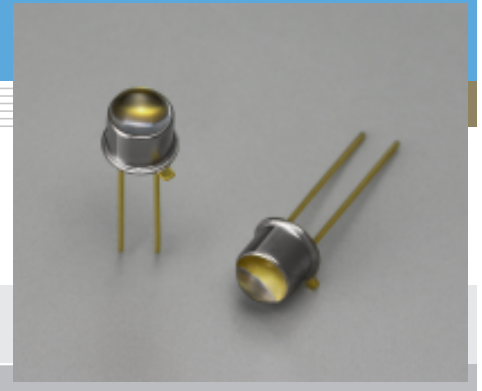


Infrared LED

L8957

Low cost LED ideal for optical encoders



L8957 is an infrared LED using a low-cost lens and available at a lower price than other products up to now.

Features

- Low price
- Uses low cost lens

Applications

- Optical encoders
- Optical switches

■ Absolute maximum ratings (Ta=25 °C, unless otherwise noted)

Parameter	Symbol	Value	Unit
Reverse voltage	V _R	5	V
Forward current	I _F	80	mA
Forward current reduction rate	-	0.67	mA/°C
Pulse forward current	I _{FP}	0.5	A
Pulse forward current reduction rate	-	7	mA/°C
Power dissipation	P	150	mW
Operating temperature	T _{opr}	-30 to +85	°C
Storage temperature	T _{stg}	-40 to +100	°C

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

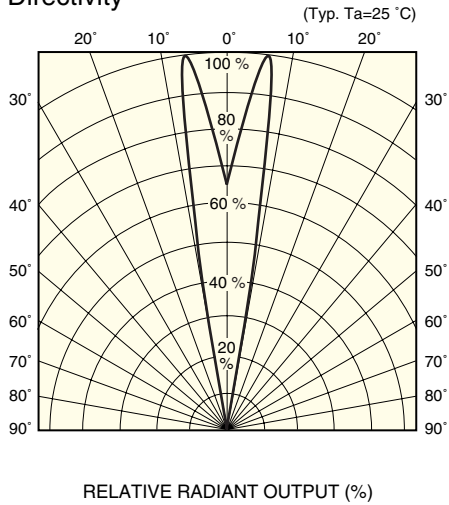
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak emission wavelength	λ _p	I _F =50 mA	840	870	900	nm
Spectral half width	Δλ	I _F =50 mA	-	45	-	nm
Radiant flux	φ _e	I _F =50 mA	3.4	5.8	-	mW
Forward voltage	V _F	I _F =50 mA	-	1.6	1.75	V
Reverse current	I _R	V _R =5 V	-	-	5	μA
Spot light size *1	B _w	I _F =30 mA	4.5	5.0	-	mm
Optical output *2	P _e	I _F =30 mA	1.0	2.0	-	mW
Cut-off frequency *3	f _c	I _F =30 mA ± 4 mAp-p	25	40	-	MHz

*1: Full width at half maximum, measurement distance (from the image sensor to the bottom surface of L8957's base)=10 mm

*2: Measurement distance [from the photodiode (active area: φ8 mm) to the bottom surface of L8957's base]=10 mm

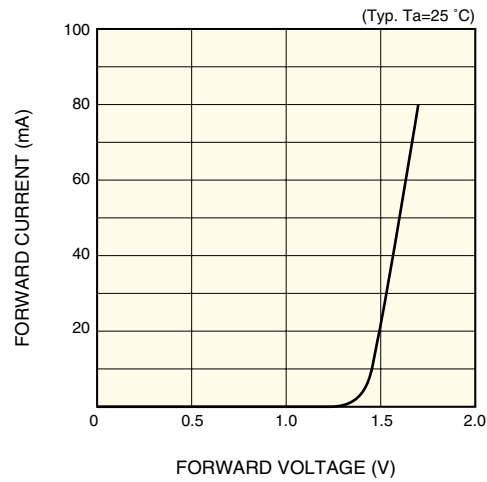
*3: Frequency at which the optical output drops by -3 dB from that at 100 kHz.

Directivity



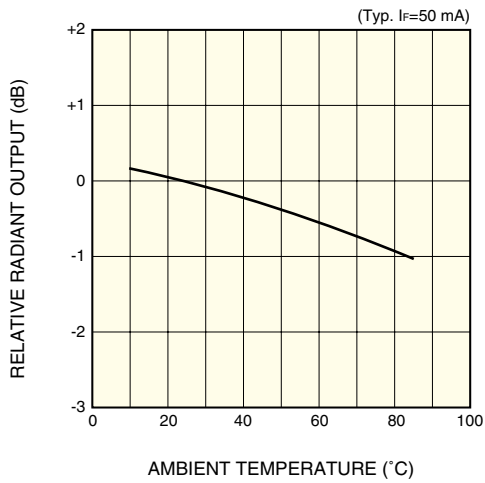
KLEDB0247EA

Forward current vs. forward voltage



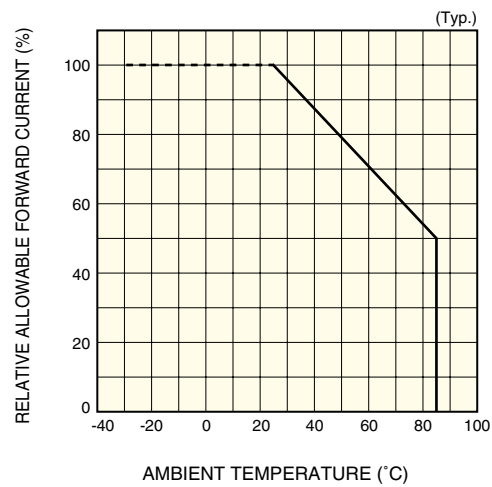
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Radiant output vs. ambient temperature



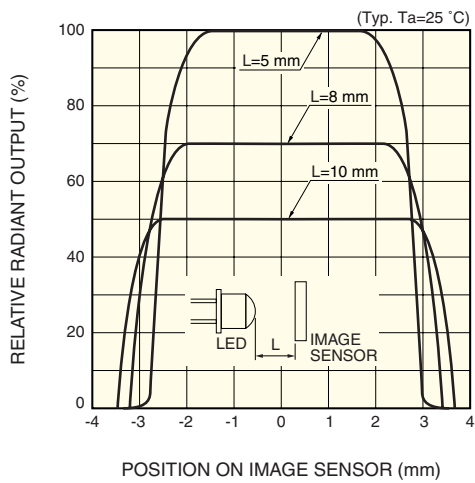
KLEDB0228EA

Allowable forward current vs. ambient temperature



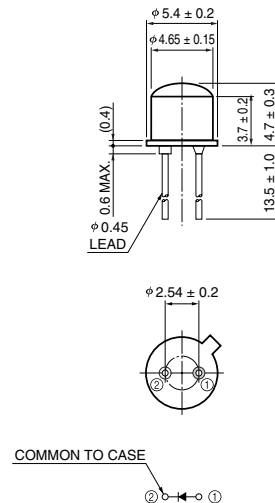
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Light intensity distribution



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Dimensional outline (unit: mm)



KLEDA0077EA

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