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Infrared LED

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_R		5	V
Forward current	I_F		80	mA
Forward current decrease rate	-	Ta > 25 °C	0.8	mA/°C
Pulse forward current	I_{FP}	Pulse width=10 µs Duty ratio=1%	1.0	A
Pulse forward current decrease rate	-	Ta > 25 °C	10	mA/°C
Power dissipation	P		150	mW
Operating temperature	Topr	No dew condensation*1	-30 to +85	°C
Storage temperature	Tstg	No dew condensation*1	-40 to +100*2	°C

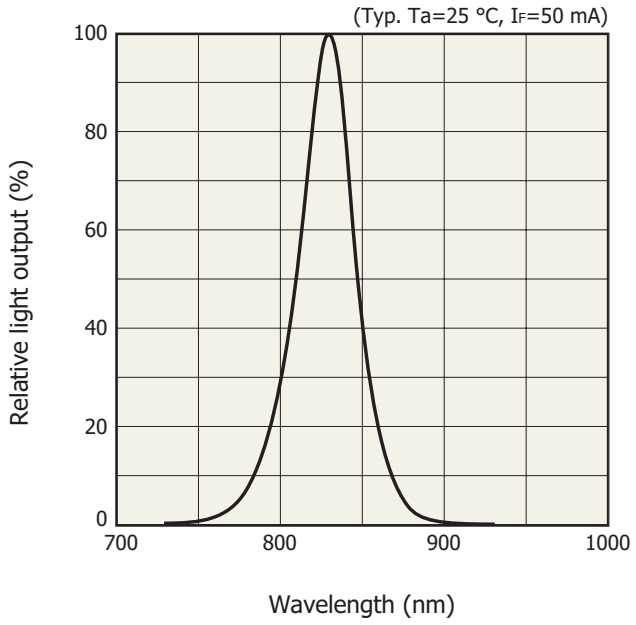
*1: When there is a temperature difference between a product and the surrounding area in high humidity environment, dew condensation may occur on the product surface. Dew condensation on the product may cause deterioration in characteristics and reliability.
*2: The L14336-0083R is guaranteed to resist 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)

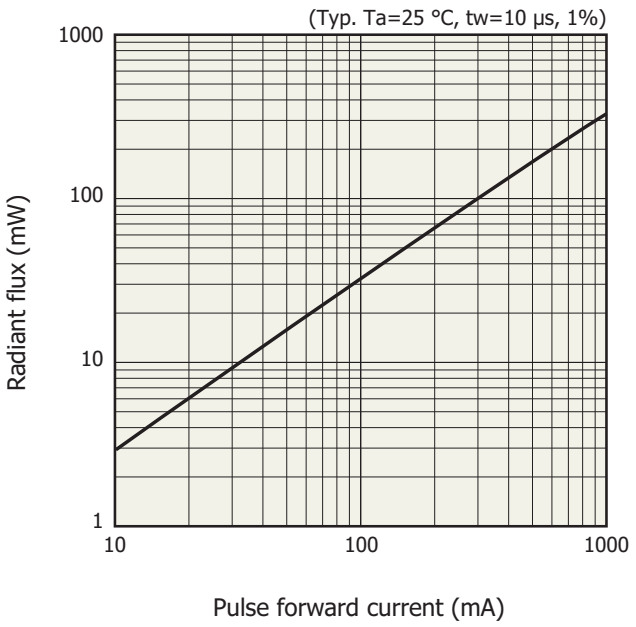
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak emission wavelength	λp	I_F=50 mA	800	830	860	nm
Spectral half width	Δλ	I_F=50 mA	-	40	-	nm
Forward voltage	V_F	I_F=50 mA	-	1.5	1.7	V
Reverse current	I_R	V_R=5 V	-	-	10	µA
Radiant flux	ϕe	I_F=50 mA	12	16	-	mW
Cutoff frequency*3	fc	I_F=50 mA ± 4 mAp-p	10	20	-	MHz

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

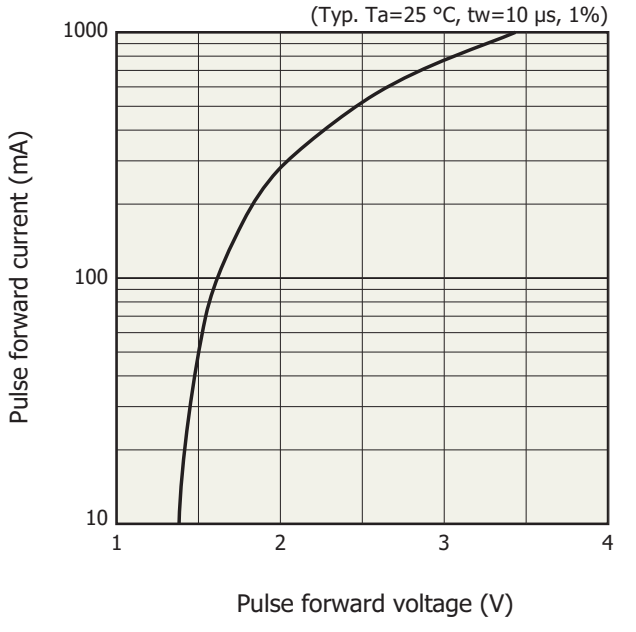
Emission spectrum



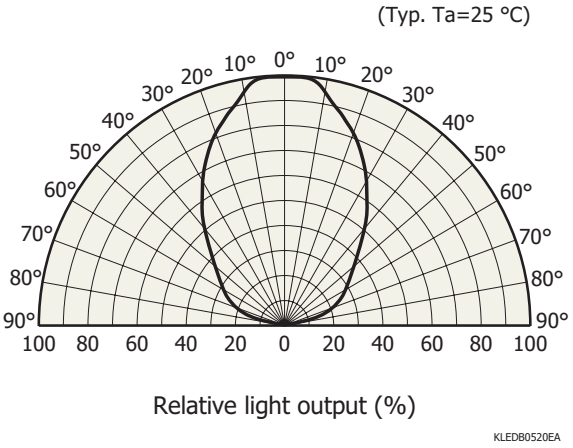
Radiant flux vs. pulse forward current



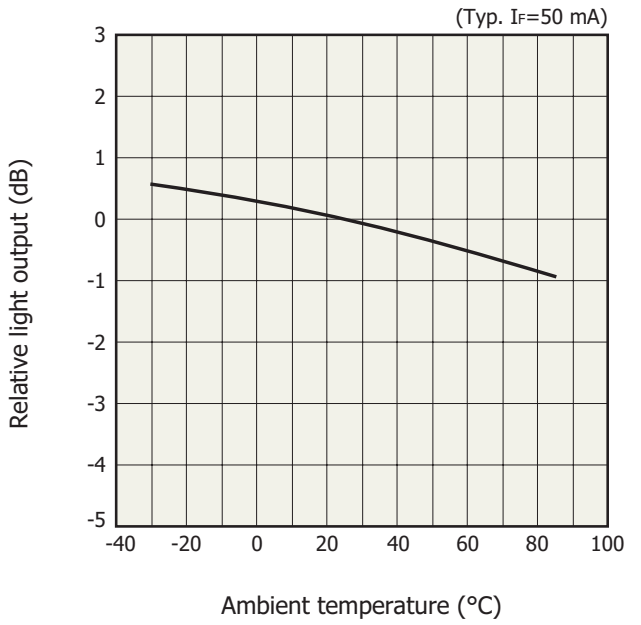
Pulse forward current vs. pulse forward voltage



Directivity

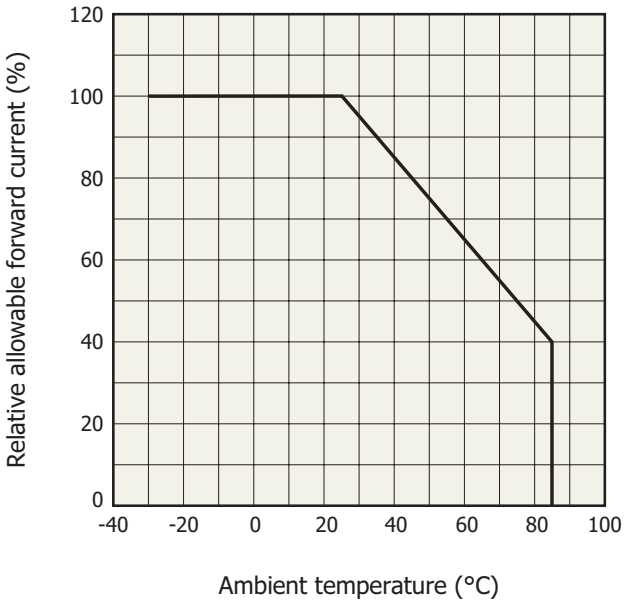


Light output vs. ambient temperature



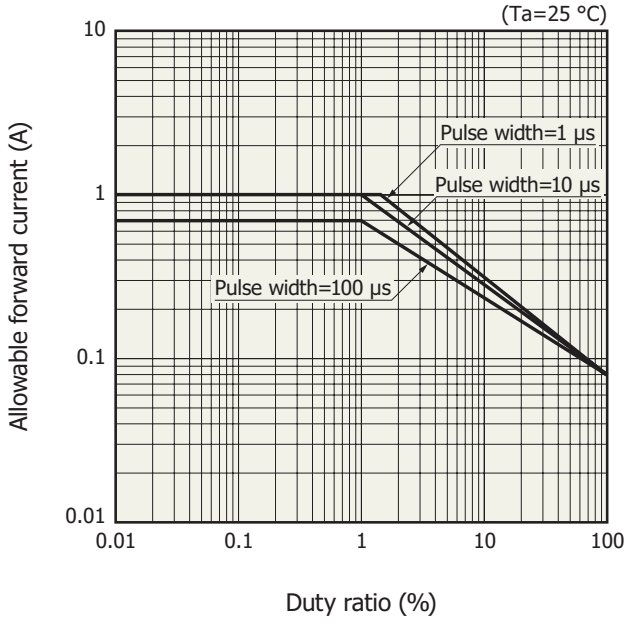
KLEDB0521EA

Allowable forward current vs. ambient temperature



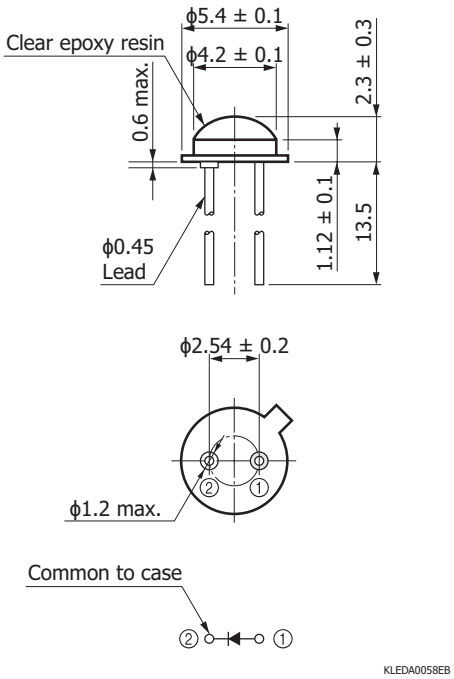
KLEDB0495EB

Allowable forward current vs. duty ratio



KLEDB0038EB

Dimensional outline (unit: mm)



Related information

http://www.hamamatsu.com/sp/ssd/doc_en.html

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

■ Technical information
· LED / Technical note

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