



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	-	T _a > 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	-	T _a > 25 °C	13	mA/°C
Power dissipation	P		150	mW
Operating temperature	T _{opr}		-30 to +85	°C
Storage temperature	T _{stg}		-40 to +100*1	°C

*1: The L9337 is guaranteed to resist temperature cycle test of up to 5 cycles.

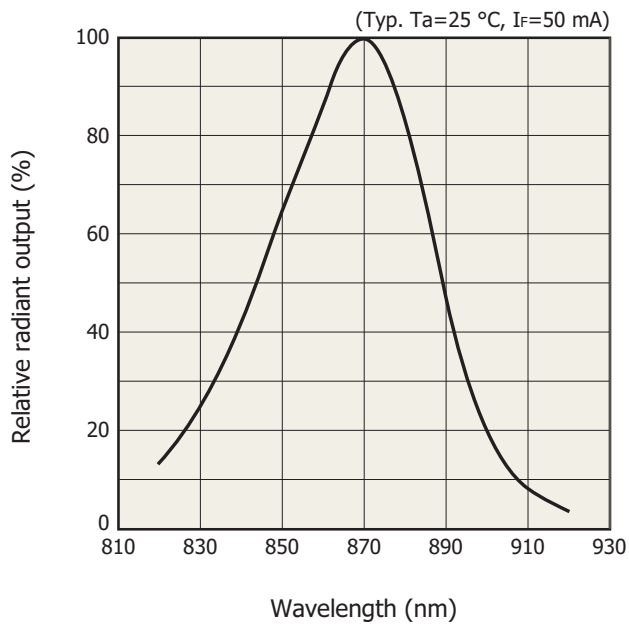
Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

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	λ _p	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	φ _e	I _F =50 mA	18	23	-	10	13	-	7.5	10	-	mW
Cut-off frequency*2	f _c	I _F =50 mA ± 4 mAp-p	25	40	-	25	40	-	25	40	-	MHz

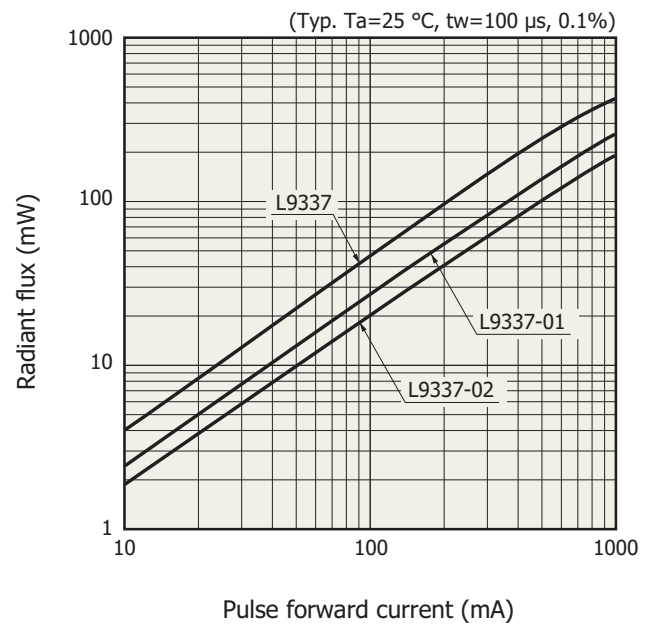
*2: Frequency at which the optical output drops by -3 dB from that at 100 kHz.

Emission spectrum



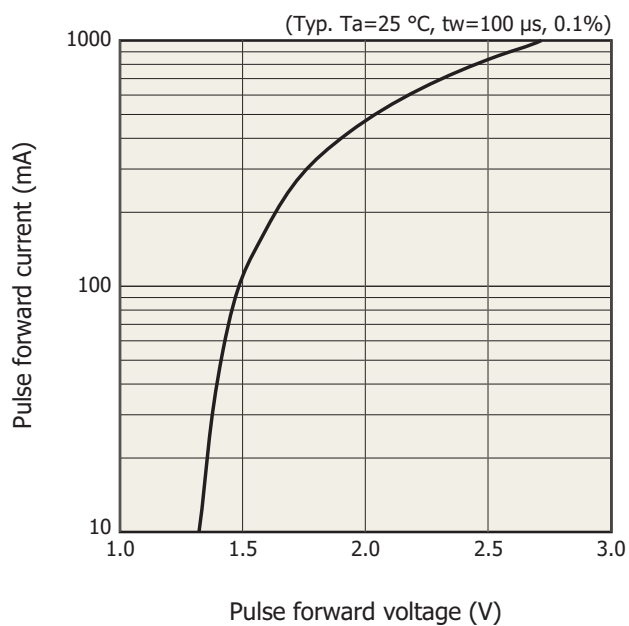
KLEDB0249EA

Radiant flux vs. pulse forward current



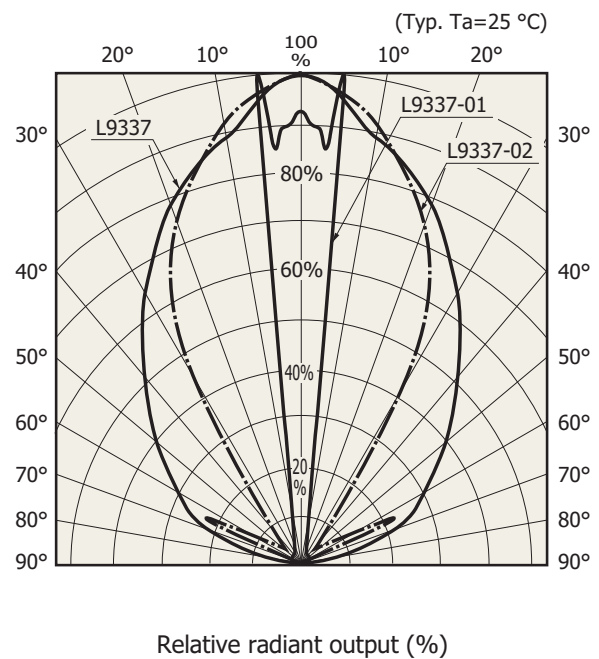
KLEDB0250EC

Pulse forward current vs. pulse forward voltage



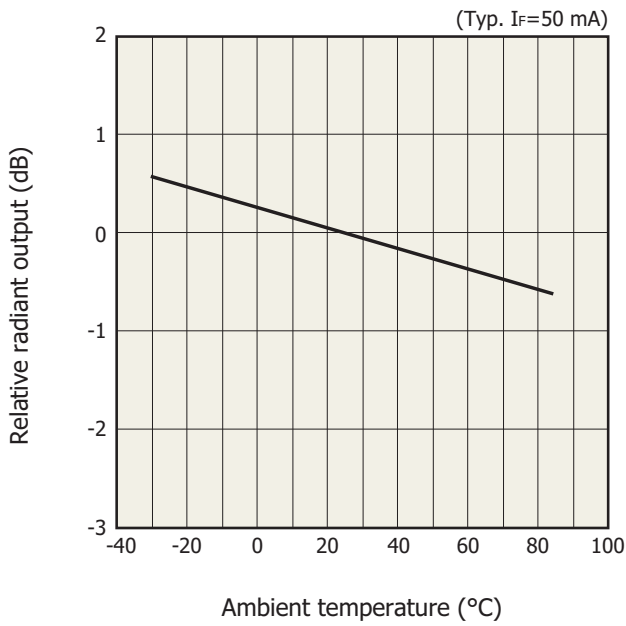
KLEDB0251EC

Directivity



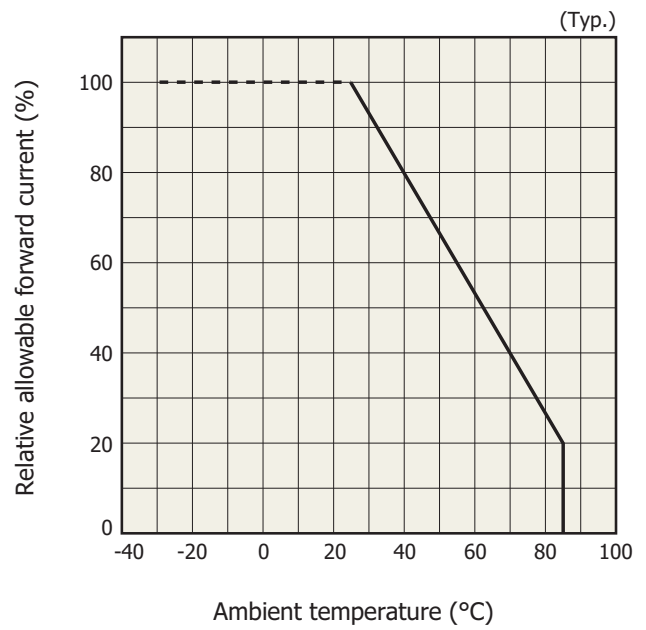
KLEDB0252EB

❑ Radiant output vs. ambient temperature



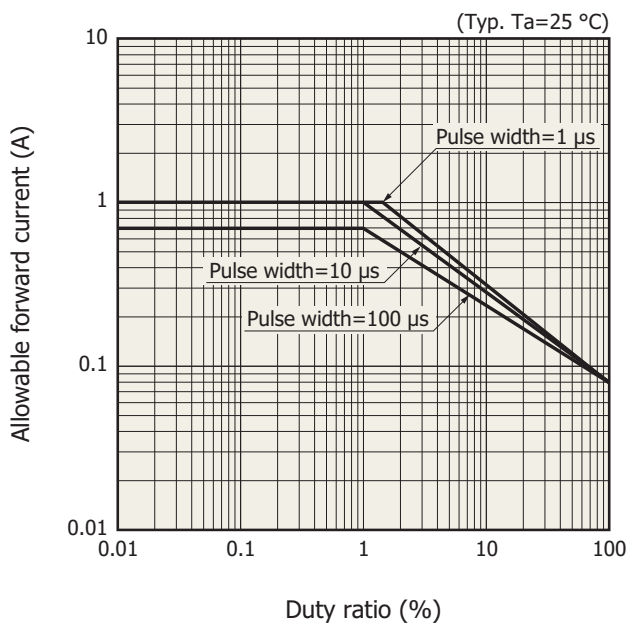
KLED80253EA

❑ Allowable forward current vs. ambient temperature



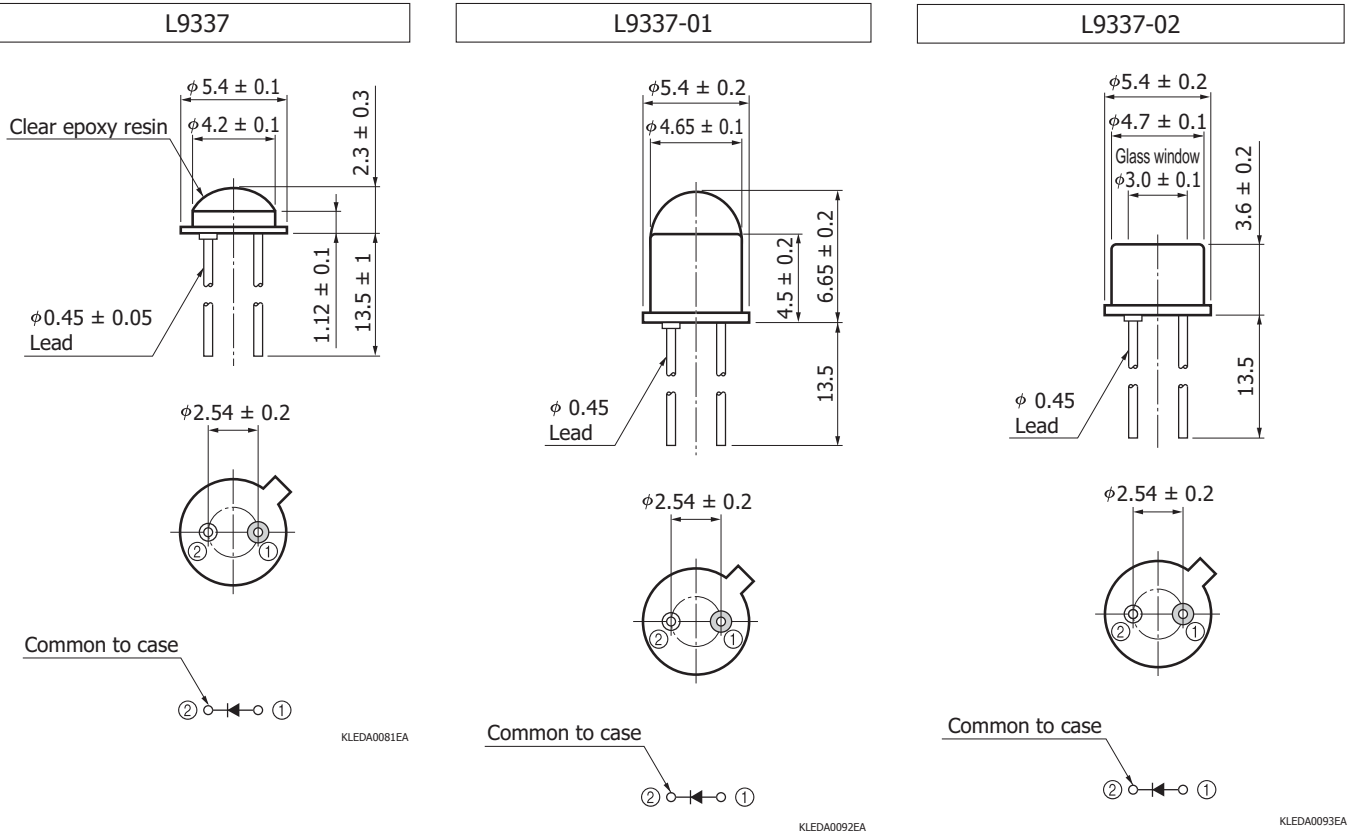
KLED80254EA

❑ Allowable forward current vs. duty ratio



KLED80038EA

Dimensional outlines (unit: mm)



Related information

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

Precautions

- Notice
- Metal, ceramic, plastic package products / Precautions

Technical information

- LED / Technical information

Information described in this material is current as of September, 2013.

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.

Type numbers of products listed in the delivery specification sheets or supplied as samples may have a suffix "(X)" which means preliminary specifications or a suffix "(Z)" which means developmental 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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