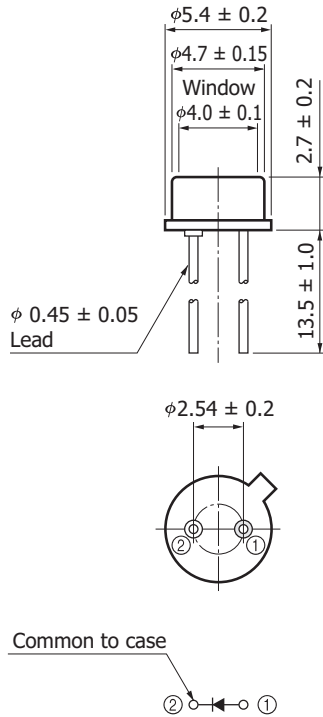
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Z direction



KLEDB0314EA

Dimensional outline (unit: mm)



Related information

www.hamamatsu.com/sp/ssd/doc_en.html

Precautions

- Disclaimer
- Metal, ceramic, plastic products

Technical information

- LED

Information described in this material is current as of February, 2016.

Product specifications are subject to change without prior notice due to improvements or other reasons. This document has been carefully prepared and the information contained is believed to be accurate. In rare cases, however, there may be inaccuracies such as text errors. Before using these products, always contact us for the delivery specification sheet to check the latest specifications.

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