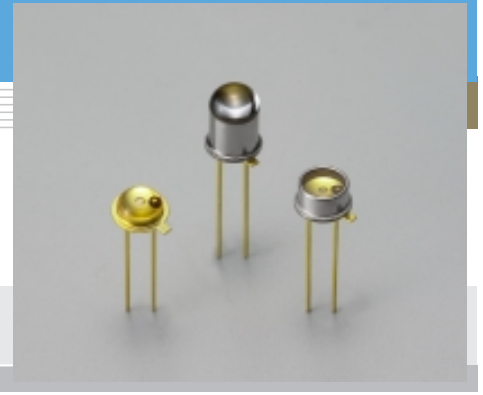


Infrared LED

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)

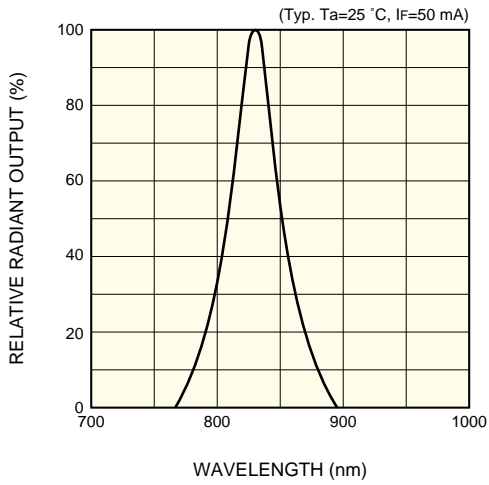
Parameter	Symbol	Condition	Value	Unit
Forward current	IF		80	mA
Reverse voltage	VR		3	V
Pulse forward current	IFP	Pulse width=10 μs Duty ratio=1 %	0.8	A
Operating temperature	Topr		-30 to +85	°C
Storage temperature	Tstg		-40 to +100 *	°C

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

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

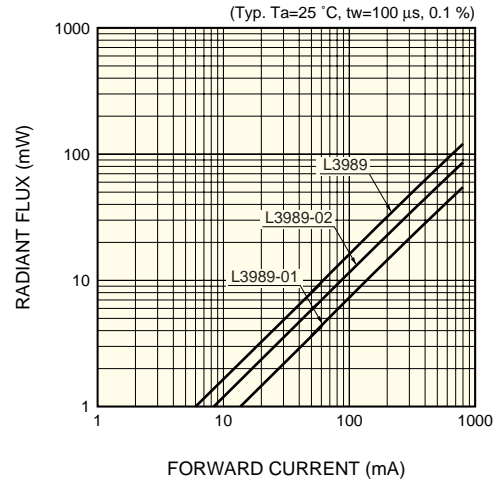
Parameter	Symbol	Condition	L3989			L3989-01			L3989-02			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Peak emission wavelength	λ_p	IF=50 mA	800	830	860	800	830	860	800	830	860	nm
Spectral half width	$\Delta\lambda$	IF=50 mA	-	40	-	-	40	-	-	40	-	nm
Forward voltage	VF	IF=50 mA	-	1.45	1.60	-	1.45	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



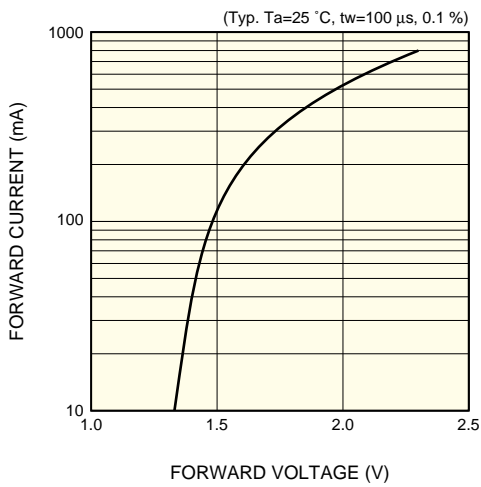
KLEDB0212EA

Radiant flux vs. forward current



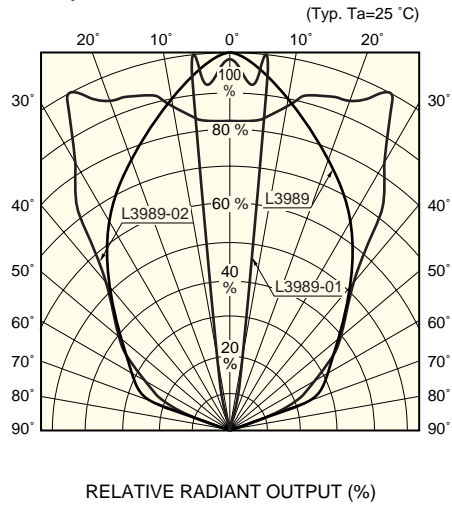
KLEDB0213EA

Forward current vs. forward voltage



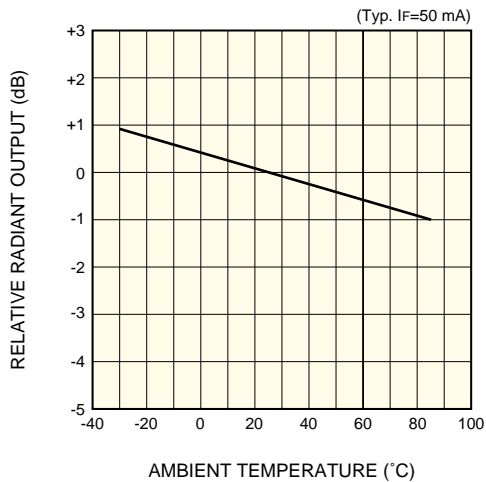
KLEDB0214EA

Directivity



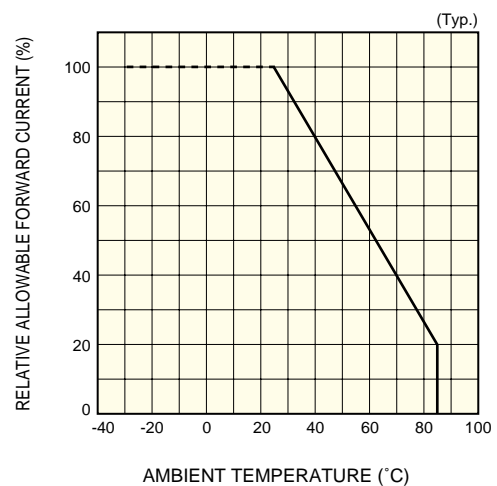
KLEDB0215EA

Radiant output vs. ambient temperature



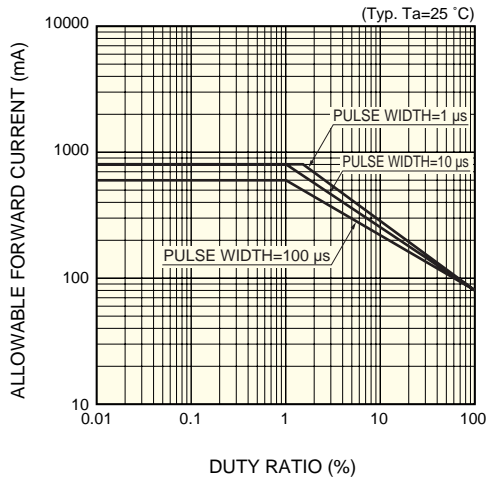
KLEDB0216EA

Allowable forward current vs. ambient temperature



KLEDB0027EB

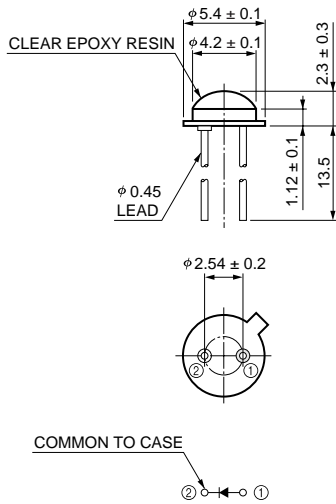
■ Allowable forward current vs. duty ratio



KLEDB0289EA

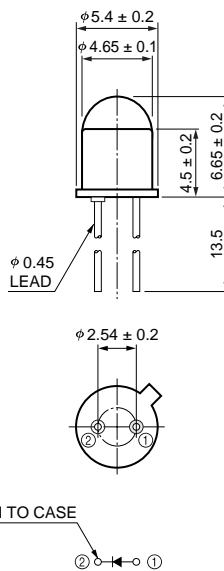
■ Dimensional outlines (unit: mm)

① L3989



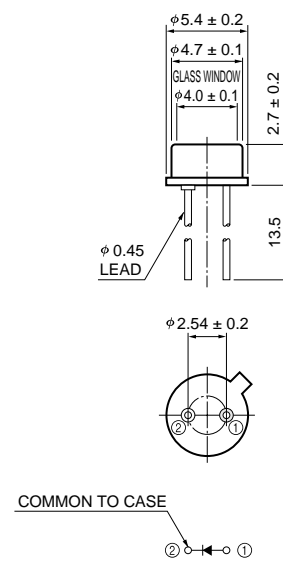
KLEDA0067EA

② L3989-01



KLEDA0064EB

③ L3989-02



KLEDA0068EA

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