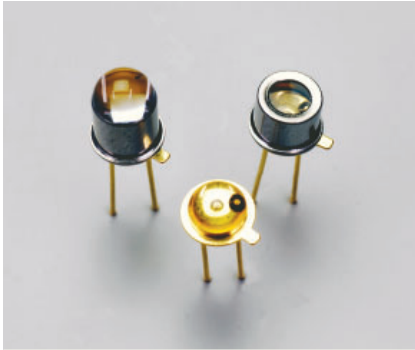




High power LED for optical switches

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, yet 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		-30 to +85	°C
Storage temperature	Tstg		-40 to +100*1	°C

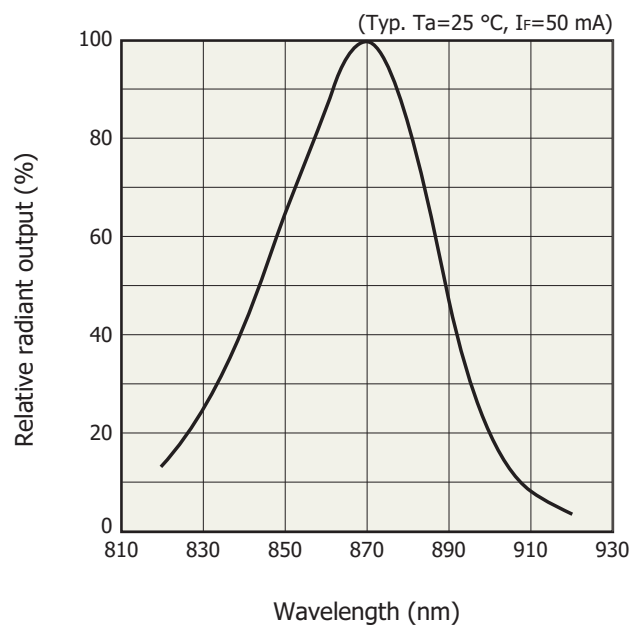
*1: The L9337 is guaranteed to resist temperature cycle test of up to 5 cycles.

Electrical and optical characteristics (Ta=25 °C)

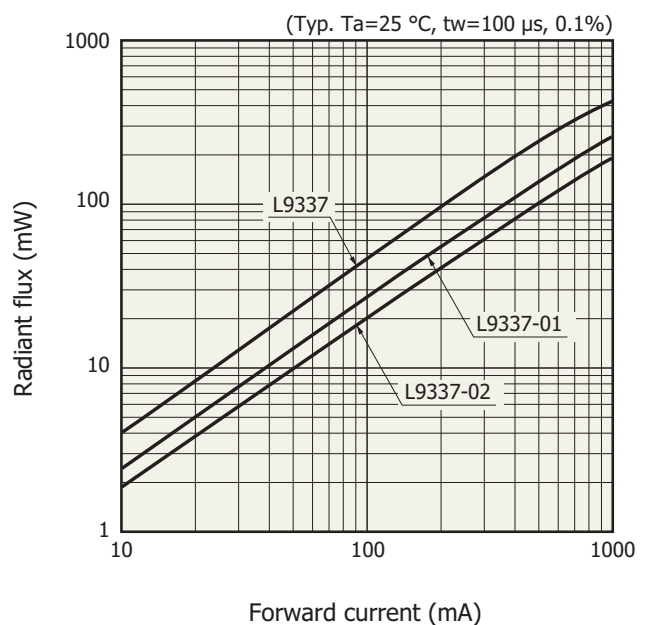
Parameter	Symbol	Condition	L9337			L9337-01			L9337-02			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Peak emission wavelength	λp	IF=50 mA	840	870	900	840	870	900	840	870	900	nm
Spectral half width	Δλ	IF=50 mA	-	45	-	-	45	-	-	45	-	nm
Forward voltage	VF	IF=50 mA	-	1.47	1.55	-	1.47	1.55	-	1.47	1.55	V
Pulse forward voltage	VFP	IF=1 A	-	3.5	4.3	-	3.5	4.3	-	3.5	4.3	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*2	fc	IF=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.

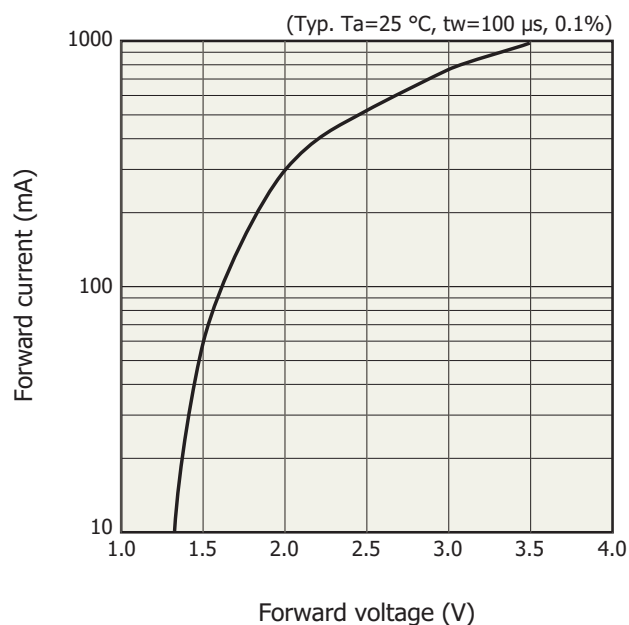
Emission spectrum



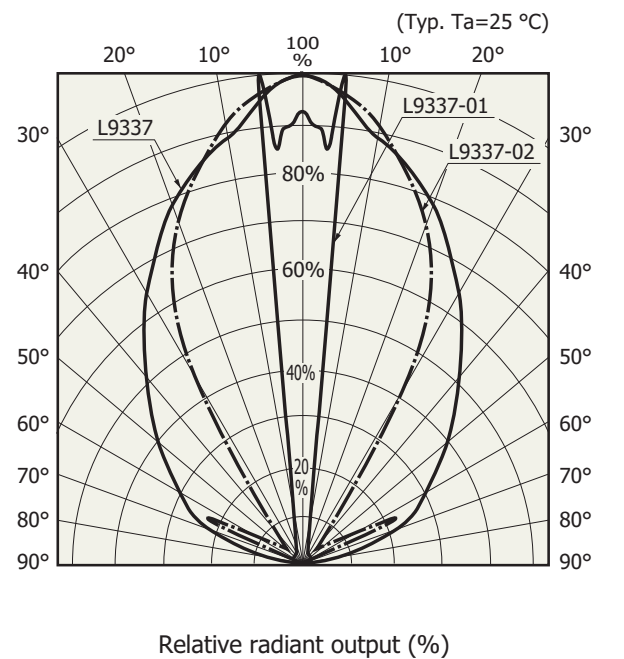
Radiant flux vs. forward current



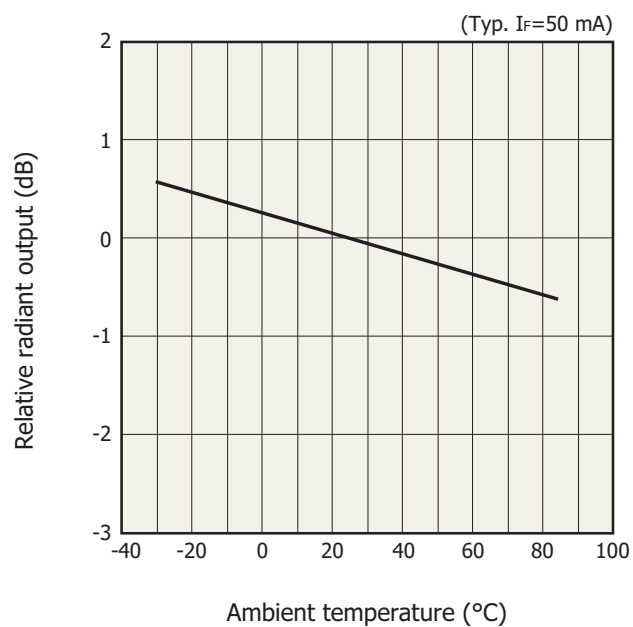
Forward current vs. forward voltage



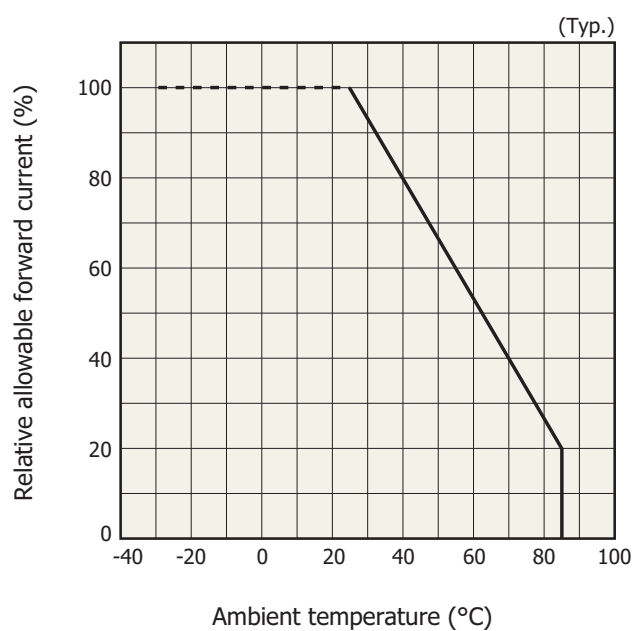
Directivity



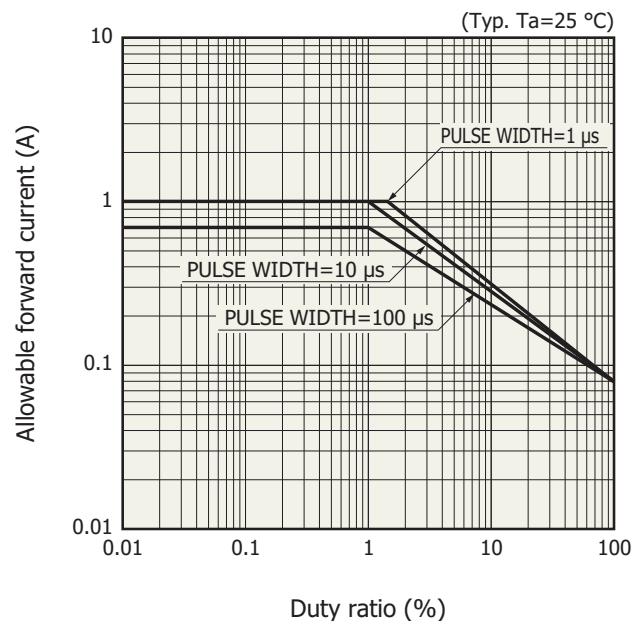
Radiant output vs. ambient temperature



Allowable forward current vs. ambient temperature

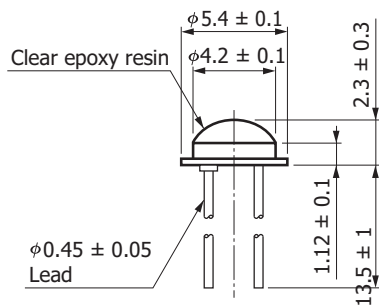
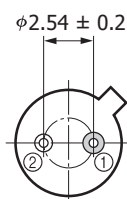


Allowable forward current vs. duty ratio



Dimensional outlines (unit: mm)

L9337

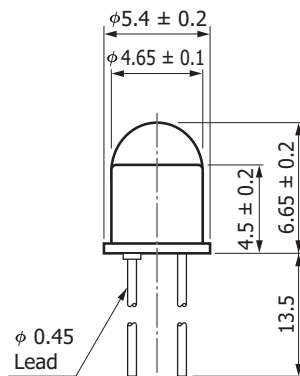
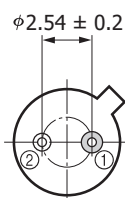


Common to case



KLEDA0081EA

L9337-01

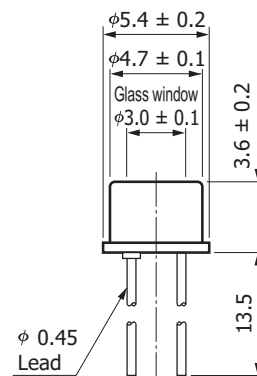
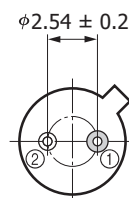


Common to case



KLEDA0092EA

L9337-02



Common to case



KLEDA0093EA

Information furnished by HAMAMATSU is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions.

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Type numbers of products listed in the specification sheets or supplied as samples may have a suffix "(X)" which means tentative specifications or a suffix "(Z)" which means developmental specifications. ©2010 Hamamatsu Photonics K.K.

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