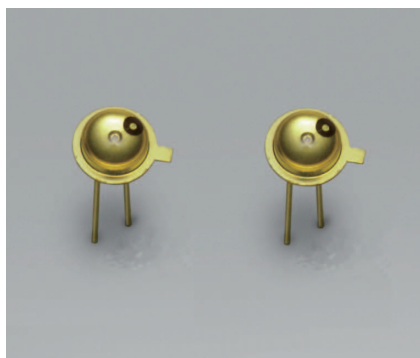




Infrared LED

L1909

TO-46 type GaAlAs infrared LED

Features

- High radiant output power
- Direct modulation possible
- High reliability and long life

Applications

- Automatic control systems
- Optical switches
- Mark sensors
- Optical remote control

Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	Condition	Value	Unit
Forward current	IF		80	mA
Reverse voltage	VR		5	V
Pulse forward current	IFP	Pulse width=10 μs Duty ratio=1%	1.0	A
Operating temperature	Topr		-30 to +85	°C
Storage temperature	Tstg		-40 to +100*	°C

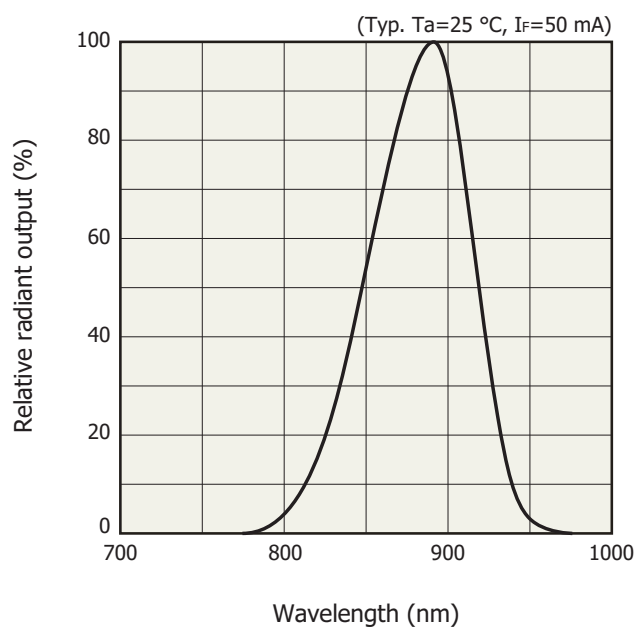
* Guaranteed to resist temperature cycle test of up to 5 cycles

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.

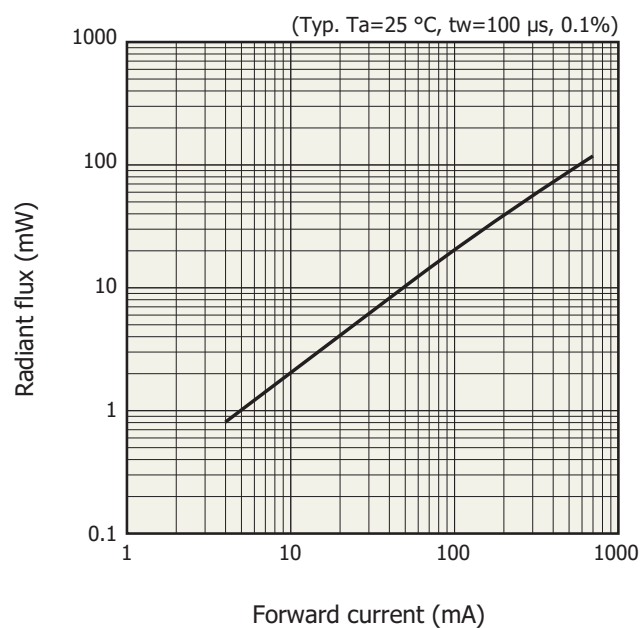
Electrical and optical characteristics (Ta=25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak emission wavelength	λ_p	IF=50 mA	870	890	920	nm
Spectral half width	$\Delta\lambda$	IF=50 mA	-	80	-	nm
Forward voltage	VF	IF=50 mA	-	1.4	1.5	V
Pulse forward voltage	VFP	IF=1.0 A	-	2.8	3.4	V
Reverse current	IR	VR=5 V	-	-	5	μA
Radiant flux	ϕ_e	IF=50 mA	8	10	-	mW
Radiant illuminance	PE	IF=50 mA	-	1.0	-	mW/cm ²
Rise time	tr	IF=50 mA, 10 to 90%	-	0.45	0.7	μs
Fall time	tf	IF=50 mA, 90 to 10%	-	0.45	0.7	μs

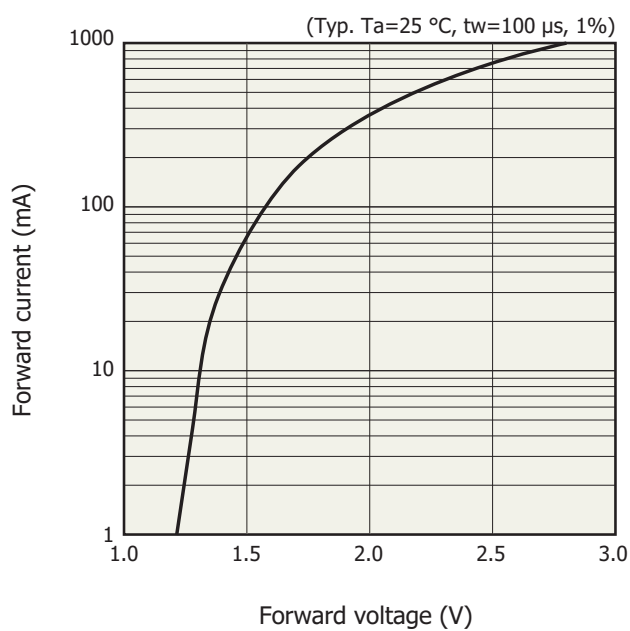
Emission spectrum



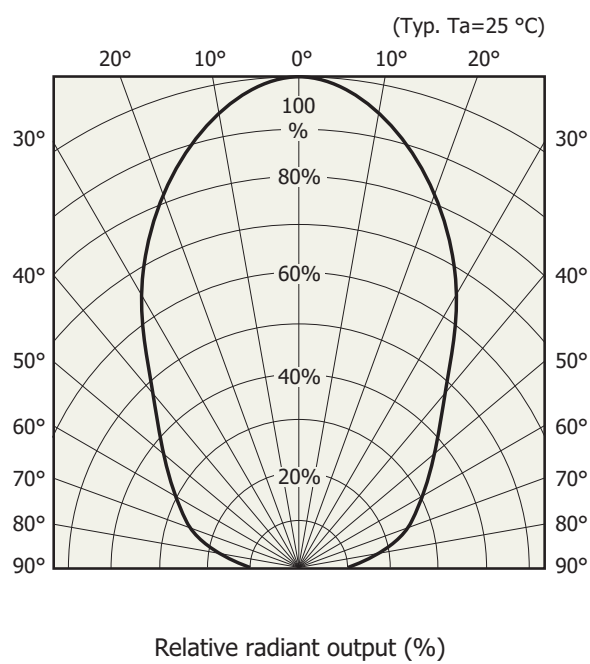
Radiant flux vs. forward current



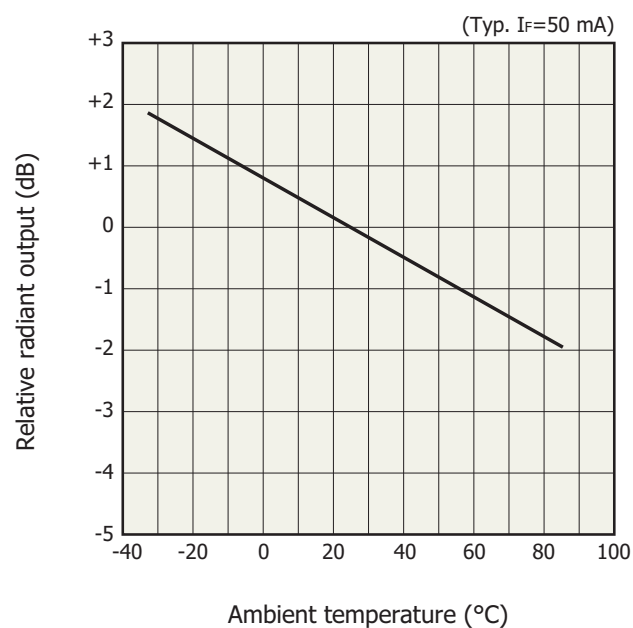
Forward current vs. forward voltage



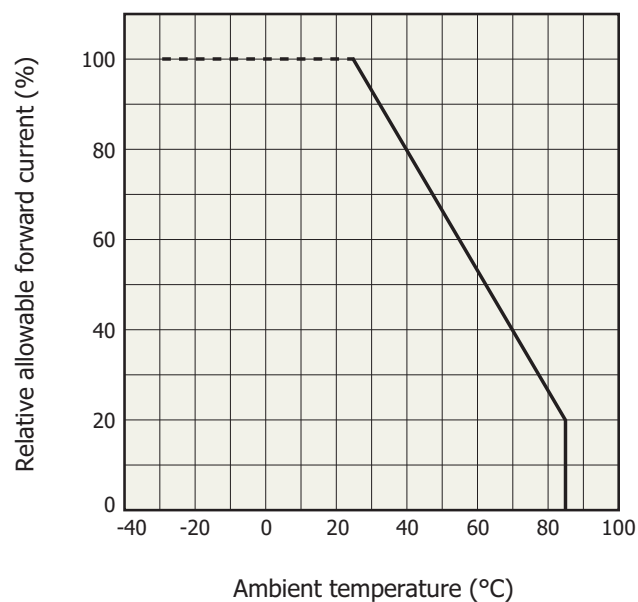
Directivity



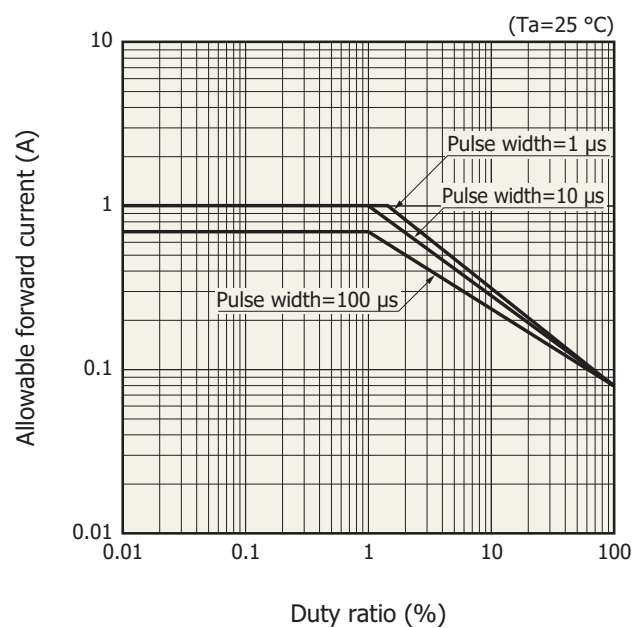
Radiant output vs. ambient temperature



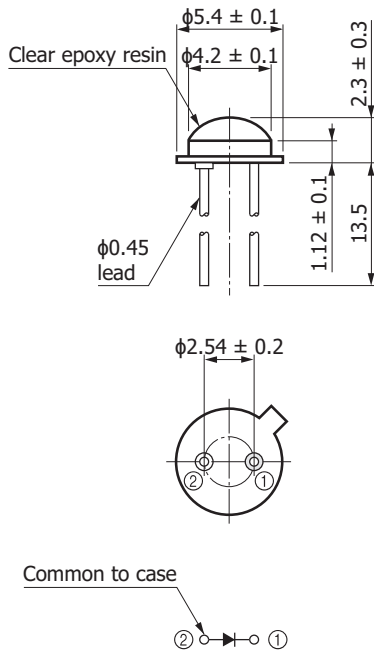
Allowable forward current vs. ambient temperature



Allowable forward current vs. duty ratio



Dimensional outline (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.

The product warranty is valid for one year after delivery and is limited to product repair or replacement for defects discovered and reported to us within that one year period. However, even if within the warranty period we accept absolutely no liability for any loss caused by natural disasters or improper product use. Copying or reprinting the contents described in this material in whole or in part is prohibited without our prior permission.

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