

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, 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

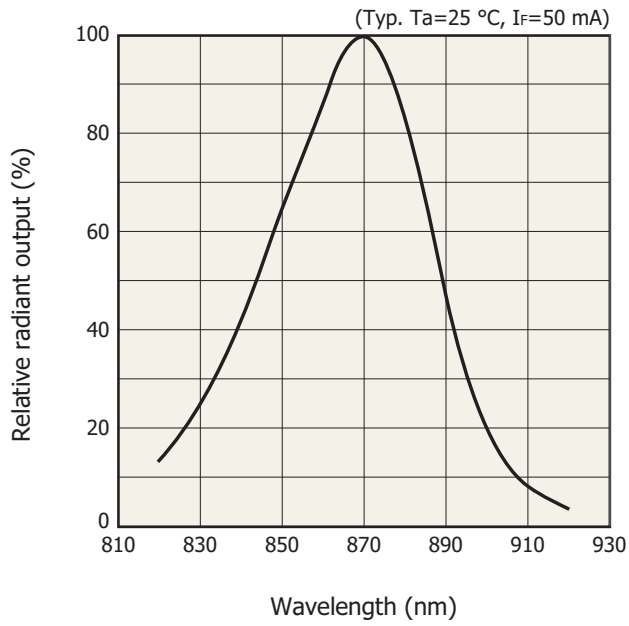
*1: The L9337 is guaranteed to resist temperature cycle test of up to 5 cycles.

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

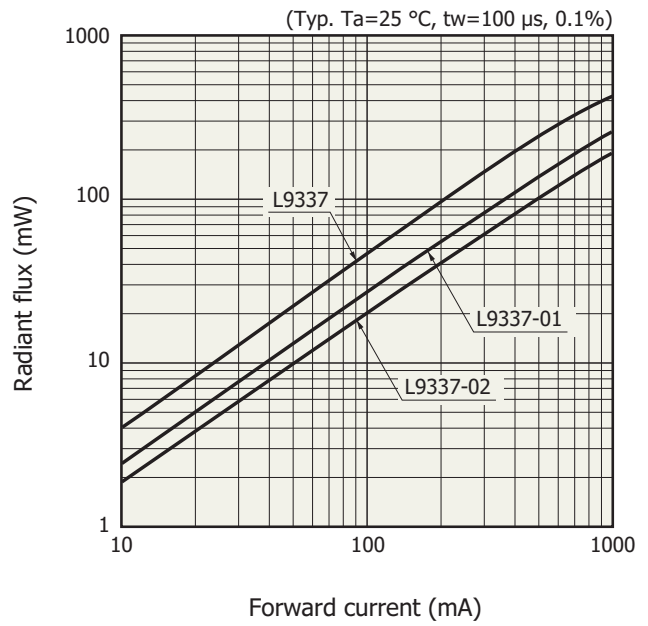
*2: Frequency at which the optical output drops by -3 dB from that at 100 kHz.

Emission spectrum



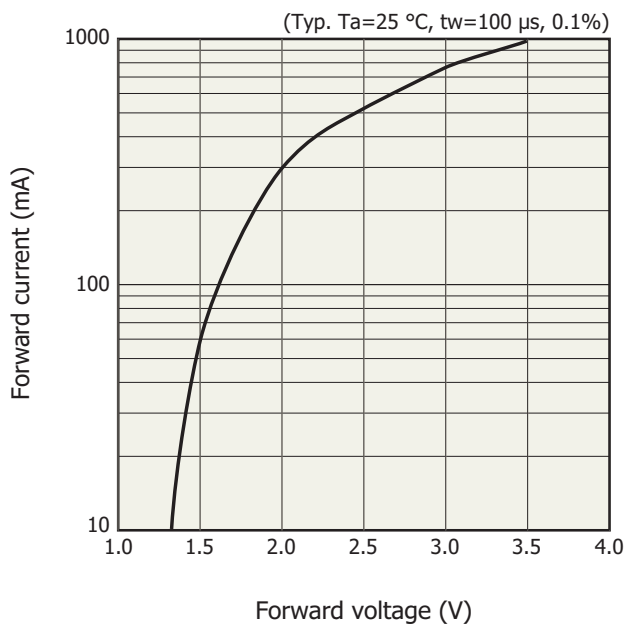
KLED80249EA

Radiant flux vs. forward current



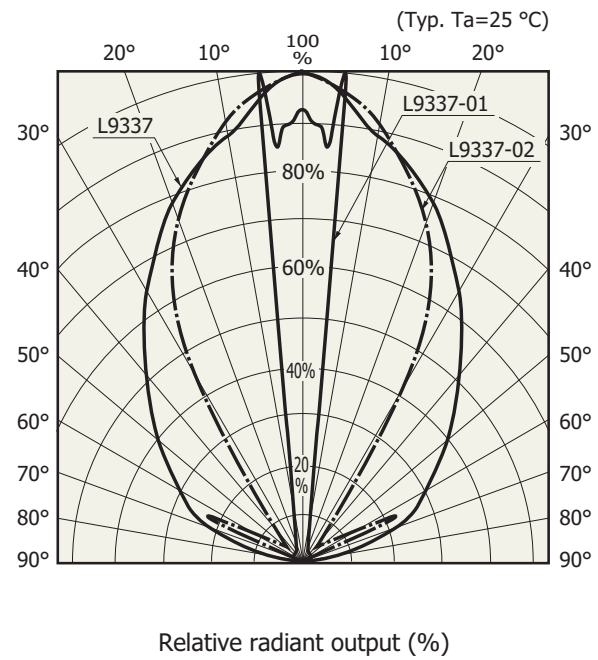
KLED80250EB

Forward current vs. forward voltage



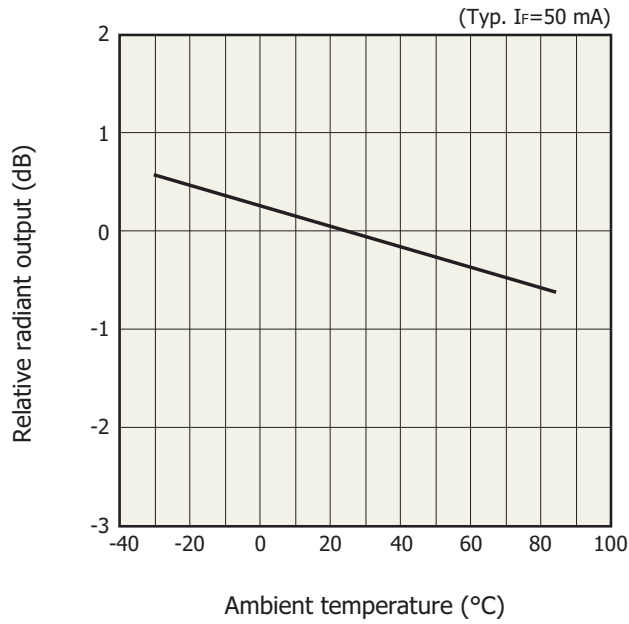
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Directivity

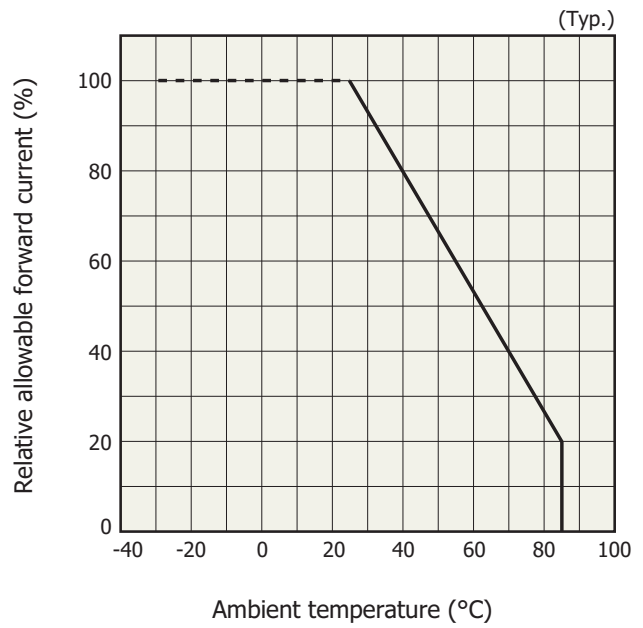


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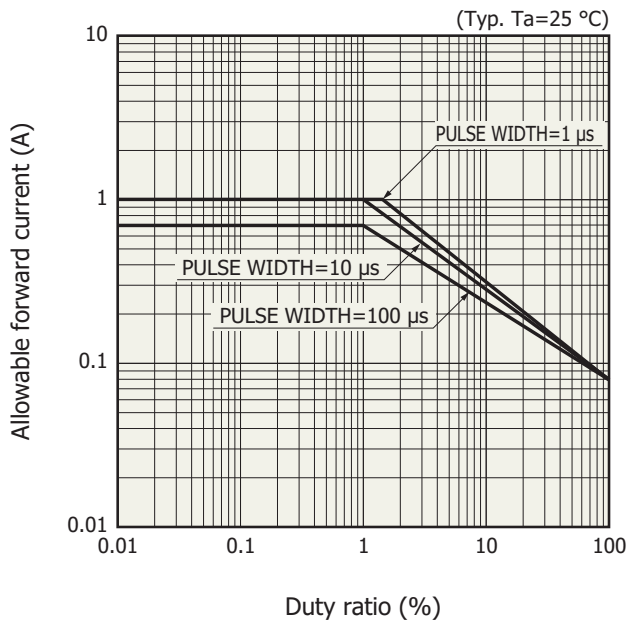
❑ Radiant output vs. ambient temperature



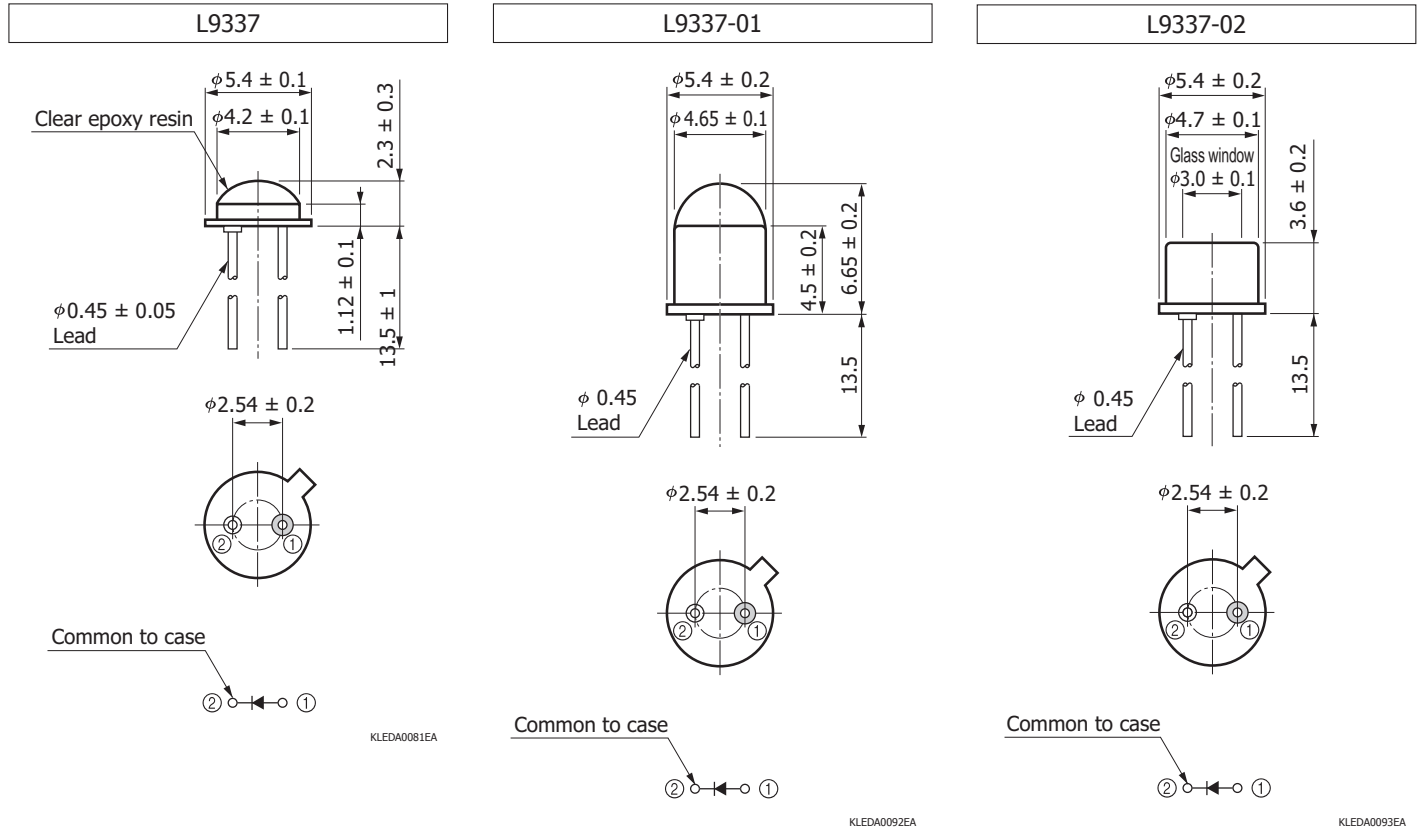
❑ Allowable forward current vs. ambient temperature



❑ Allowable forward current vs. duty ratio



Dimensional outlines (unit: mm)



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HAMAMATSU PHOTONICS K.K., Solid State Division
 1126-1 Ichino-cho, Higashi-ku, Hamamatsu City, 435-8558 Japan, Telephone: (81) 53-434-3311, Fax: (81) 53-434-5184
 U.S.A.: Hamamatsu Corporation: 360 Foothill Road, P.O.Box 6910, Bridgewater, N.J. 08807-0910, U.S.A., Telephone: (1) 908-231-0960, Fax: (1) 908-231-1218
 Germany: Hamamatsu Photonics Deutschland GmbH: Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49) 8152-375-0, Fax: (49) 8152-265-8
 France: Hamamatsu Photonics France S.A.R.L.: 19, Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: 33-(1) 69 53 71 00, Fax: 33-(1) 69 53 71 10
 United Kingdom: Hamamatsu Photonics UK Limited: 2 Howard Court, 10 Tewin Road, Welwyn Garden City, Hertfordshire AL7 1BW, United Kingdom, Telephone: (44) 1707-294888, Fax: (44) 1707-325777
 North Europe: Hamamatsu Photonics Norden AB: Smidesvägen 12, SE-171 41 Solna, Sweden, Telephone: (46) 8-509-031-00, Fax: (46) 8-509-031-01
 Italy: Hamamatsu Photonics Italia S.R.L.: Strada della Moia, 1 int. 6, 20020 Arese, (Milano), Italy, Telephone: (39) 02-935-81-733, Fax: (39) 02-935-81-741