

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

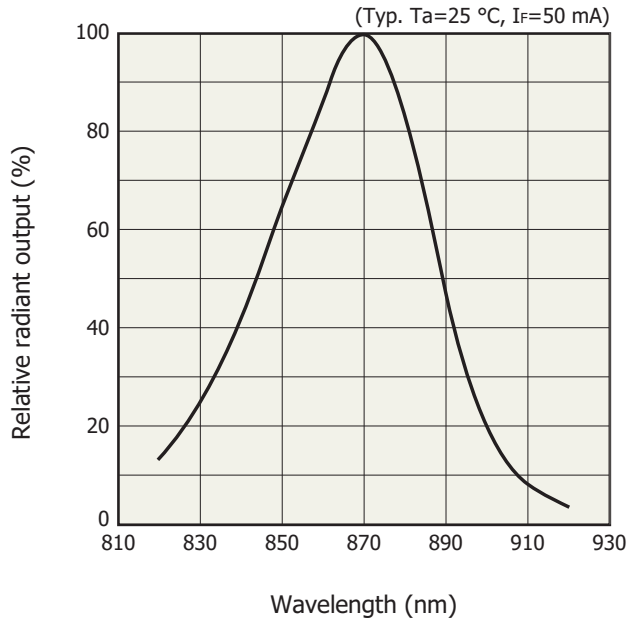
\*1: The L9337 is guaranteed to resist temperature cycle test of up to 5 cycles.

**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

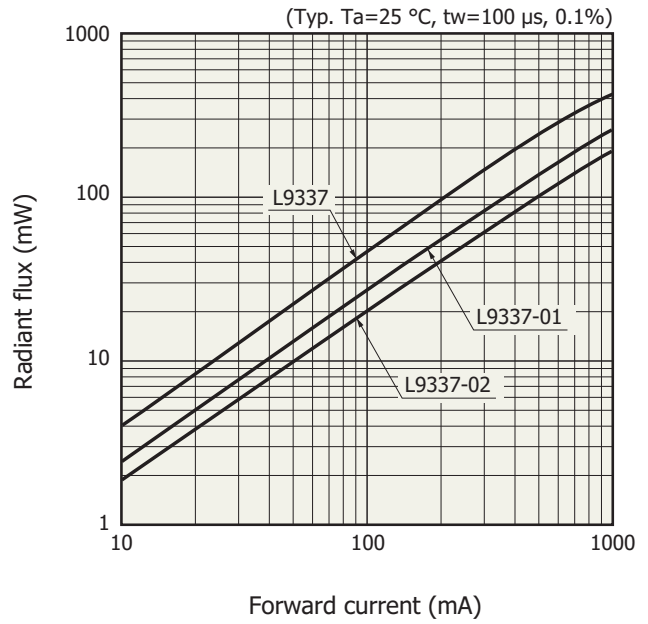
\*2: Frequency at which the optical output drops by -3 dB from that at 100 kHz.

**Emission spectrum**



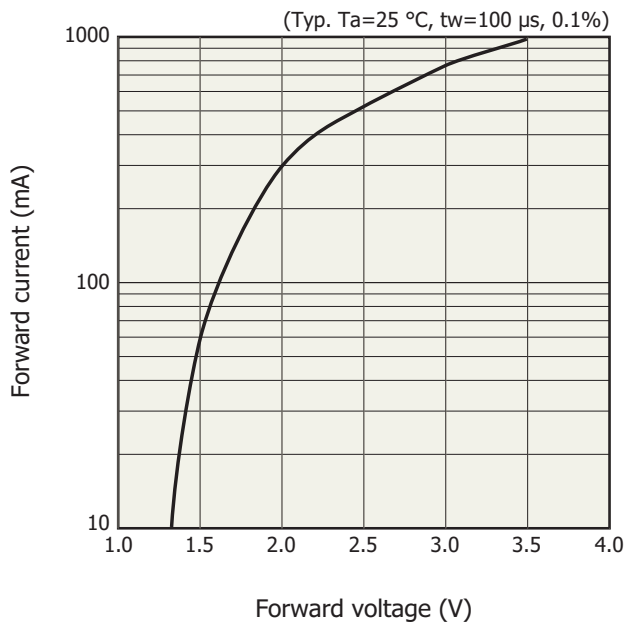
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**Radiant flux vs. forward current**



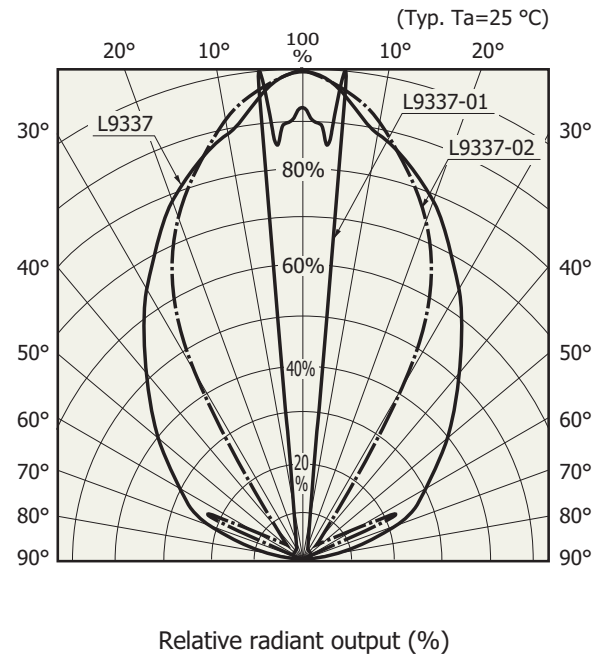
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**Forward current vs. forward voltage**



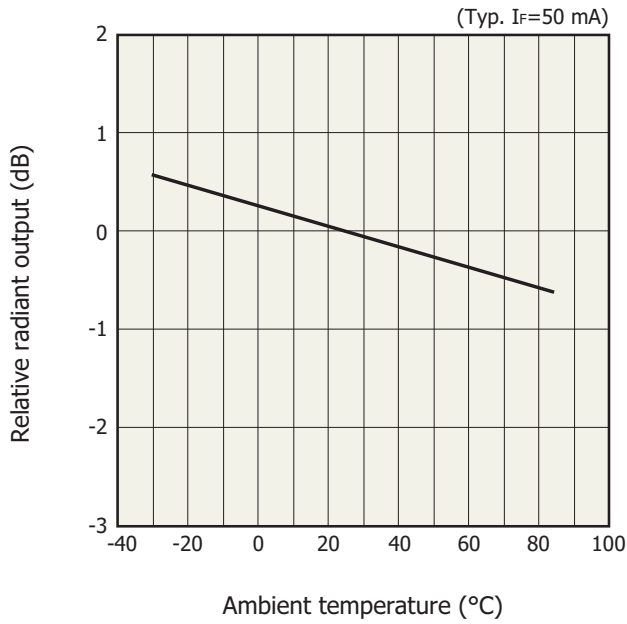
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**Directivity**

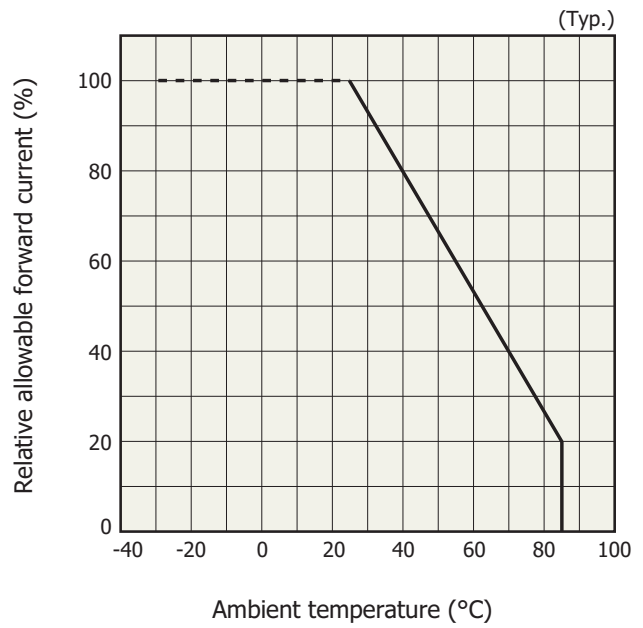


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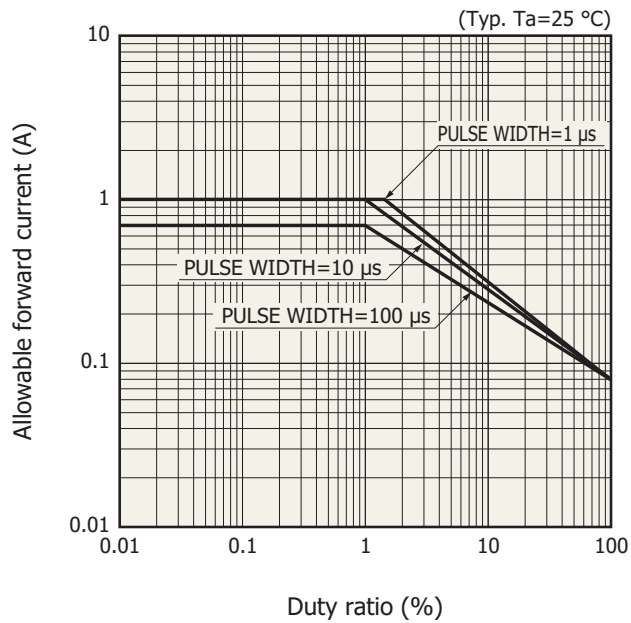
▣ Radiant output vs. ambient temperature



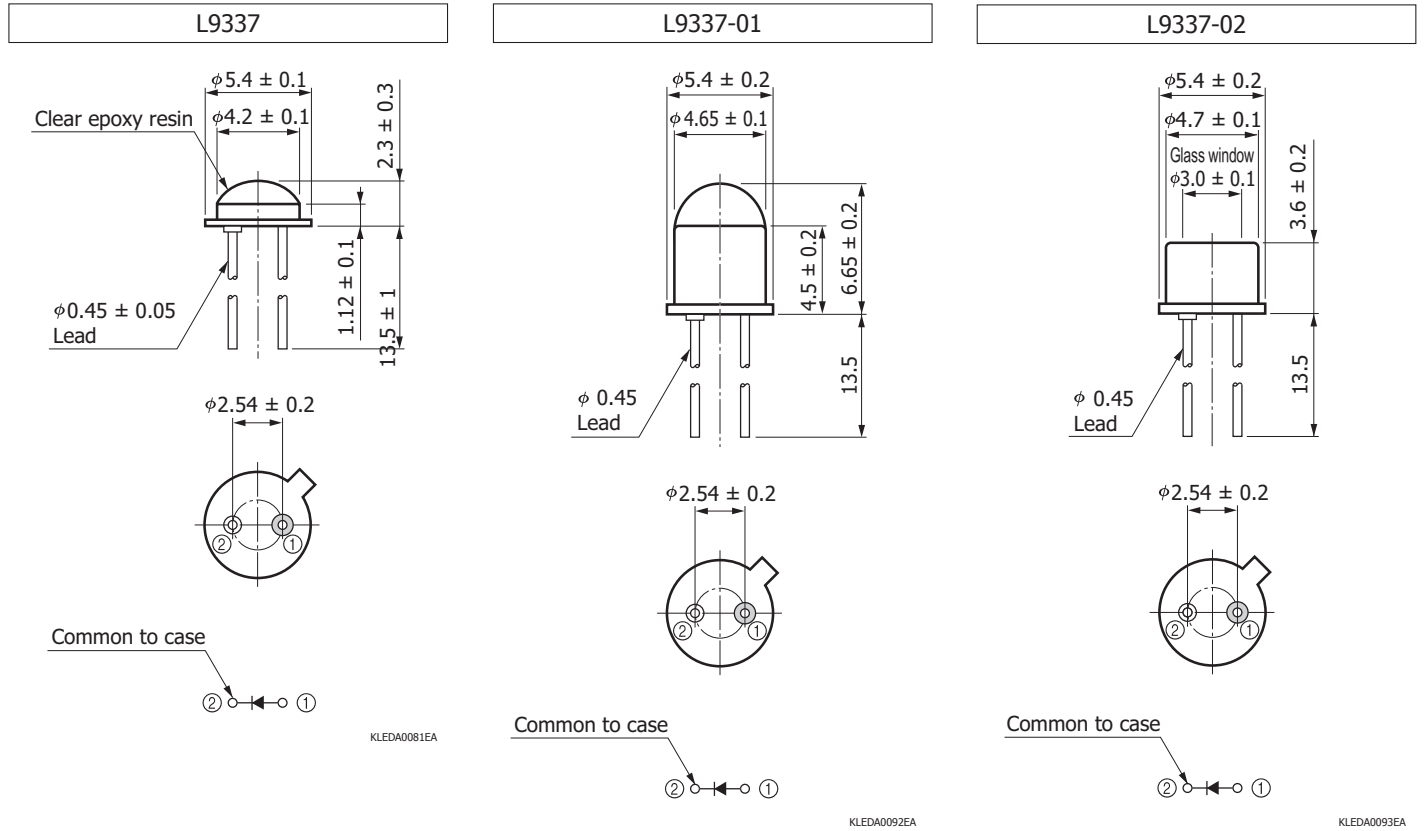
▣ Allowable forward current vs. ambient temperature



▣ Allowable forward current vs. duty ratio



Dimensional outlines (unit: mm)



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