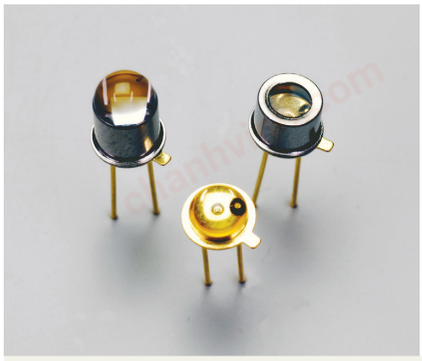
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HAMAMATSU
PHOTON IS OUR BUSINESS

Infrared LED



L9337 series

High power LED for optical switches

The L9337 series is an infrared LED developed for optical switches. Because a high-power LED chip is mounted, the L9337 series provides higher radiant output power than previous devices, moreover it is available at a low cost due to the improved manufacturing process. The L9337-01/-02 use a high reliability package making them suitable for automobile applications.

Features

- **High radiant output power**
- **High reliability**
- **Low price**

Applications

- **Optical switches**
- **Automobiles**

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	1.1	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	13	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 2	-40 to +100	°C

*1: When there is a temperature difference between a product and the surrounding area in high humidity environments, dew condensation may occur on the product surface. Dew condensation on the product may cause deterioration in characteristics and reliability.
*2: The L9337 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.

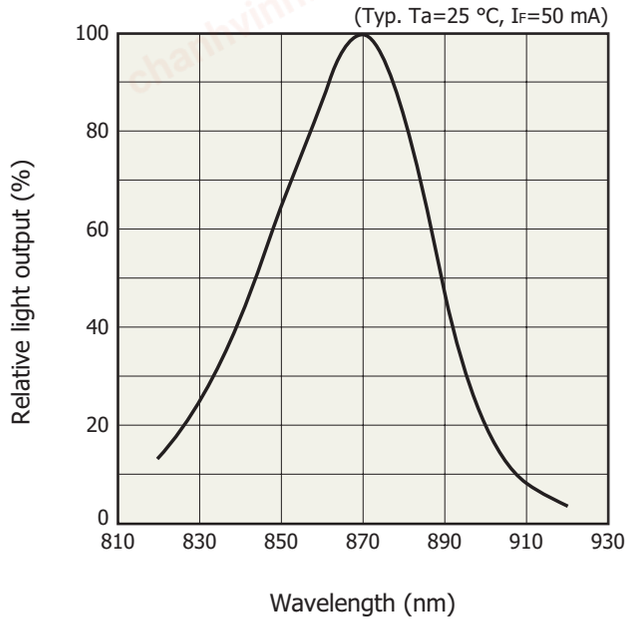
Electrical and optical characteristics (Ta=25 °C)

Parameter	Symbol	Condition	L9337			L9337-01			L9337-02			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Peak emission wavelength	λp	I_F=50 mA	840	870	900	840	870	900	840	870	900	nm
Spectral half width	Δλ	I_F=50 mA	-	45	-	-	45	-	-	45	-	nm
Forward voltage	V_F	I_F=50 mA	-	1.42	1.5	-	1.42	1.5	-	1.42	1.5	V
Pulse forward voltage	V_{FP}	I_F=1 A	-	2.7	3.4	-	2.7	3.4	-	2.7	3.4	V
Reverse current	I_R	V_R=5 V	-	-	5	-	-	5	-	-	5	µA
Radiant flux	ϕe	I_F=50 mA	18	23	-	10	13	-	7.5	10	-	mW
Cut-off frequency*3	fc	I_F=50 mA ± 4 mAp-p	25	40	-	25	40	-	25	40	-	MHz

*3: Frequency at which the optical output drops by -3 dB from that at 100 kHz.

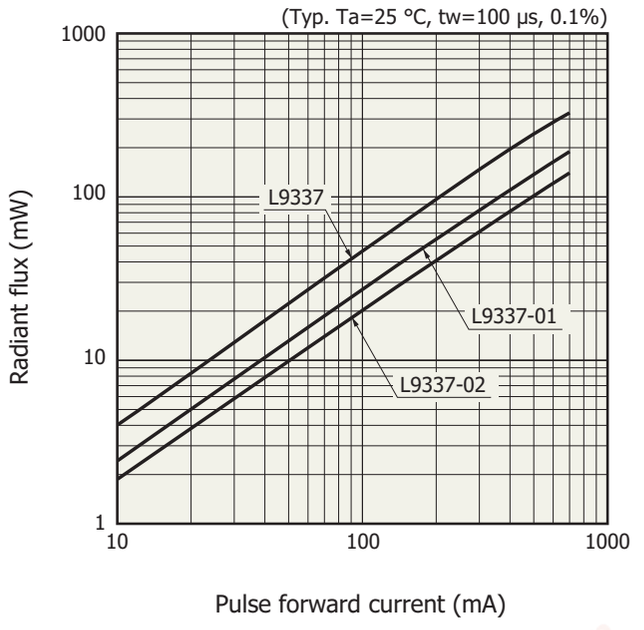
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Emission spectrum



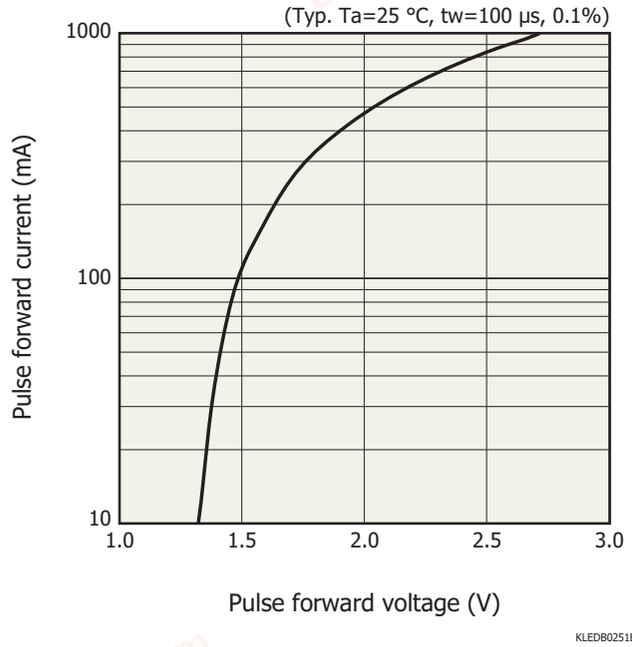
KLEDB0249EA

Radiant flux vs. pulse forward current



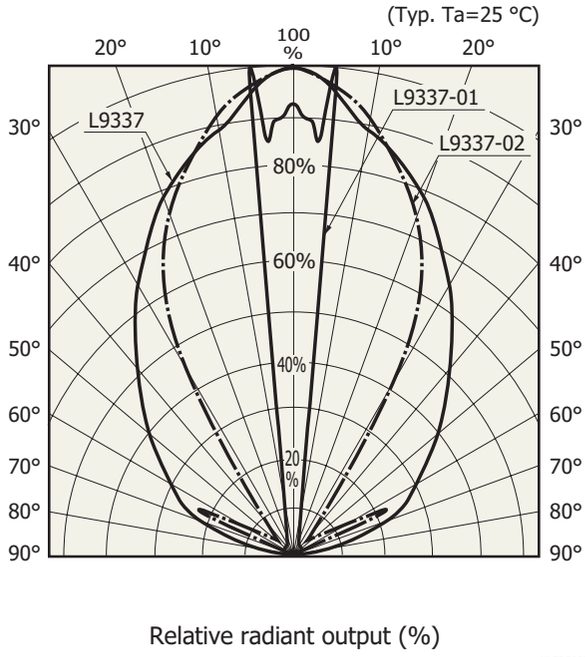
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Pulse forward current vs. pulse forward voltage



KLEDB0251EC

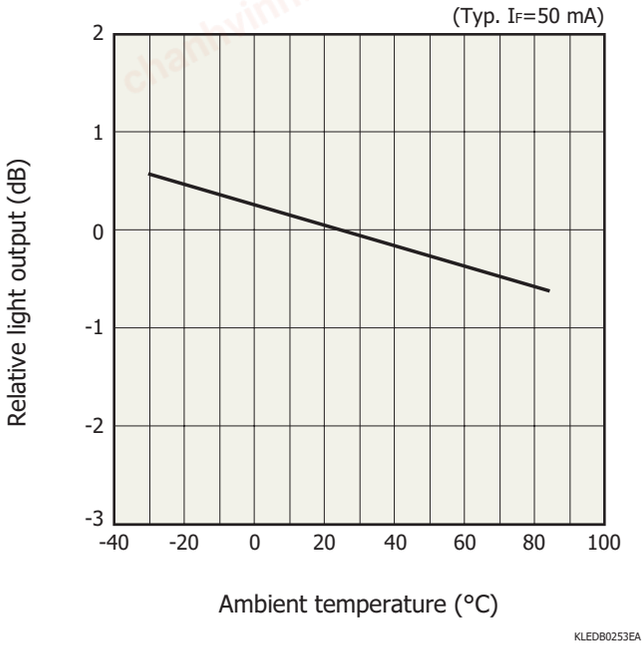
Directivity



KLEDB0252EB

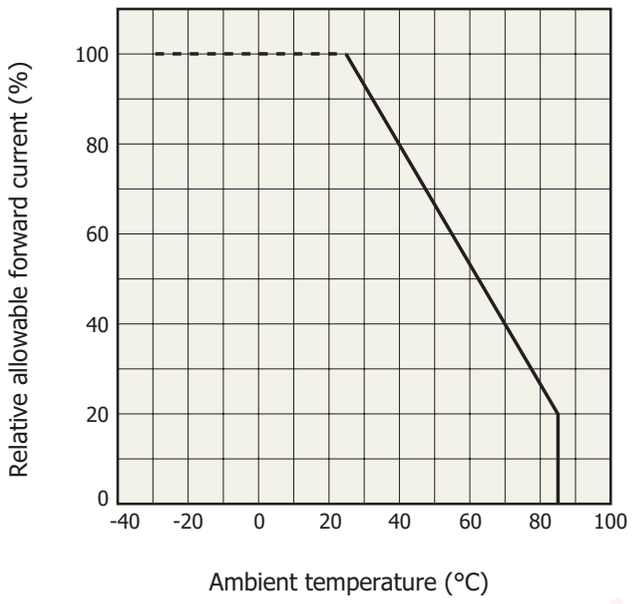
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Radiant output vs. ambient temperature



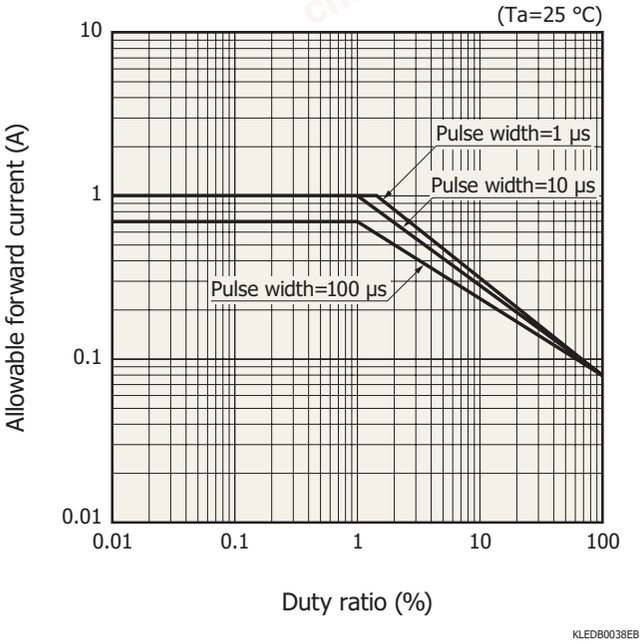
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Allowable forward current vs. ambient temperature



KLEDB0254EB

Allowable forward current vs. duty ratio

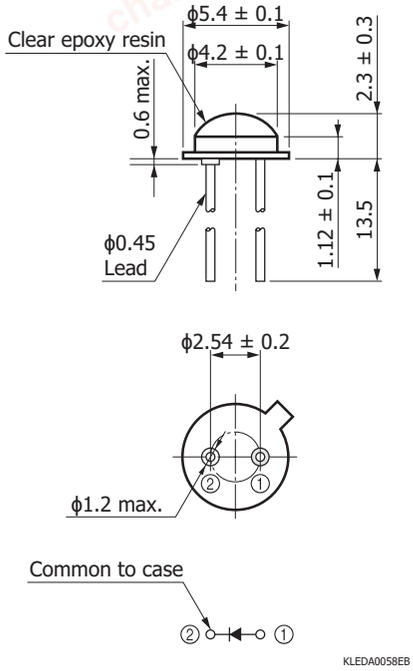


KLEDB0038EB

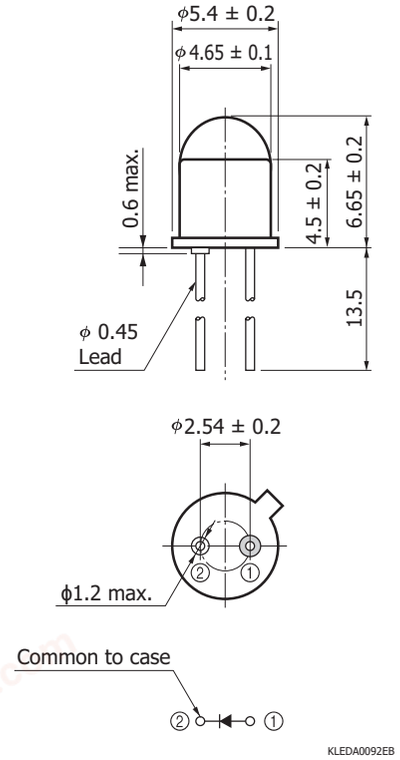
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Dimensional outlines (unit: mm)

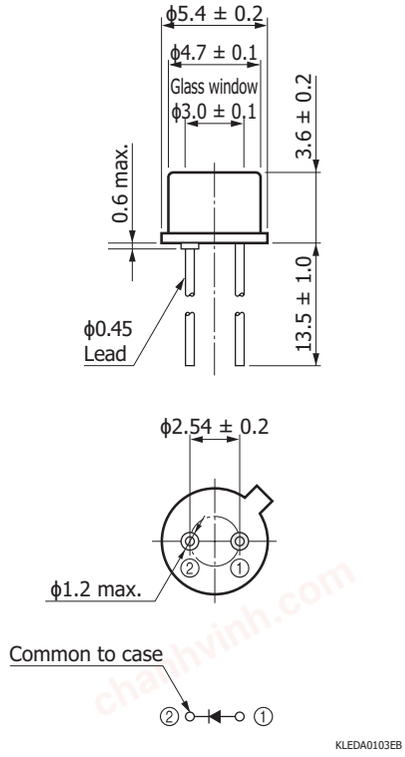
L9337



L9337-01



L9337-02



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

Information described in this material is current as of April 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.
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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