

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	VR		5	V
Forward current	IF		80	mA
Forward current decrease rate	-	Ta > 25 °C	1.1	mA/°C
Pulse forward current	IFP	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.

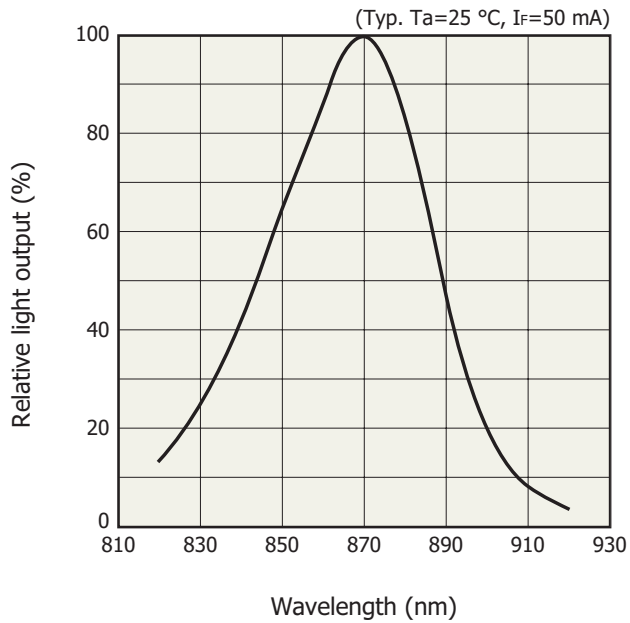
Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

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	IF=50 mA	840	870	900	840	870	900	840	870	900	nm
Spectral half width	Δλ	IF=50 mA	-	45	-	-	45	-	-	45	-	nm
Forward voltage	VF	IF=50 mA	-	1.42	1.5	-	1.42	1.5	-	1.42	1.5	V
Pulse forward voltage	VFP	IF=1 A	-	2.7	3.4	-	2.7	3.4	-	2.7	3.4	V
Reverse current	IR	VR=5 V	-	-	5	-	-	5	-	-	5	μA
Radiant flux	φe	IF=50 mA	18	23	-	10	13	-	7.5	10	-	mW
Cut-off frequency*3	fc	IF=50 mA ± 4 mAp-p	25	40	-	25	40	-	25	40	-	MHz

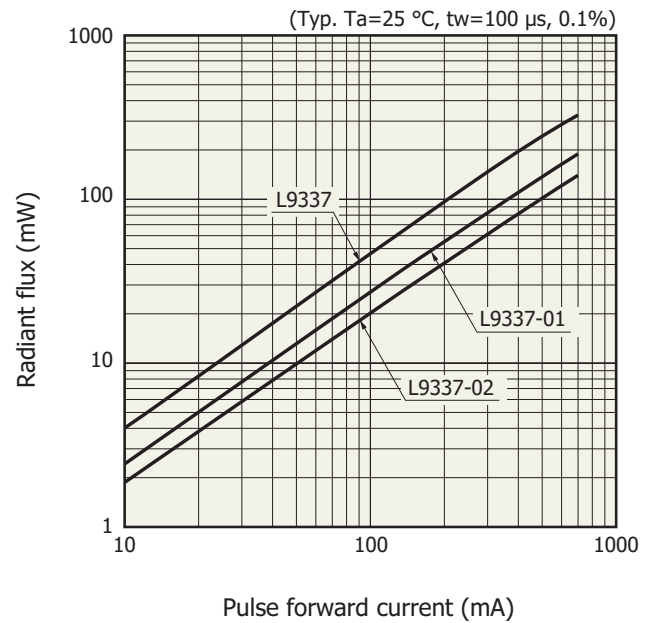
*3: Frequency at which the optical output drops by -3 dB from that at 100 kHz.

Emission spectrum



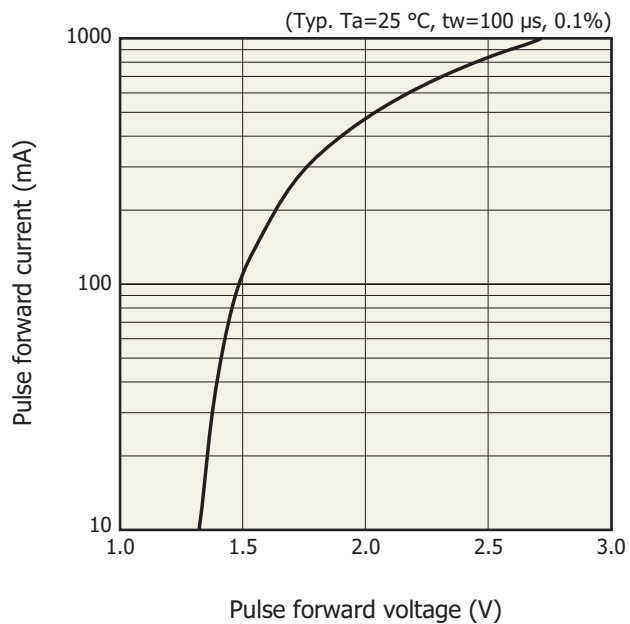
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Radiant flux vs. pulse forward current



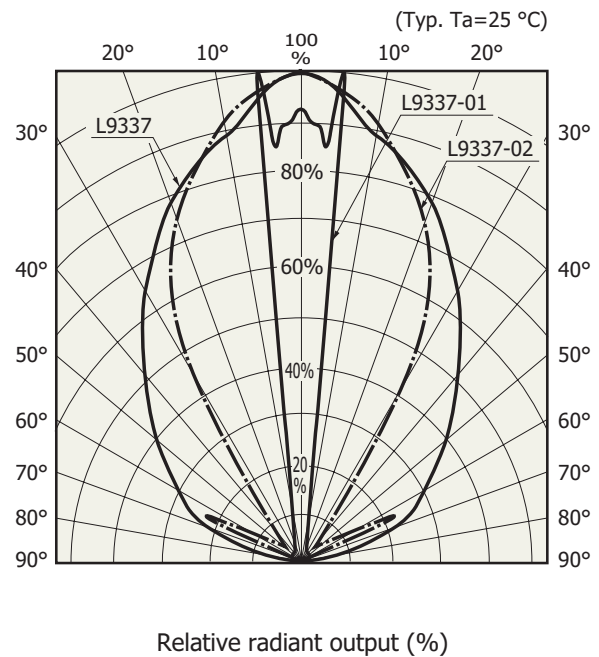
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Pulse forward current vs. pulse forward voltage



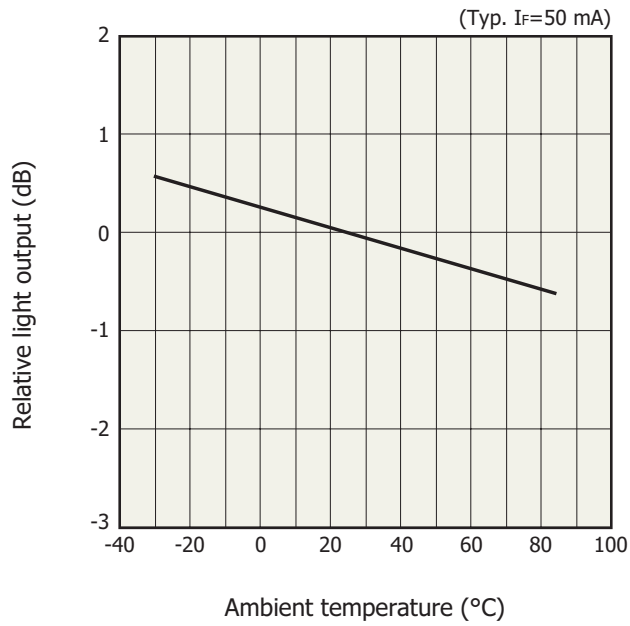
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Directivity



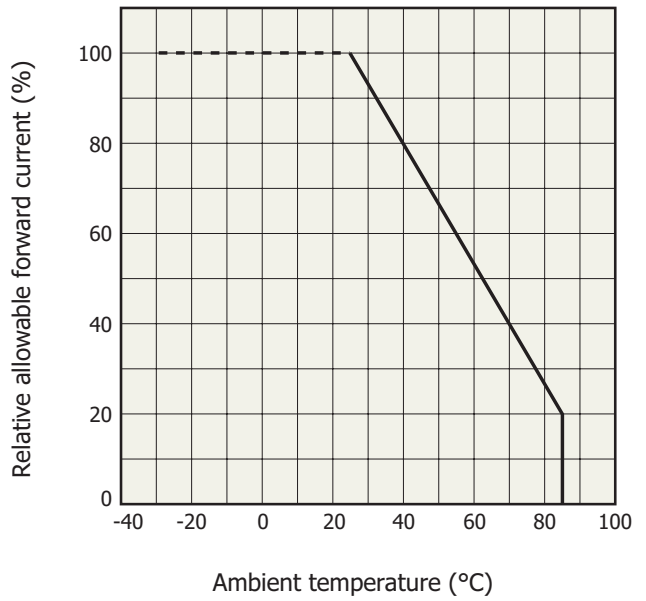
KLEDB0252EB

❑ Radiant output vs. ambient temperature



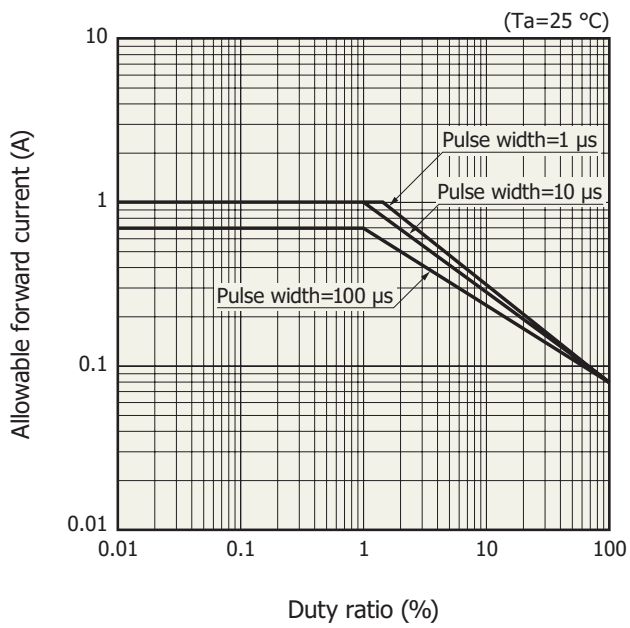
KLED80253EA

❑ Allowable forward current vs. ambient temperature



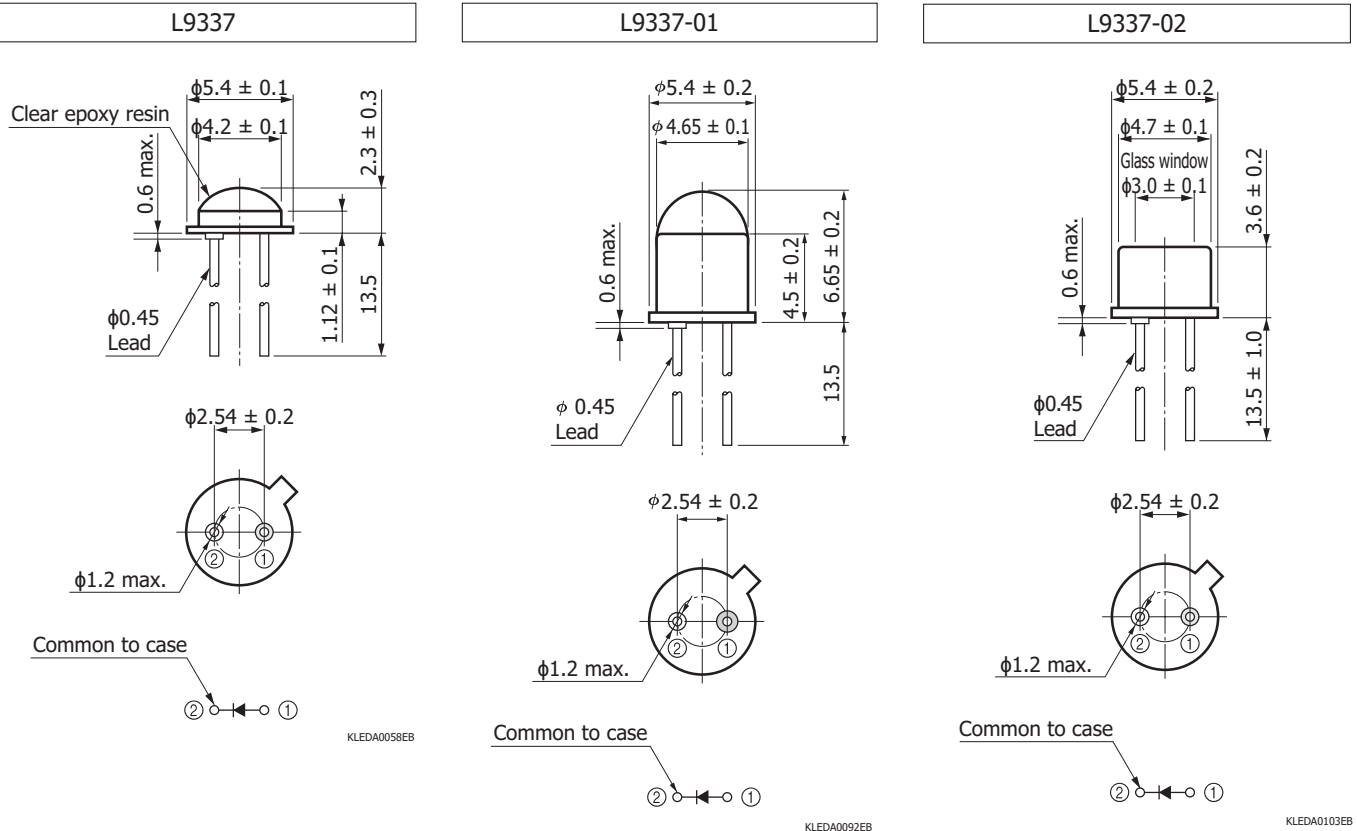
KLED80254EB

❑ Allowable forward current vs. duty ratio



KLED80038EB

Dimensional outlines (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

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.

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