

Infrared LED

L9337

High power LED for optical switches



L9337 is an infrared LED developed for optical switches. Because a high-power LED chip is mounted, L9337 provides higher radiant output power than previous devices, yet is available at a low cost due to the improved manufacturing process. L9337 also achieves a directivity that matches applications using a light-transmitting lens.

Features

- High radiant output power: 1.5 times higher than previous device (L2656)
- High reliability
- Low price

Applications

- Optical switches

■ 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 reduction 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 reduction 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

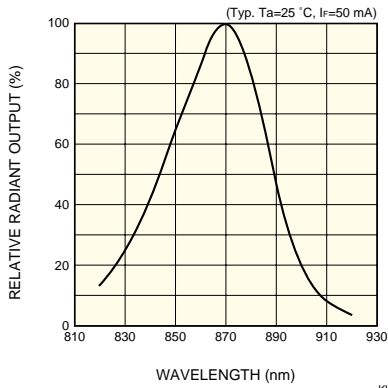
*1: Guaranteed to resist temperature cycle test of up to 5 cycles.

■ Electrical and optical characteristics (Ta=25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak emission wavelength	λp	IF=50 mA	840	870	900	nm
Spectral half width	Δλ	IF=50 mA	-	45	-	nm
Forward voltage	VF	IF=50 mA	-	1.47	1.55	V
Pulse forward voltage	VFP	IF=1 A	-	3.5	4.3	V
Reverse current	IR	VR=5 V	-	-	5	μA
Radiant flux	φe	IF=50 mA	18	23	-	mW
Cut-off frequency *2	fc	IF=50 mA ± 4 mAp-p	25	40	-	MHz

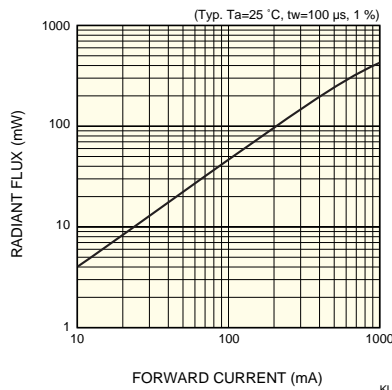
*2: Frequency at which the optical output drops by -3 dB from that at 100 kHz.

Emission spectrum



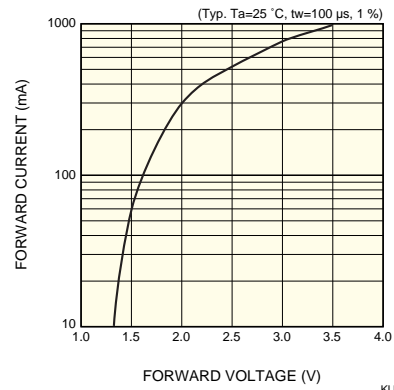
KLEDB0249EA

Radiant flux vs. forward current



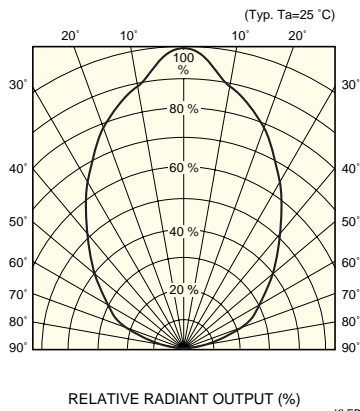
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Forward current vs. forward voltage



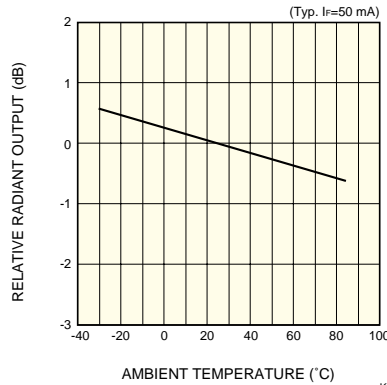
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Directivity



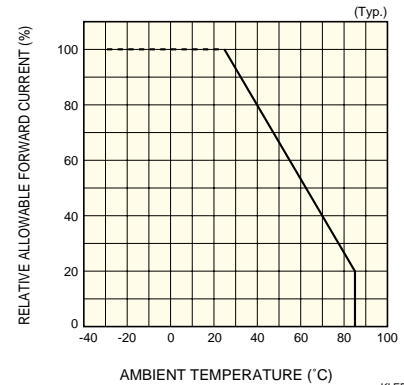
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Radiant output vs. ambient temperature



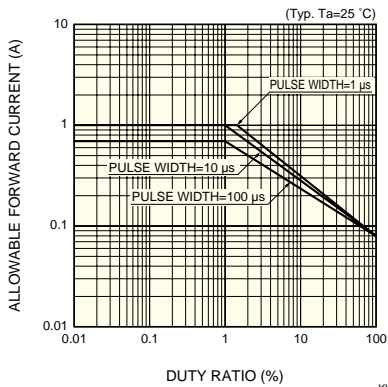
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Allowable forward current vs. ambient temperature



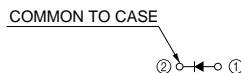
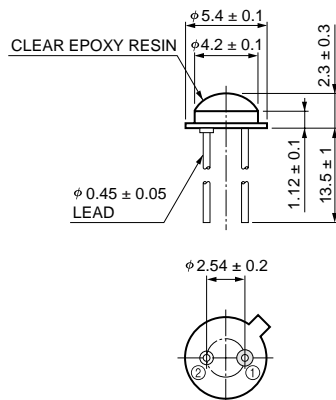
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Allowable forward current vs. duty ratio



KLEDB0038EA

Dimensional outline (unit: mm)



KLEDA0081EA

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