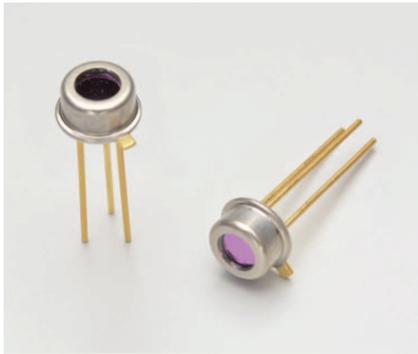


# Mid infrared LED

L13771-0330M



**Peak emission wavelength: 3.3 μm**

The L13771-0330M is a high-output mid-infrared LED with a 3.3 μm peak emission wavelength. It is a product that has been achieved using Hamamatsu unique crystal growth technology and process technology. It is a suitable light source for CH<sub>4</sub> detectors.

## Features

- High output
- High-speed response
- High reliability

## Applications

- Gas measurement (CH<sub>4</sub>)

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

Parameter	Symbol	Condition	Value	Unit
Reverse voltage	V <sub>R</sub>		1	V
Forward current (QCW mode)*1	I <sub>FQCW</sub>	Pulse width=100 μs Duty ratio=50%	80	mA
Pulse forward current	I <sub>FP</sub>	Pulse width=10 μs Duty ratio=1%	0.5	A
Power dissipation	P		150	mW
Operating temperature	T <sub>opr</sub>	No dew condensation*2	-30 to +85	°C
Storage temperature	T <sub>stg</sub>	No dew condensation*2	-40 to +100	°C

\*1: Quasi continuous wave mode

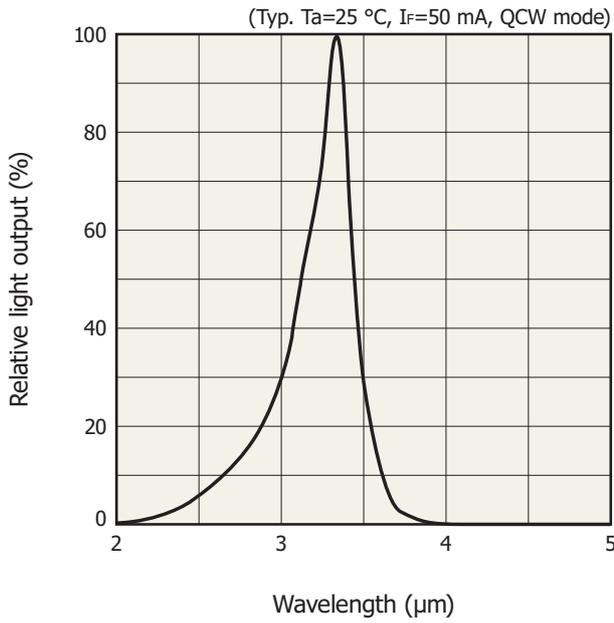
\*2: When there is a temperature difference between a product and the surrounding area in high humidity environment, dew condensation may occur on the product surface. Dew condensation on the product may cause deterioration in characteristics and reliability.

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)

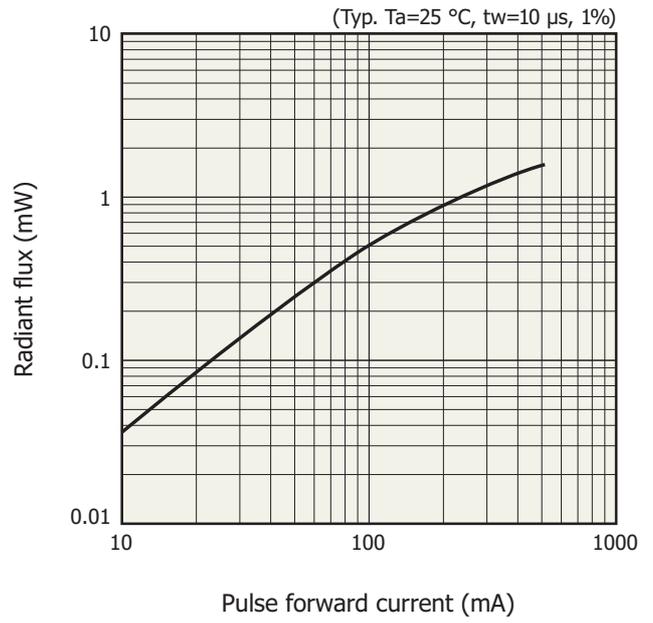
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak emission wavelength	λ <sub>p</sub>	I <sub>F</sub> =50 mA, QCW mode	3.1	3.3	3.4	μm
Spectral half width	Δλ	I <sub>F</sub> =50 mA, QCW mode	-	0.3	0.5	μm
Radiant flux	φ <sub>e</sub>	I <sub>F</sub> =50 mA, QCW mode	0.15	0.25	-	mW
Forward voltage	V <sub>F</sub>	I <sub>F</sub> =50 mA, QCW mode	-	2.1	2.5	V
Reverse current	I <sub>R</sub>	V <sub>R</sub> =100 mV	-	-	500	μA
Rise time	t <sub>r</sub>	10 to 90%	-	-	1	μs

**Emission spectrum**



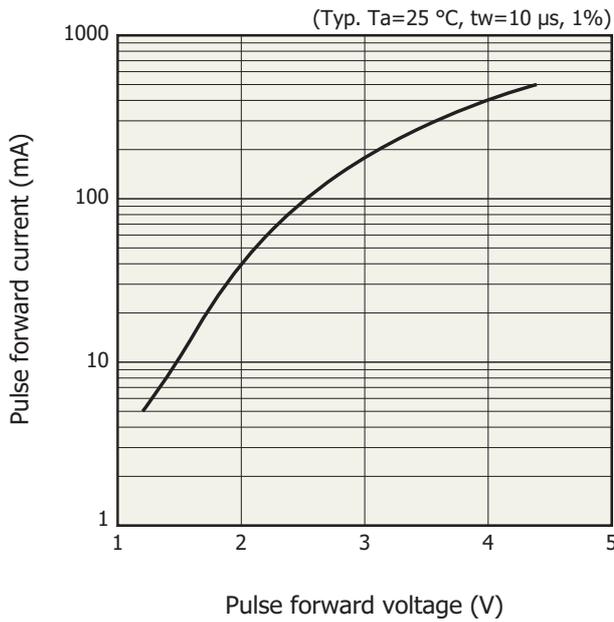
KLEDB0443EA

**Radiant flux vs. pulse forward current**



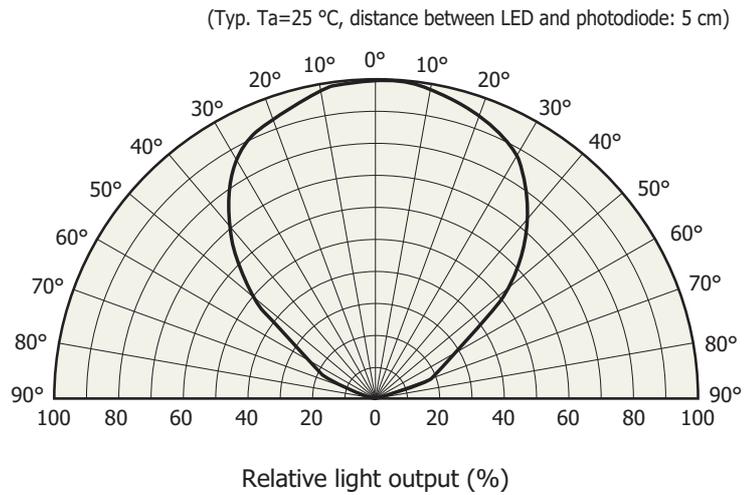
KLEDB0444EA

**Pulse forward current vs. pulse forward voltage**



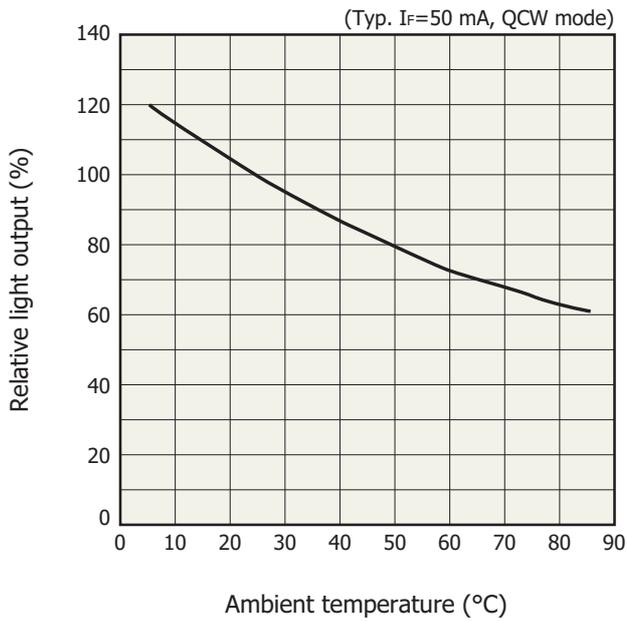
KLEDB0445EA

**Directivity**



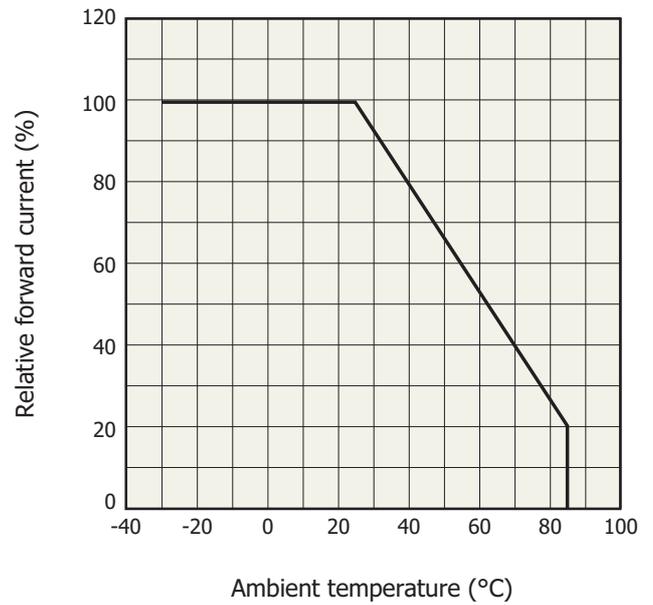
KLEDB0446EA

Light output vs. ambient temperature



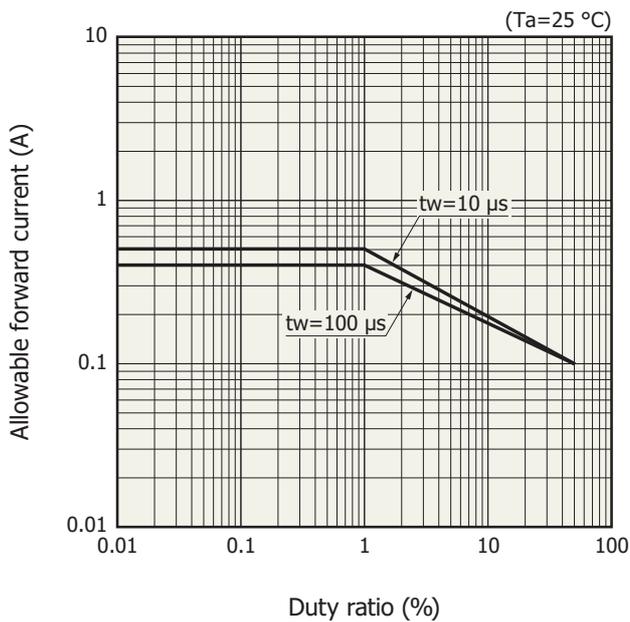
KLEDB0447EA

Allowable forward current vs. ambient temperature



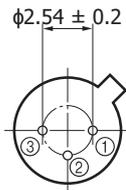
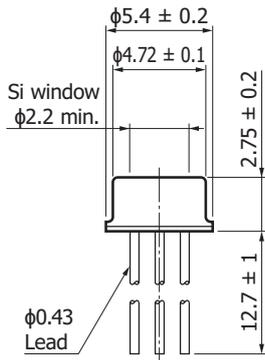
KLEDB0448EA

Allowable forward current vs. duty ratio



KLEDB0418EA

### Dimensional outline (unit: mm)



KLEDA0101EA

### Related information

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

#### Precautions

- Disclaimer
- Metal, ceramic, plastic packages

#### Technical information

- LED

Information described in this material is current as of December 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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