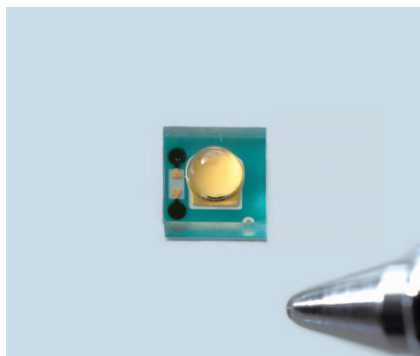


# Infrared LED

L14096-0085GL



## Surface mount type infrared LED with lens

The L14096-0085GL is an LED available in a surface mount type COB package with lens. Narrow directivity was achieved by adopting a lens.

### Features

- High output
- Compact, surface mount type package with lens (2.8 × 2.8 × 2.0<sup>t</sup> mm)
- High reliability
- Narrow directivity
- Supports lead-free reflow soldering

### Application

- Optical switches

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

Parameter	Symbol	Condition	Specification	Unit
Reverse voltage	VR max		5	V
Forward current	IF max		70	mA
Forward current decrease rate	ΔIF	Ta > 25 °C	0.7	mA/°C
Pulse forward current	IFP max	Pulse width=10 μs Duty ratio=1%	0.3	A
Pulse forward current decrease rate	ΔIFP	Ta > 25 °C	3	mA/°C
Power dissipation	Pd max		150	mW
Operating temperature	Topr	No dew condensation*1	-30 to +85	°C
Storage temperature	Tstg	No dew condensation*1	-40 to +100	°C
Reflow soldering conditions	-	JEDEC level 2a	Peak temperature 250 °C, twice	-

\*1: 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.

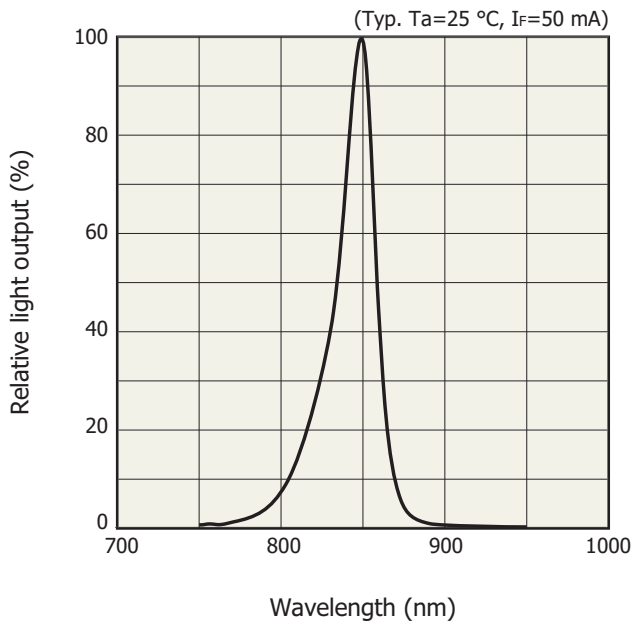
Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

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

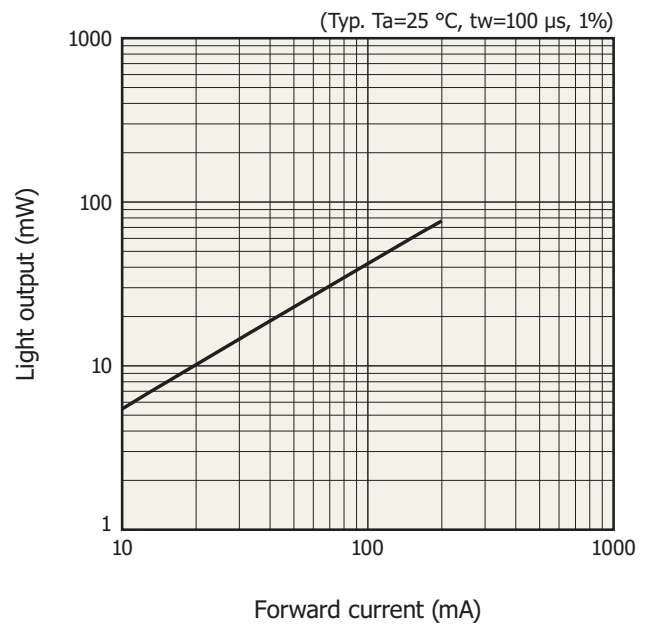
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak emission wavelength	λp	IF=50 mA	820	850	880	nm
Spectral half width	Δλ	IF=50 mA	-	25	50	nm
Radiant flux	φe	IF=50 mA	16	23	-	mW
Radiant intensity	Ie	IF=50 mA	70	100	-	mW/sr
Forward voltage	VF	IF=50 mA	-	1.9	2.2	V
Reverse current	IR	VR=5 V	-	-	10	μA
Cutoff frequency*2	fc	IF=50 mA ± 1 mAp-p	10	20	-	MHz

\*2: Frequency at which the optical output drops by 3 dB relative to the output at 100 kHz

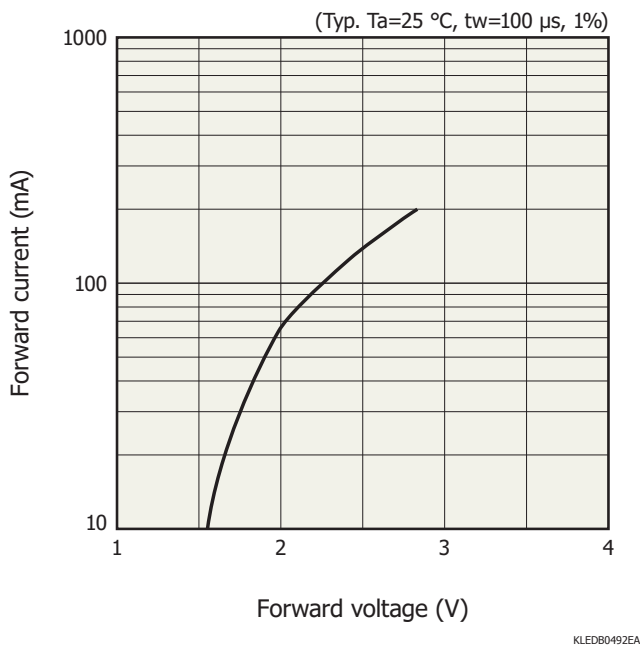
**Emission spectrum**



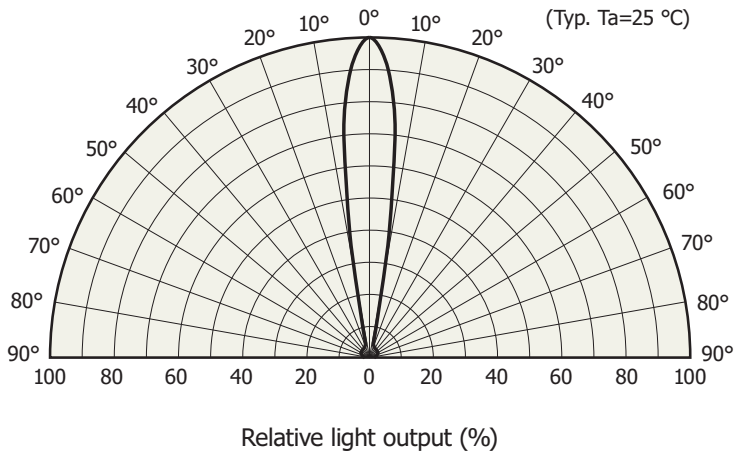
**Radiant flux vs. pulse forward current**



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

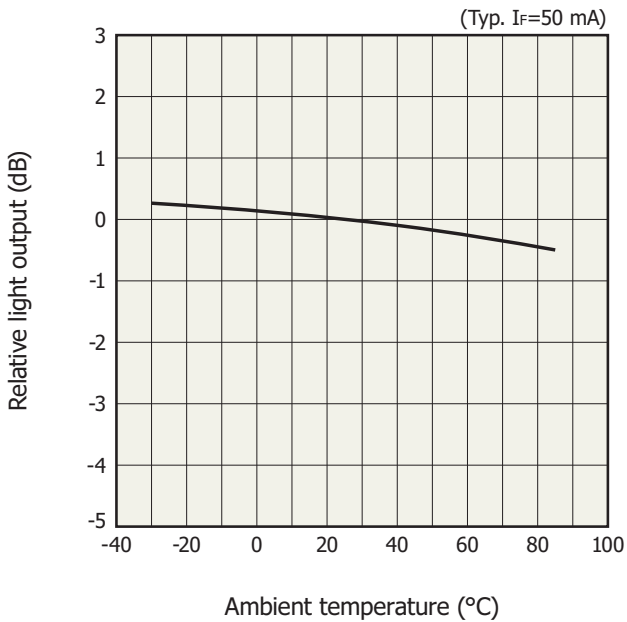


**Directivity**



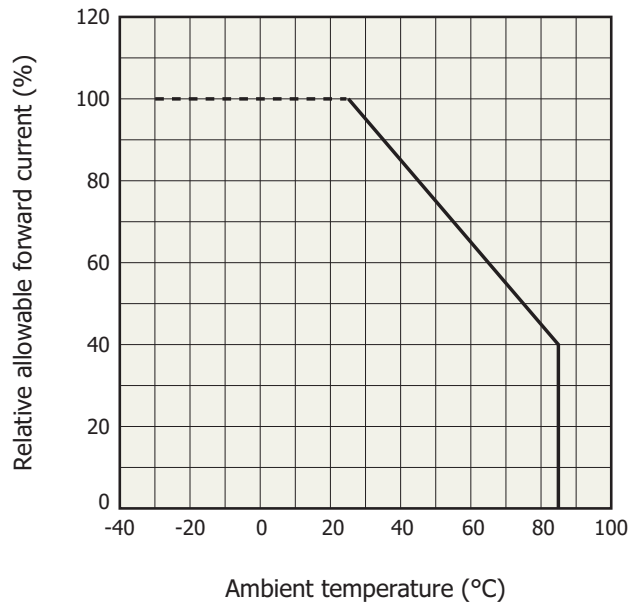
KLEDB0493EA

**Light output vs. ambient temperature**



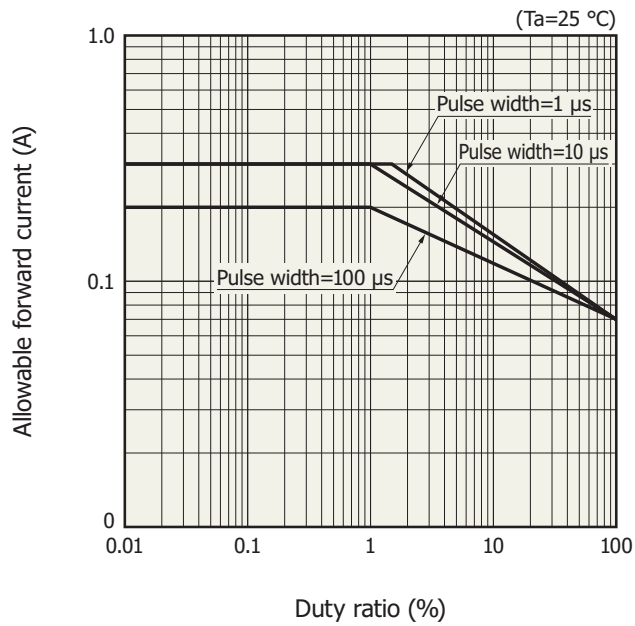
KLEDB0494EA

**Allowable forward current vs. ambient temperature**

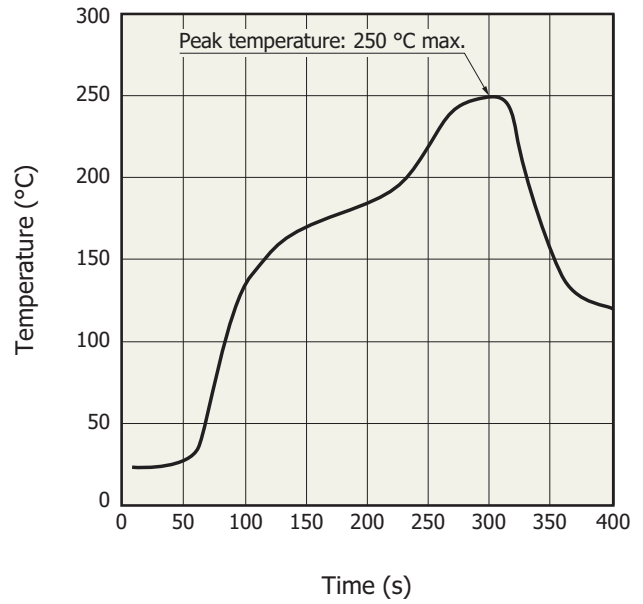


KLEDB0495EA

▣ Allowable forward current vs. duty ratio



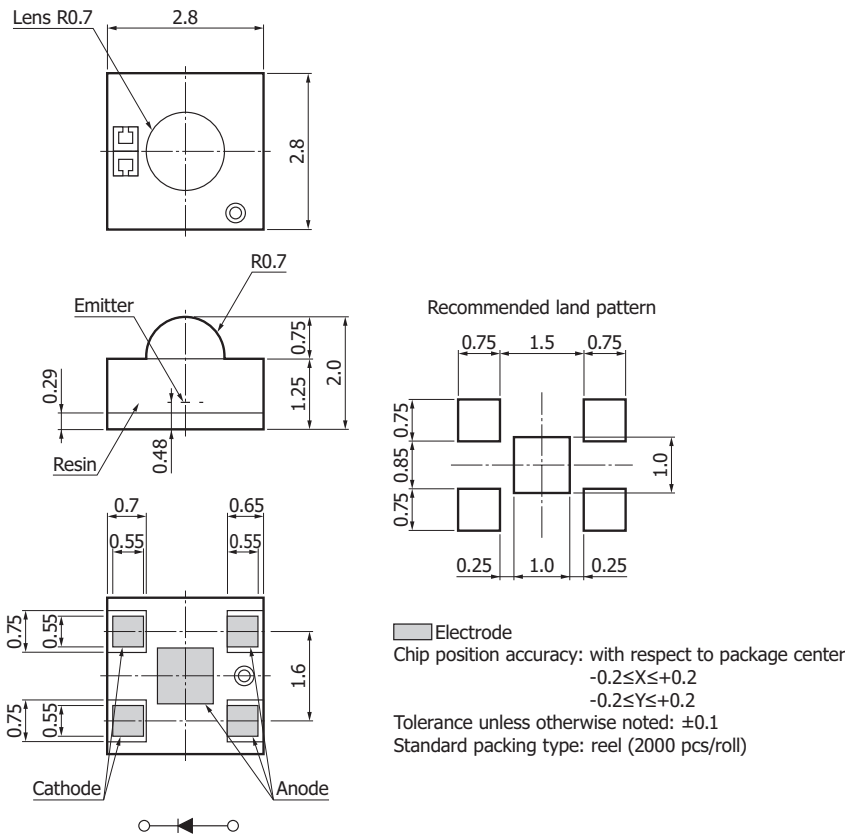
▣ Recommended solder reflow conditions



- After unpacking, store the device in an environment at a temperature range of 5 to 30 °C and a humidity of 60% or less, and perform reflow soldering within 4 weeks.
- The thermal stress applied to the device during reflow soldering varies depending on the circuit board and the reflow oven that are used.
- When setting the reflow conditions, verify that the reliability of the device is not compromised by the reflow soldering process.

KLEDB0504EA

### Dimensional outline (unit: mm)



KLED0108EA

### Related information

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

#### Precautions

- Disclaimer
- Surface mount type products

#### Technical information

- LED technical information

Information described in this material is current as of July 2018.

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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