

L14336-0083R

## High power LED for optical switches

The L14336-0083R is an infrared LED developed for optical switches. It features 1.5 times the light output of Hamamatsu's previous product.

### Features

➤ High light output

### Applications

➤ Optical switches

### Structure

Parameter	Specification
Package	TO-46
Reflector	Yes
Window material	Epoxy resin

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

Parameter	Symbol	Condition	Value	Unit
Reverse voltage	V <sub>R</sub>		5	V
Forward current	I <sub>F</sub>		80	mA
Forward current decrease rate	-	T <sub>a</sub> > 25 °C	0.8	mA/°C
Pulse forward current	I <sub>FP</sub>	Pulse width=10 μs Duty ratio=1%	1.0	A
Pulse forward current decrease rate	-	T <sub>a</sub> > 25 °C	10	mA/°C
Power dissipation	P		150	mW
Operating temperature	T <sub>opr</sub>	No dew condensation*1	-30 to +85	°C
Storage temperature	T <sub>stg</sub>	No dew condensation*1	-40 to +100*2	°C

\*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.

\*2: The L14336-0083R is guaranteed to resist temperature cycle test of up to 5 cycles.

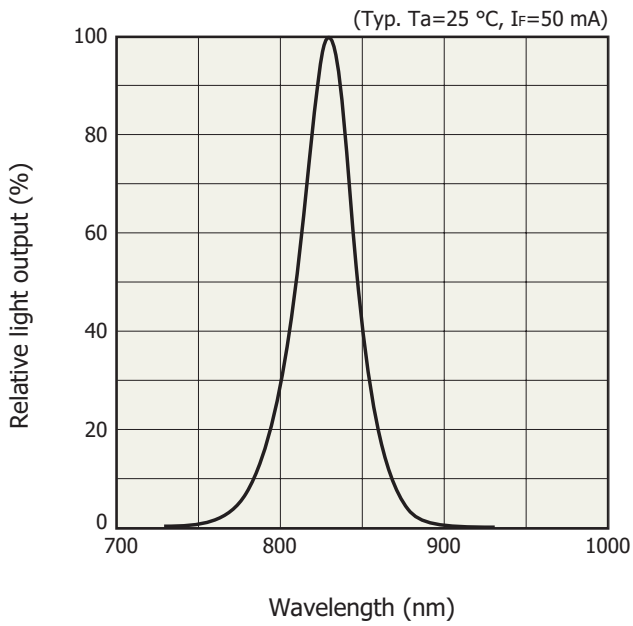
Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

### 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	800	830	860	nm
Spectral half width	Δλ	I <sub>F</sub> =50 mA	-	40	-	nm
Forward voltage	V <sub>F</sub>	I <sub>F</sub> =50 mA	-	1.5	1.7	V
Reverse current	I <sub>R</sub>	V <sub>R</sub> =5 V	-	-	10	μA
Radiant flux	φ <sub>e</sub>	I <sub>F</sub> =50 mA	12	16	-	mW
Cutoff frequency*3	f <sub>c</sub>	I <sub>F</sub> =50 mA ± 4 mAp-p	10	20	-	MHz

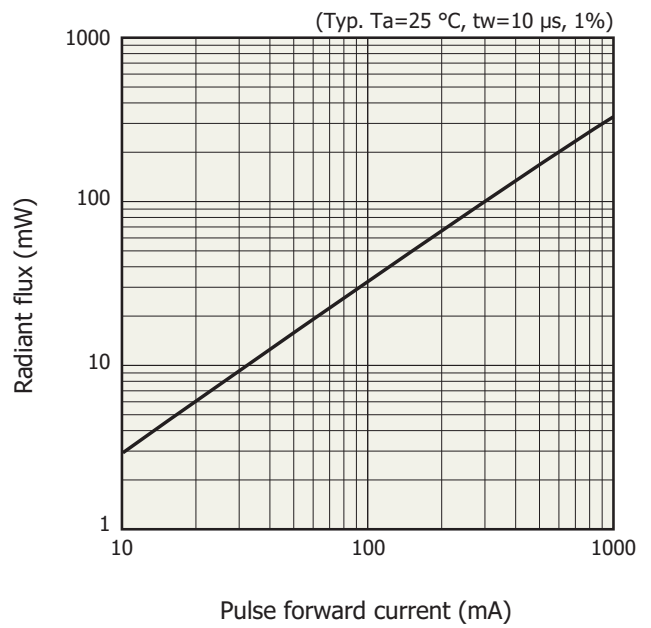
\*3: Frequency at which the optical output drops by -3 dB relative to the output at 100 kHz

**Emission spectrum**



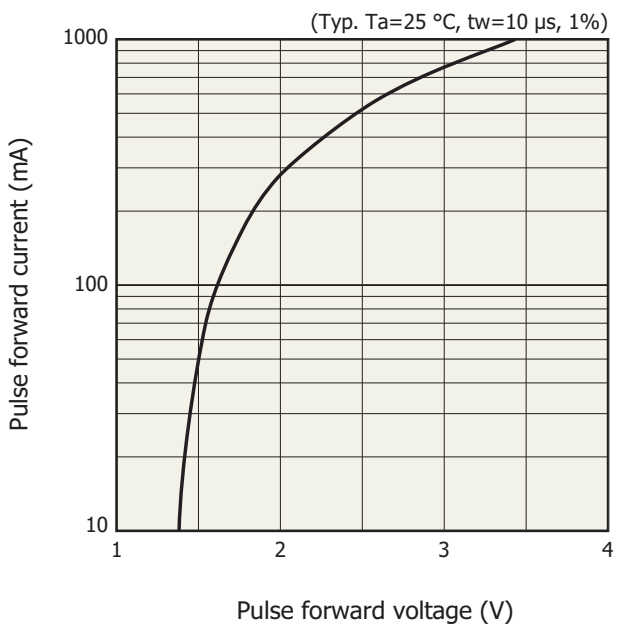
KLEDB0517EA

**Radiant flux vs. pulse forward current**



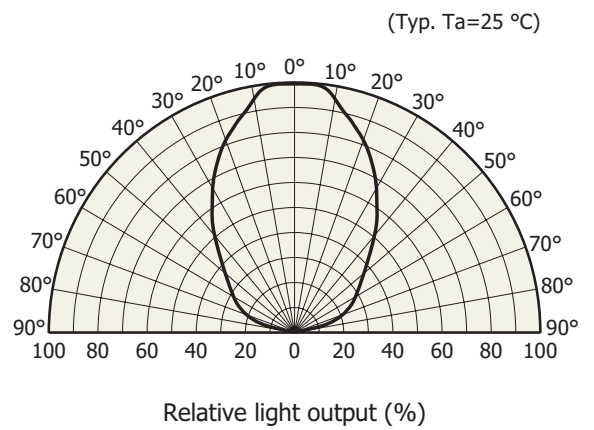
KLEDB0518EA

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



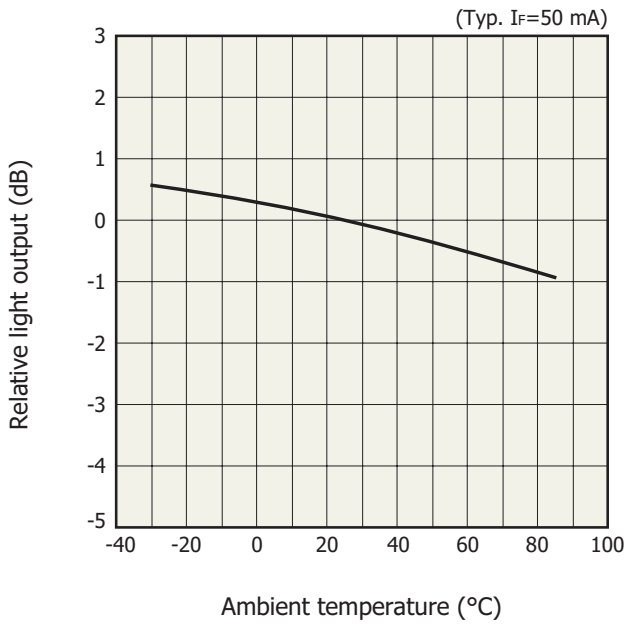
KLEDB0519EA

**Directivity**

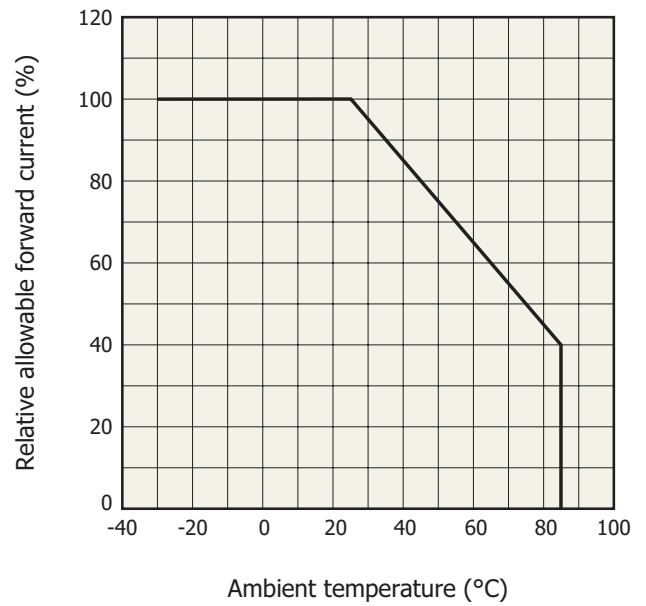


KLEDB0520EA

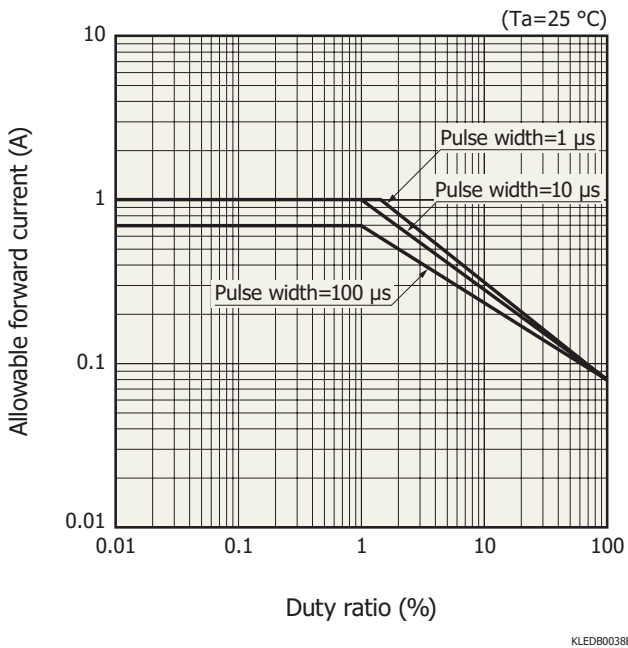
❑ Light output vs. ambient temperature



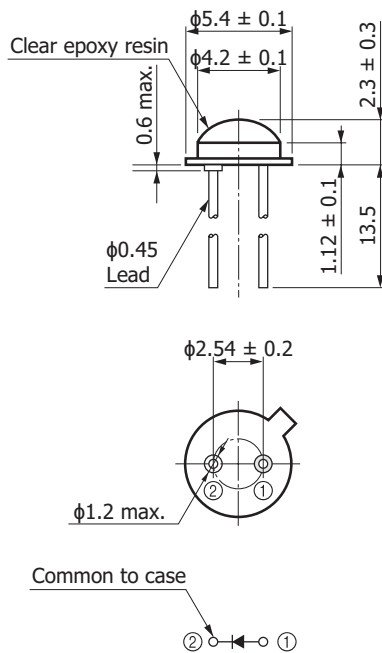
❑ Allowable forward current vs. ambient temperature



❑ Allowable forward current vs. duty ratio



### Dimensional outline (unit: mm)



KLEDA0058EB

### Related information

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

#### Precautions

- Disclaimer
- Safety consideration
- Compound opto-semiconductors (photosensors, light emitters)

#### Technical information

- LED / Technical note

Information described in this material is current as of May 2022.

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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