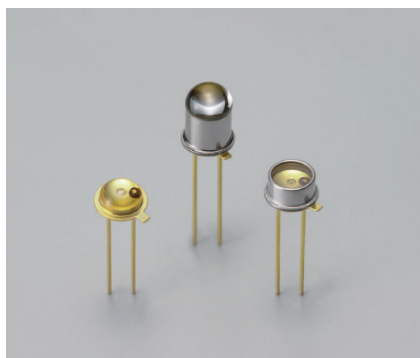


L3989 series



High power infrared LED

Features

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

Applications

- Optical fiber communication
- Optical switches

Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	Condition	Value	Unit
Forward current	I _F		80	mA
Reverse voltage	V _R		3	V
Pulse forward current	I _{FP}	Pulse width=10 μs Duty ratio=1%	0.8	A
Operating temperature	T _{opr}		-30 to +85	°C
Storage temperature	T _{stg}		-40 to +100*	°C

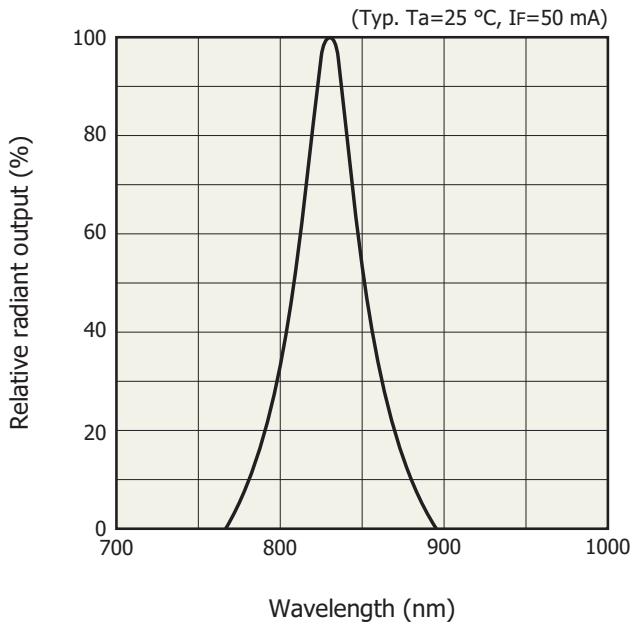
* The L3989 is guaranteed to resist temperature cycle test of up to 5 cycles.

Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

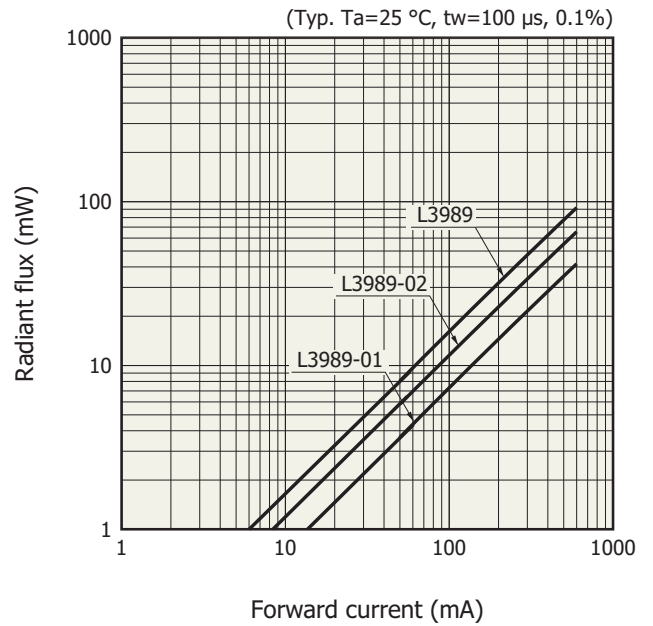
Electrical and optical characteristics (Ta=25 °C)

Parameter	Symbol	Condition	L3989			L3989-01			L3989-02			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Peak emission wavelength	λ _p	I _F =50 mA	800	830	860	800	830	860	800	830	860	nm
Spectral half width	Δλ	I _F =50 mA	-	40	-	-	40	-	-	40	-	nm
Forward voltage	V _F	I _F =50 mA	-	1.45	1.60	-	1.45	1.60	-	1.45	1.60	V
Pulse forward voltage	V _{FP}	I _F =0.8 A	-	2.3	2.9	-	2.3	2.9	-	2.3	2.9	V
Reverse current	I _R	V _R =3 V	-	-	10	-	-	10	-	-	10	μA
Radiant flux	φ _e	I _F =50 mA	6.0	8.0	-	2.5	3.6	-	4.0	5.8	-	mW
Radiant illuminance	P _E	I _F =50 mA	-	0.9	-	-	2.2	-	-	0.9	-	mW/cm ²
Cutoff frequency	f _c	I _F =50 mA + 1 mAp-p	15	30	-	15	30	-	15	30	-	MHz

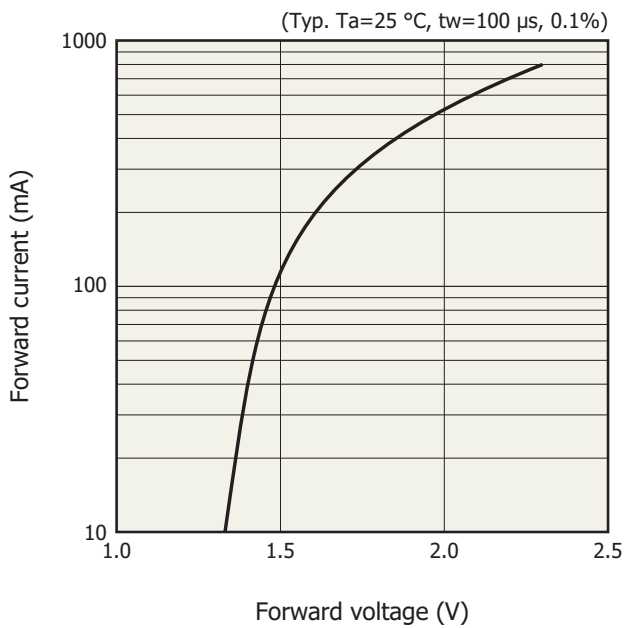
Emission spectrum



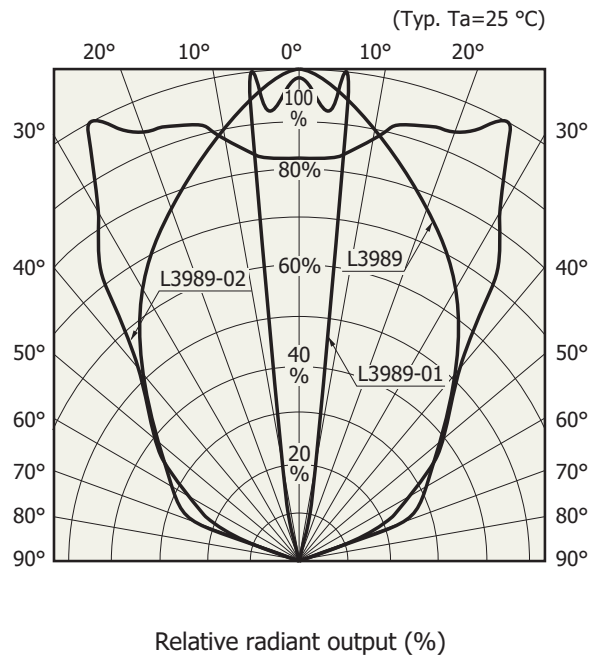
Radiant flux vs. forward current



Forward current vs. forward voltage

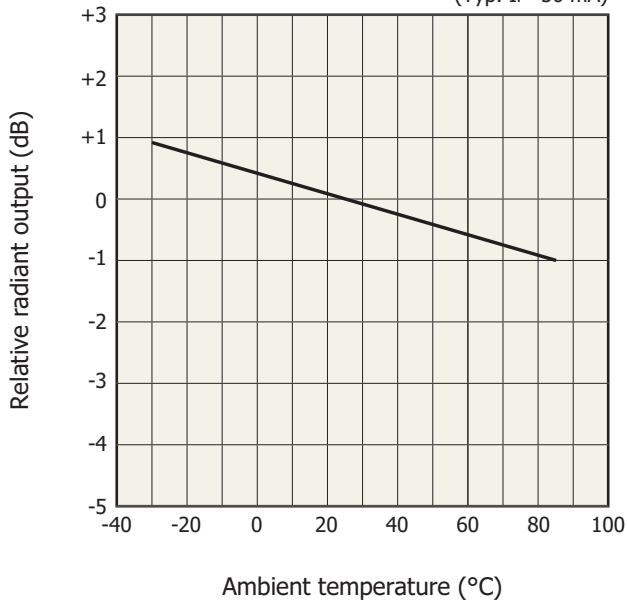


Directivity



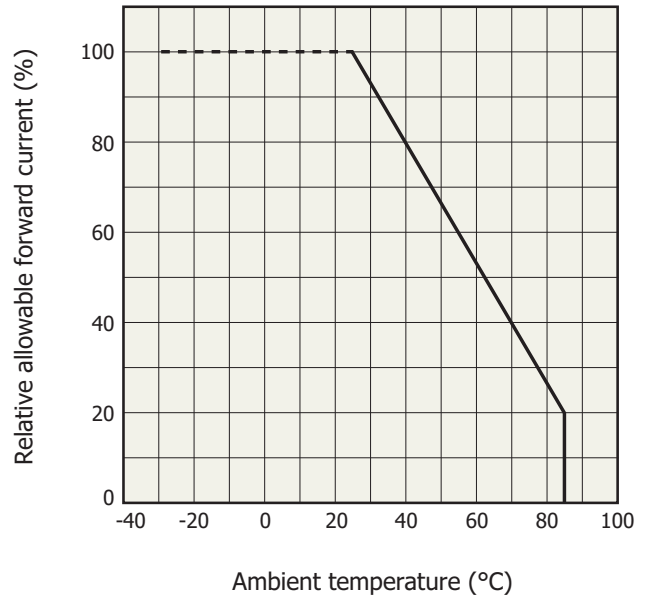
Radiant output vs. ambient temperature

(Typ. $I_F=50\text{ mA}$)



KLEDB0216EA

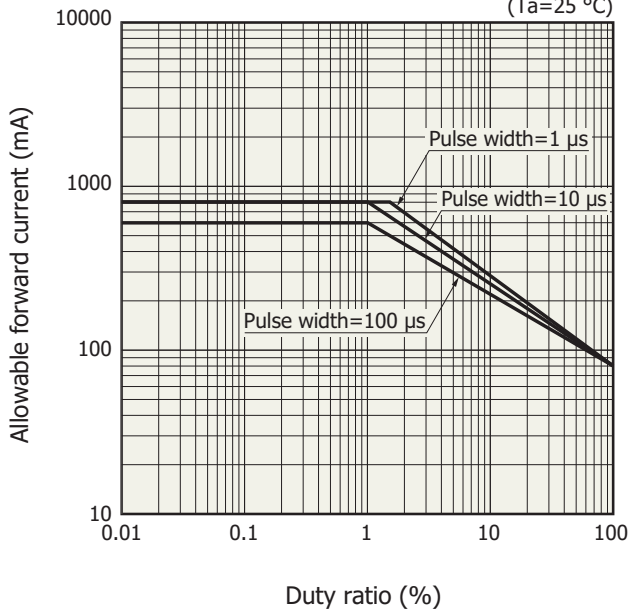
Allowable forward current vs. ambient temperature



KLEDB0027EC

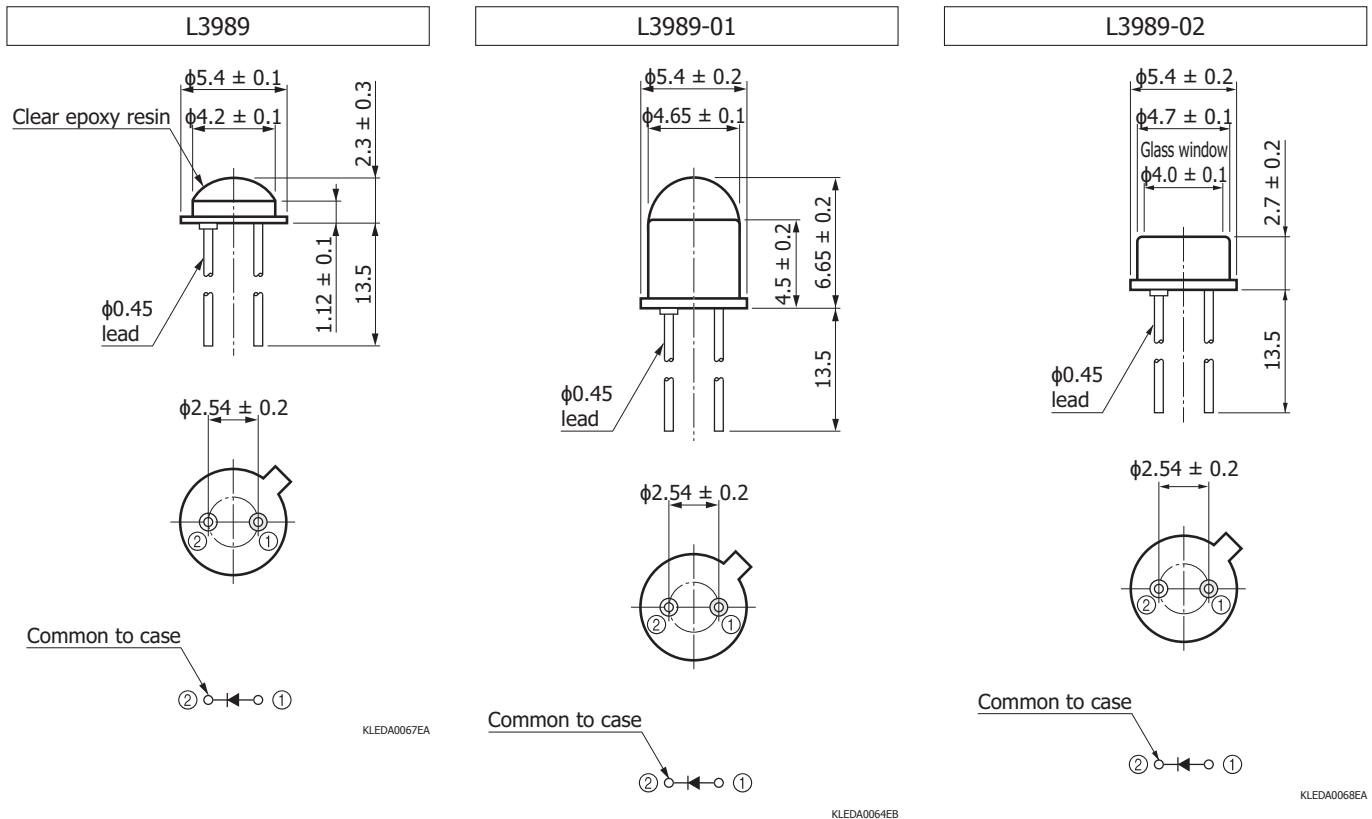
Allowable forward current vs. duty ratio

($T_a=25\text{ °C}$)



KLEDB0289EB

Dimensional outlines (unit: mm)



Related information

www.hamamatsu.com/sp/ssd/doc_en.html

Precautions

- Disclaimer
- Metal, ceramic, plastic products

Information described in this material is current as of November, 2015.

Product specifications are subject to change without prior notice due to improvements or other reasons. This document has been carefully prepared and the information contained is believed to be accurate. In rare cases, however, there may be inaccuracies such as text errors. Before using these products, always contact us for the delivery specification sheet to check the latest specifications.

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