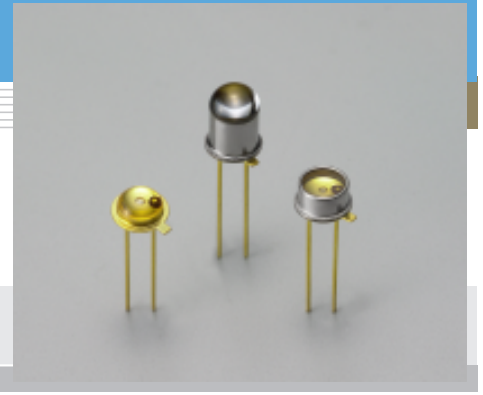


Infrared LED

L3989 series

High power infrared LED



Features

- High reliability
- High radiant output power
- High-speed response

Applications

- Optical fiber communication
- Spatial light transmission
- Optical switch

■ Absolute maximum ratings (Ta=25 °C)

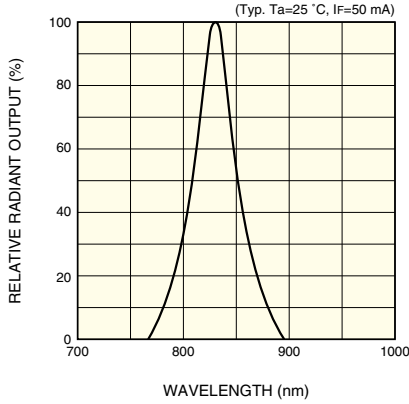
Parameter	Symbol	Condition	Value	Unit
Forward current	IF		80	mA
Reverse voltage	VR		3	V
Pulse forward current	IFP	Pulse width=10 μs Duty ratio=1 %	0.8	A
Operating temperature	Topr		-30 to +85	°C
Storage temperature	Tstg		-40 to +100 *	°C

* L3989 is guaranteed to resist temperature cycle test of up to 5 cycles.

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

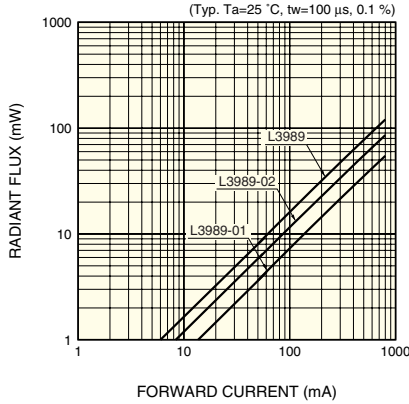
Parameter	Symbol	Condition	L3989			L3989-01			L3989-02			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Peak emission wavelength	λ_p	IF=50 mA	800	830	860	800	830	860	800	830	860	nm
Spectral half width	$\Delta\lambda$	IF=50 mA	-	40	-	-	40	-	-	40	-	nm
Forward voltage	VF	IF=50 mA	-	1.45	1.60	-	1.45	1.60	-	1.45	1.60	V
Pulse forward voltage	VFP	IF=0.8 A	-	2.3	2.9	-	2.3	2.9	-	2.3	2.9	V
Reverse current	IR	VR=3 V	-	-	10	-	-	10	-	-	10	μA
Radiant flux	ϕ_e	IF=50 mA	6.0	8.0	-	2.5	3.6	-	4.0	5.8	-	mW
Radiant illuminance	PE	IF=50 mA	-	0.9	-	-	2.2	-	-	0.9	-	mW/cm ²
Cut-off frequency	fc	IF=50 mA + 1 mAp-p	15	30	-	15	30	-	15	30	-	MHz

Emission spectrum



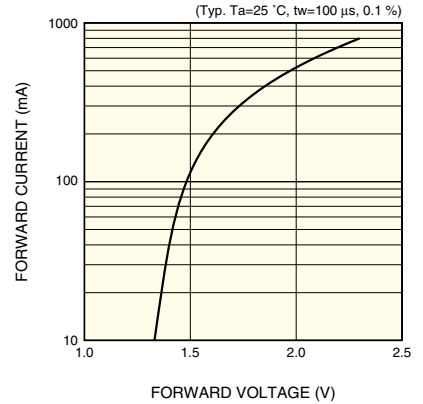
KLEDB0212EA

Radiant flux vs. forward current



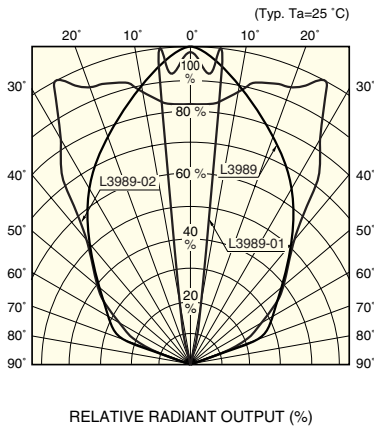
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Forward current vs. forward voltage



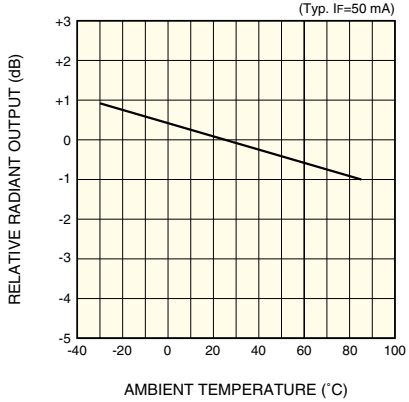
KLEDB0214EA

Directivity



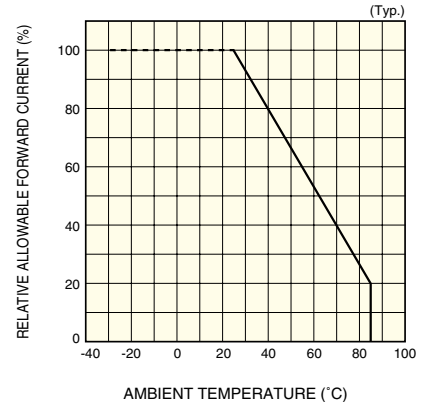
KLEDB0215EA

Radiant output vs. ambient temperature



KLEDB0216EA

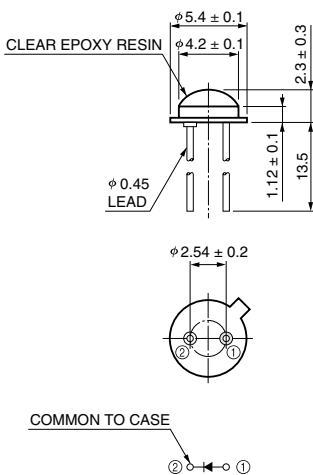
Allowable forward current vs. ambient temperature



KLEDB0217EB

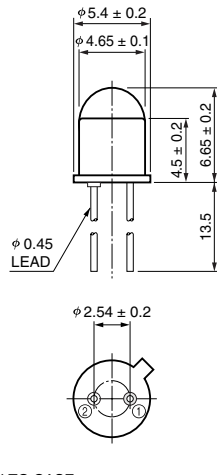
Dimensional outlines (unit: mm)

① L3989



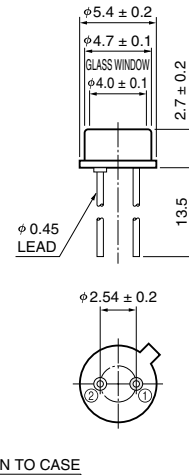
KLEDA0067EA

② L3989-01



KLEDA0064EB

③ L3989-02



KLEDA0068EA

HAMAMATSU

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