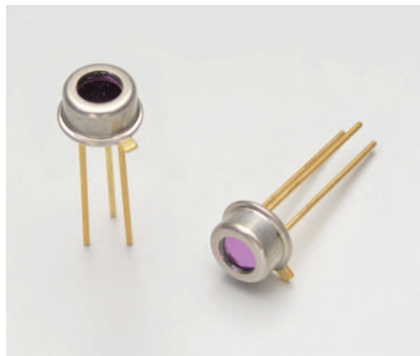


Mid infrared LED



L13201-0430M

Peak emission wavelength: 4.3 μm

The L13201-0430M is a mid infrared LED with a 4.3 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 CO₂ detectors.

Features

- High output
- High-speed response
- High reliability
- Low power consumption

Applications

- CO₂ detectors

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

Parameter	Symbol	Condition	Value	Unit
Reverse voltage	V _R		1	V
Forward current (QCW mode*1)	I _{FQCW}	Pulse width=100 μs Duty ratio=50%	100	mA
Pulse forward current	I _{FP}	Pulse width=10 μs Duty ratio=1%	0.5	A
Power dissipation	P		110	mW
Operating temperature	T _{opr}	No dew condensation*2	-30 to +85	°C
Storage temperature	T _{stg}	No dew condensation*2	-40 to +100	°C

*1 Quasi continuous wave mode

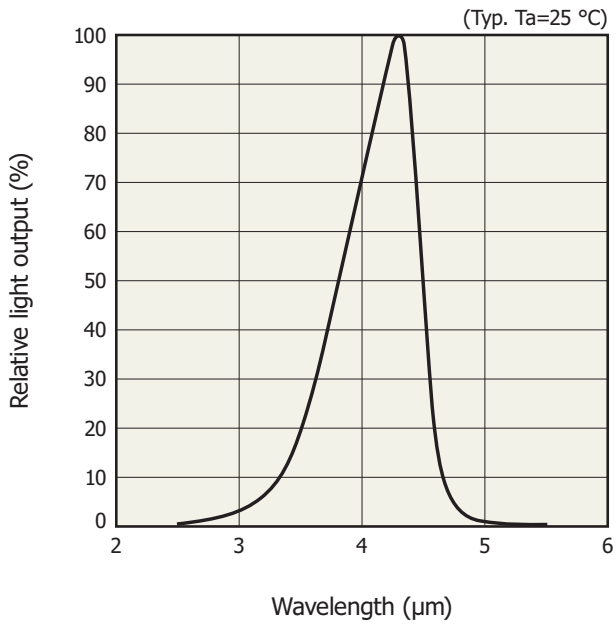
*2 When there is a temperature difference between a product and the surrounding area in high humidity environment, dew condensation may occur on the product surface. Dew condensation on the product may cause deterioration in characteristics and reliability.

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)

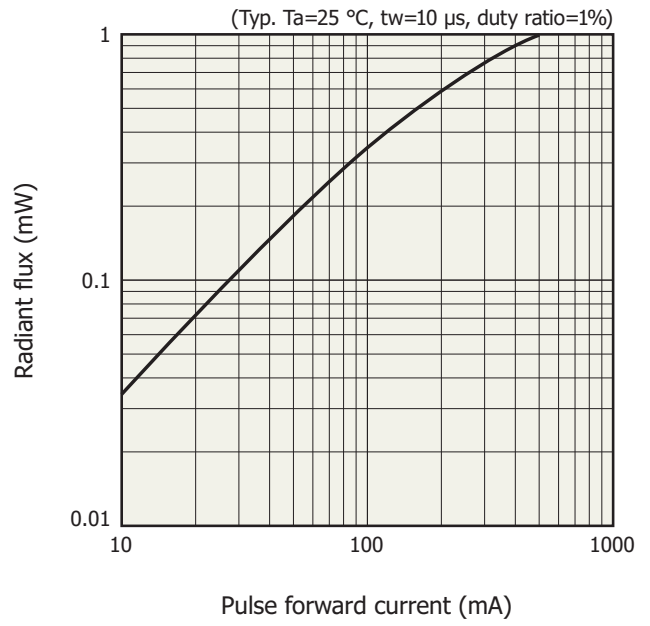
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak emission wavelength	λ_p	I _F =80 mA, QCW mode	4.1	4.3	4.4	μm
Spectral half width	$\Delta\lambda$	I _F =80 mA, QCW mode	-	0.7	1.0	μm
Radiant flux	ϕ_e	I _F =80 mA, QCW mode	0.15	0.3	-	mW
Forward voltage	V _F	I _F =80 mA, QCW mode	-	1.6	2.0	V
Reverse current	I _R	V _R =100 mV	-	-	1000	μA
Rise time	tr	10 to 90%	-	-	1	μs

Emission spectrum



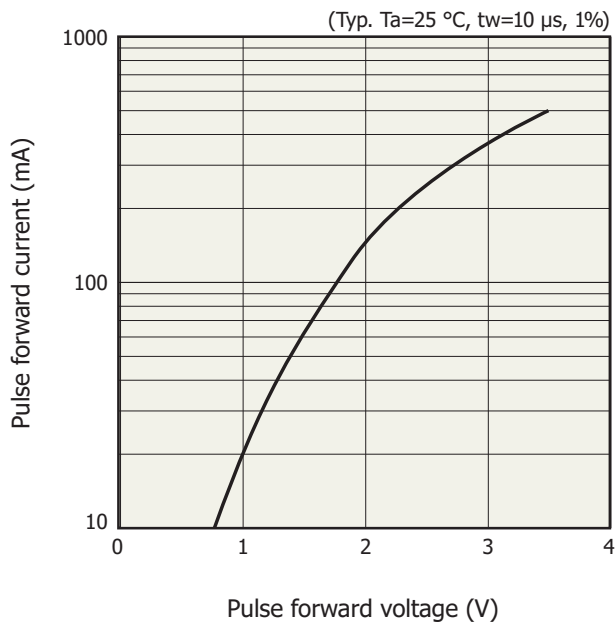
KLEDB0414EA

Radiant flux vs. pulse forward current



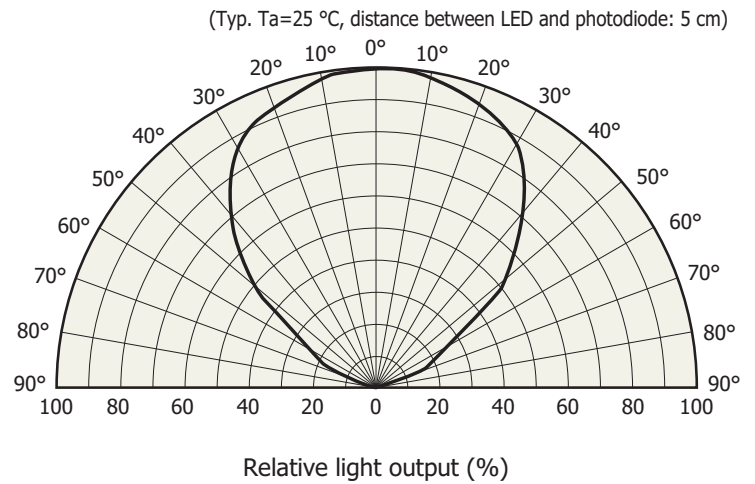
KLEDB0415EA

Pulse forward current vs. pulse forward voltage



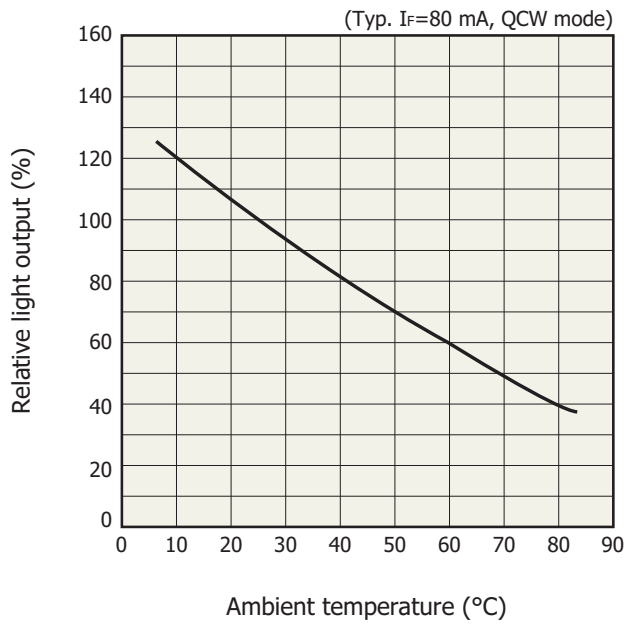
KLEDB0459EA

Directivity



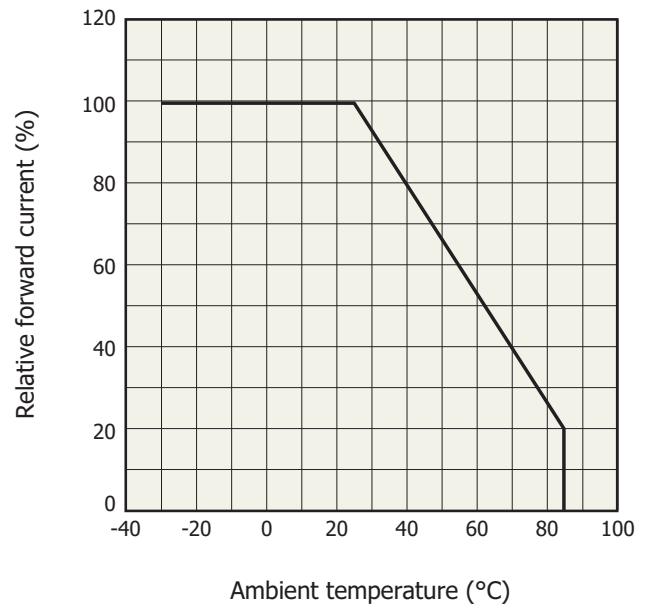
KLEDB0452EA

Light output vs. ambient temperature



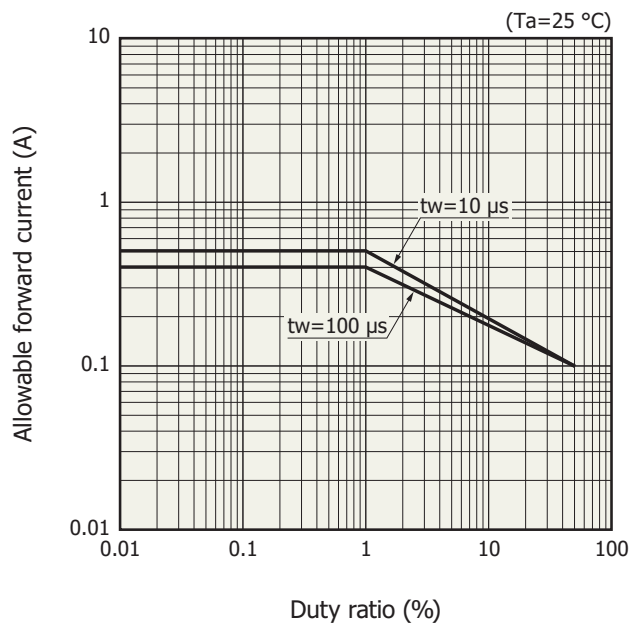
KLEDB0416EB

Allowable forward current vs. ambient temperature



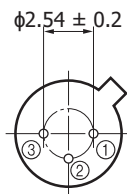
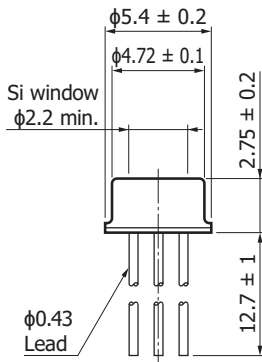
KLEDB0417EB

Allowable forward current vs. duty ratio



KLEDB0418EA

Dimensional outline (unit: mm)



KLEDA0101EA

Related information

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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