

L12756



High power LED in a bullet-shaped package

The L12756 is an infrared LED encapsulated in a bullet-shaped package. It offers low cost, high output power, and high reliability.

Features

- ➔ High output power
- ➔ Low cost
- ➔ High reliability

Applications

- ➔ Optical switches

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

Parameter	Symbol	Condition	Specification	Unit
Reverse voltage	VR		5	V
Forward current	IF		100	mA
Forward current decrease rate	-	Ta>25 °C	1.3	mA/°C
Pulse forward current	IFP	*1	1	A
Pulse forward current decrease rate	-	Ta>25 °C*1	13	mA/°C
Power dissipation	P		180	mW
Operating temperature	Topr	No condensation	-30 to +85	°C
Storage temperature	Tstg	No condensation	-40 to +100	°C
Soldering conditions	-		230 °C or less, within 5 s, at least 2 mm away from resin bottom surface	-

*1: Pulse width=10 μs, duty ratio=1%

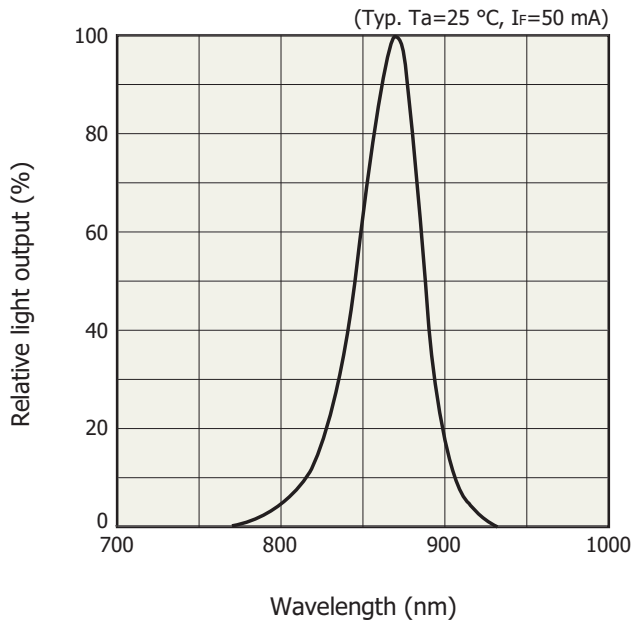
Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

Electrical and optical characteristics (Ta=25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak emission wavelength	λp	IF=50 mA	840	870	900	nm
Spectral half width	Δλ	IF=50 mA	-	45	-	nm
Forward voltage	VF	IF=50 mA	-	1.5	1.7	V
Reverse current	IR	VR=5 V	-	-	5	μA
Radiant flux	φe	IF=50 mA	18	23	-	mW
Radiant intensity	Ie	IF=50 mA	35	55	-	mW/sr
Cutoff frequency*2	fc	IF=50 mA ± 1 mAp-p	25	40	-	MHz

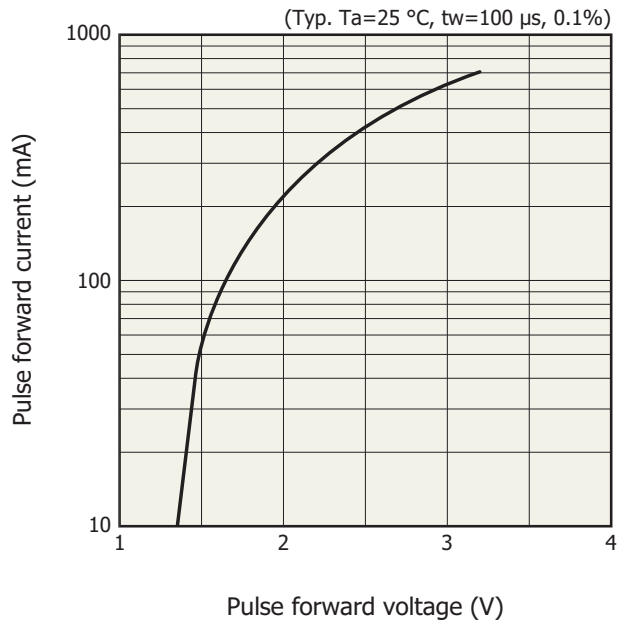
*2: Frequency at which the optical output drops by 3 dB relative to the output at 100 kHz

Emission spectrum



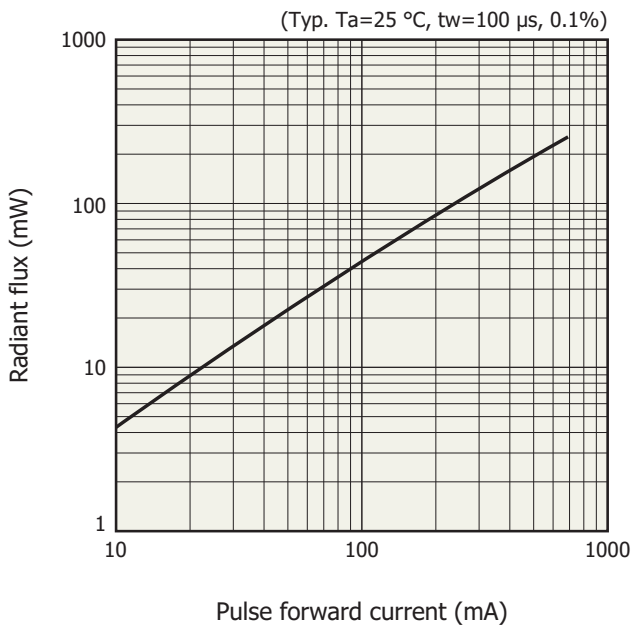
KLEDB0413EA

Pulse forward current vs. pulse forward voltage



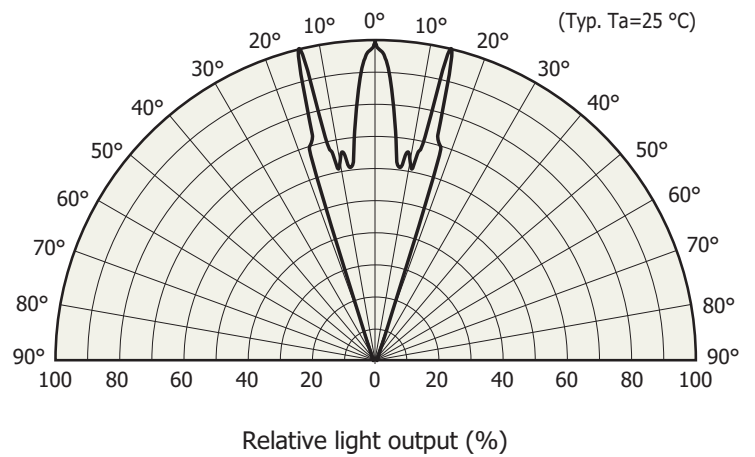
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Radiant flux vs. pulse forward current



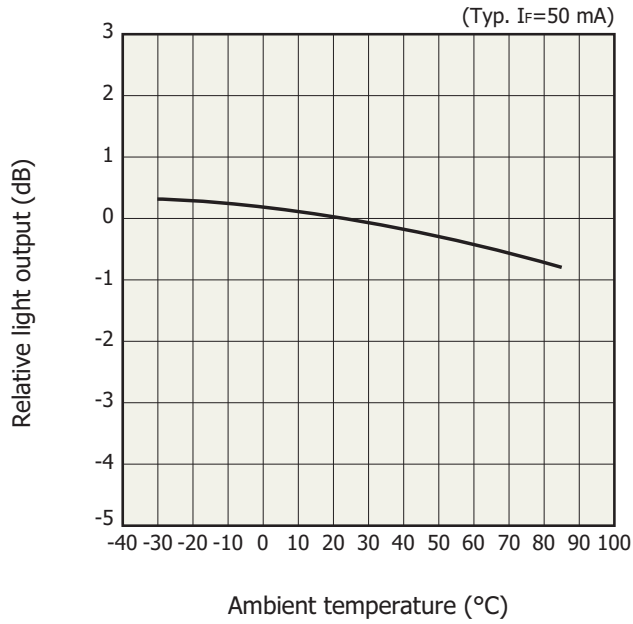
KLEDB0385EA

Directivity



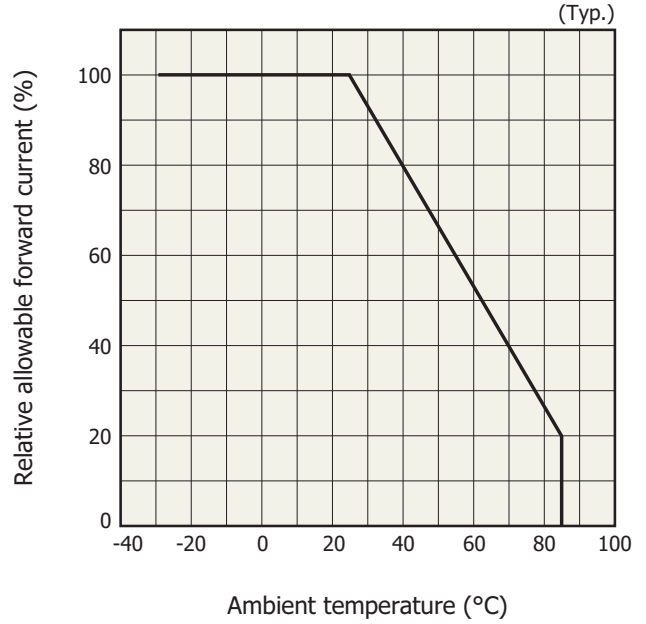
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Light output vs. ambient temperature



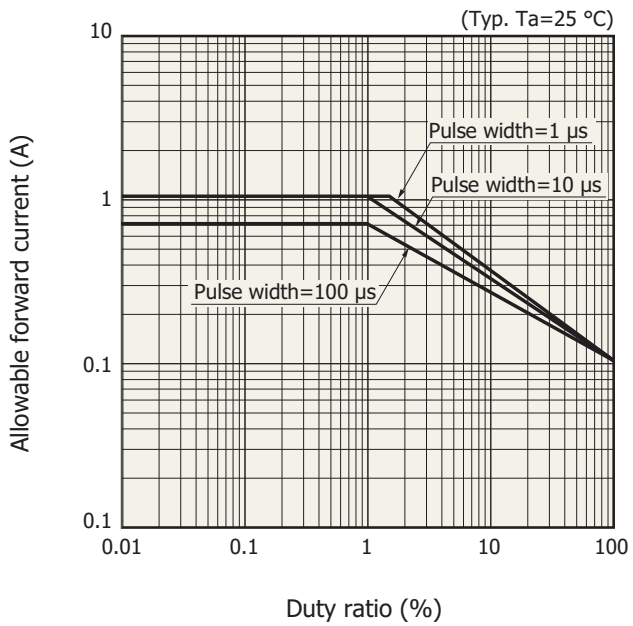
KLEDB0387EA

Allowable forward current vs. ambient temperature



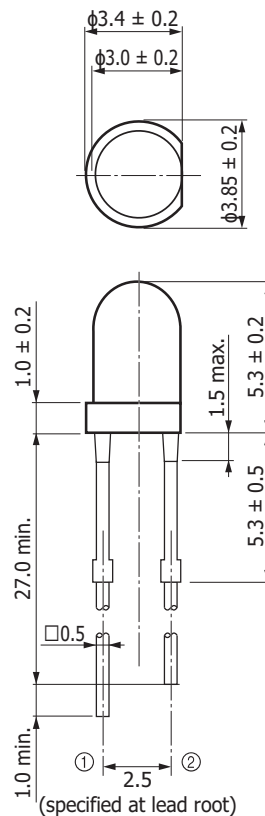
KLEDB0409EA

Allowable forward current vs. duty ratio



KLEDB0388EA

Dimensional outline (unit: mm)



Standard packaging state:
anti-static bag (100 pcs/pack)

KLEDA0098EB

Related information

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

■ Precautions

- Notice
- Metal, ceramic, plastic products

Information described in this material is current as of August, 2014.

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.

The product warranty is valid for one year after delivery and is limited to product repair or replacement for defects discovered and reported to us within that one year period. However, even if within the warranty period we accept absolutely no liability for any loss caused by natural disasters or improper product use.

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