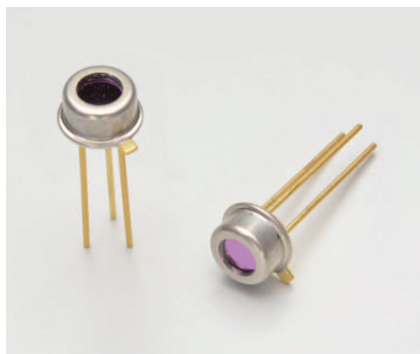


Mid infrared LED

L13454-0390M



Peak emission wavelength: 3.9 μm

The L13454-0390M is a high-output mid-infrared LED with a 3.9 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 reference light source for gas measurement.

Features

- High output
- High-speed response
- High reliability

Applications

- Reference light source for gas measurement

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

Parameter	Symbol	Condition	Value	Unit
Reverse voltage	VR		1	V
Forward current (QCW mode)*1	IFqcw	Pulse width=100 μs Duty ratio=50%	100	mA
Pulse forward current	IFP	Pulse width=10 μs Duty ratio=1%	0.5	A
Power dissipation	P		110	mW
Operating temperature	Topr	No dew condensation*2	-30 to +85	°C
Storage temperature	Tstg	No dew condensation*2	-40 to +100	°C

*1: Quasi continuous wave mode

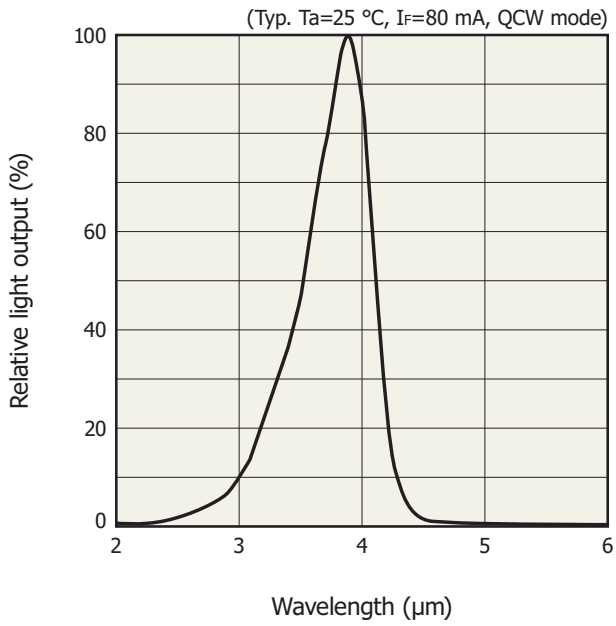
*2: When there is a temperature difference between a product and the surrounding area in high humidity environment, dew condensation may occur on the product surface. Dew condensation on the product may cause deterioration in characteristics and reliability.

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.

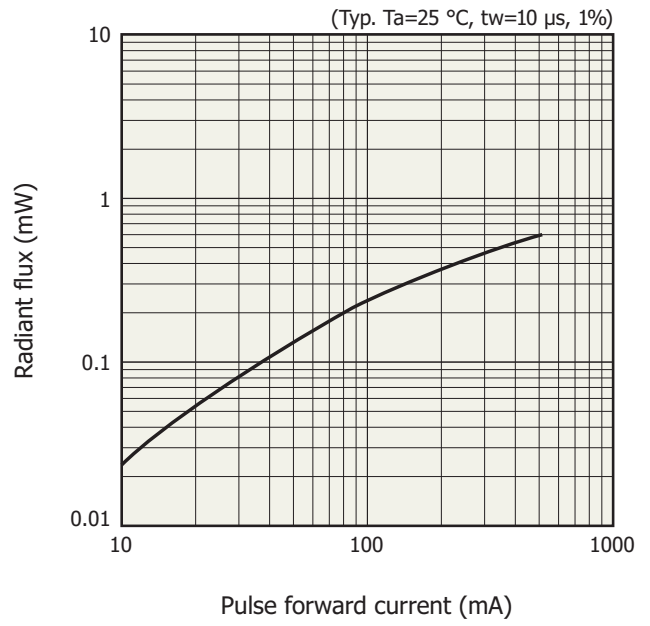
Electrical and optical characteristics (Ta=25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak emission wavelength	λp	IF=80 mA, QCW mode	3.8	3.9	4.1	μm
Spectral half width	Δλ	IF=80 mA, QCW mode	-	0.5	0.8	μm
Radiant flux	φe	IF=80 mA, QCW mode	0.1	0.2	-	mW
Forward voltage	VF	IF=80 mA, QCW mode	-	1.7	2.1	V
Reverse current	IR	VR=100 mV	-	-	1000	μA
Rise time	tr	10 to 90%	-	-	1	μs

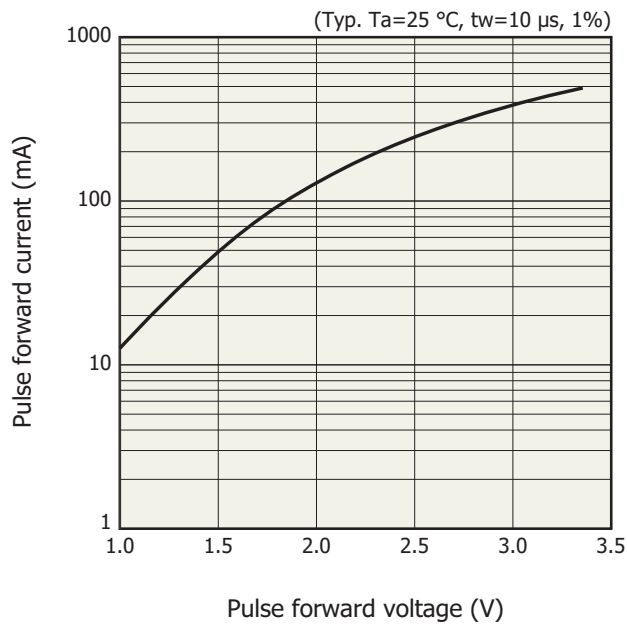
Emission spectrum



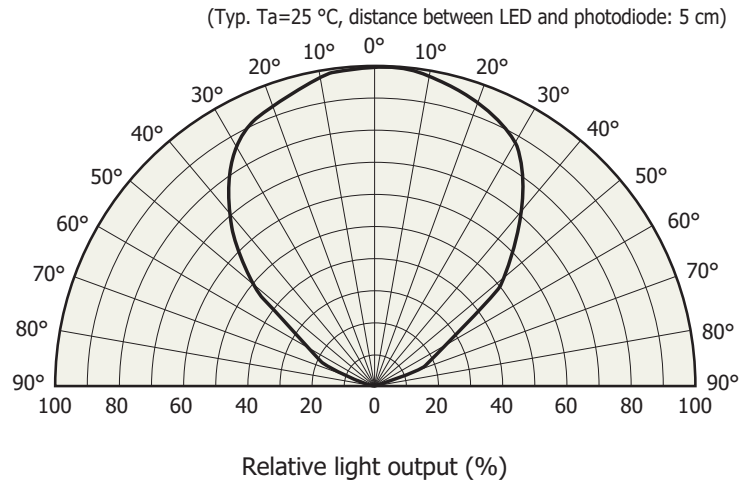
Radiant flux vs. pulse forward current



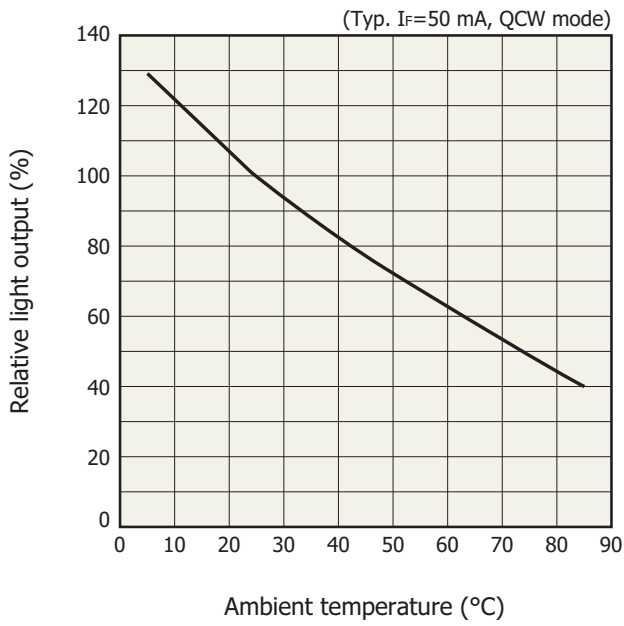
Pulse forward current vs. pulse forward voltage



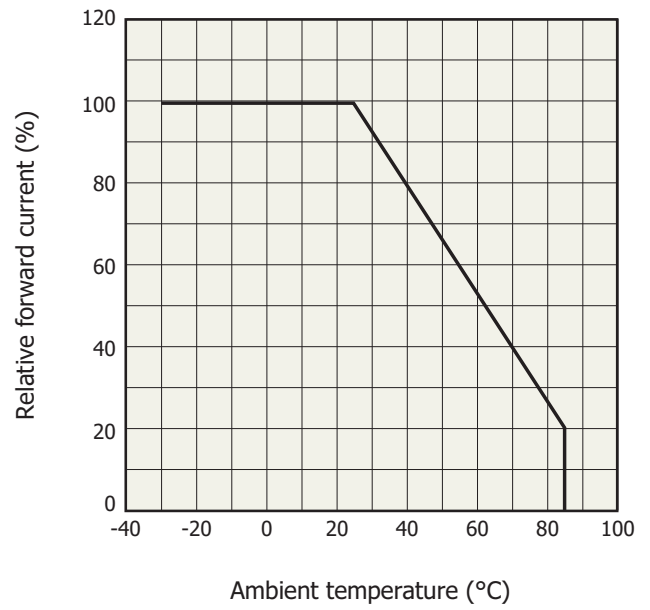
Directivity



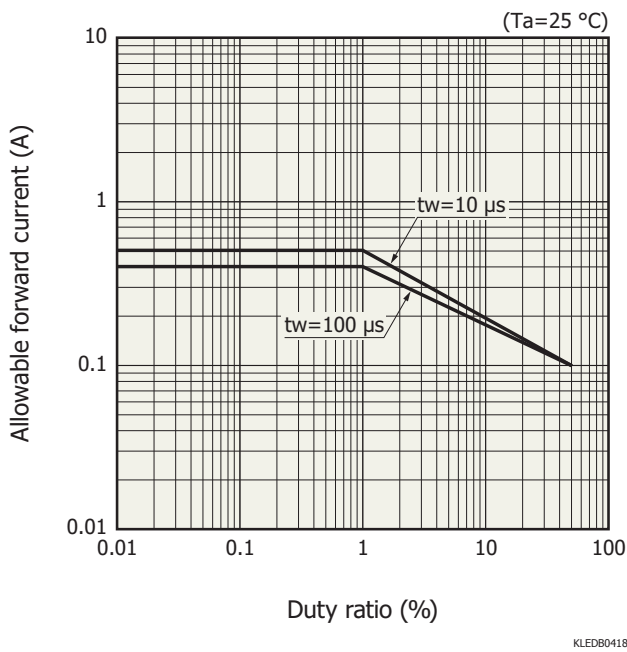
Light output vs. ambient temperature



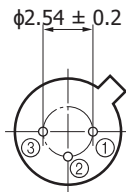
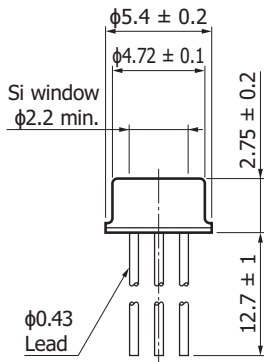
Allowable forward current vs. ambient temperature



Allowable forward current vs. duty ratio



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 November 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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