HAMAMATSU
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Infrared LED

L9338

For optical switches

The L9338 is an infrared LED developed for optical switches and is available at a low cost due to the improved manufacturing process.

Features

- **High reliability**
- **Low price**

Applications

- **Optical switches**

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

Parameter	Symbol	Condition	Value	Unit
Reverse voltage	V_R		5	V
Forward current	I_F		80	mA
Forward current reduction rate	-	Ta>25 °C	1.1	mA/°C
Pulse forward current	I_{FP}	Pulse width=10 µs Duty ratio=1%	1.0	A
Pulse forward current reduction rate	-	Ta>25 °C	13	mA/°C
Power dissipation	P		150	mW
Operating temperature	Topr	No dew condensation*1	-30 to +85	°C
Storage temperature	Tstg	No dew condensation*1 2	-40 to +100	°C

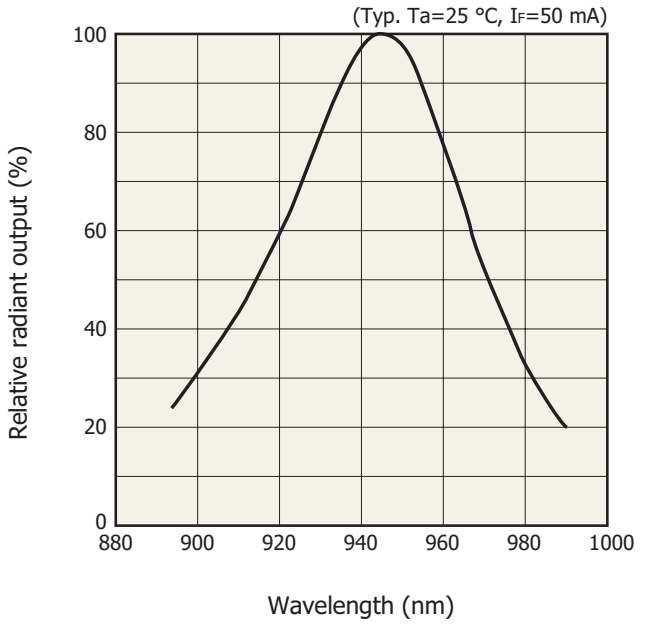
*1: When there is a temperature difference between a product and the surrounding area in high humidity environments, dew condensation may occur on the product surface. Dew condensation on the product may cause deterioration in characteristics and reliability.
*2: Guaranteed to resist temperature cycle 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)

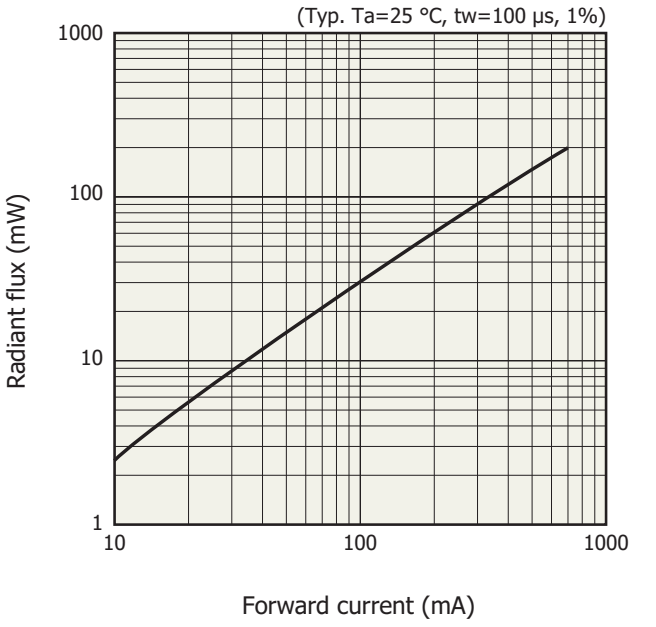
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak emission wavelength	λp	I_F=50 mA	920	945	970	nm
Spectral half width	Δλ	I_F=50 mA	-	60	-	nm
Forward voltage	V_F	I_F=50 mA	-	1.34	1.42	V
Pulse forward voltage	V_{FP}	I_F=1 A	-	3.1	3.8	V
Reverse current	I_R	V_R=5 V	-	-	5	µA
Radiant flux	ϕe	I_F=50 mA	10	15	-	mW
Cutoff frequency*3	fc	I_F=50 mA ± 4 mAp-p	0.1	0.3	-	MHz

*3: Frequency at which the optical output drops by 3 dB from that at 10 kHz

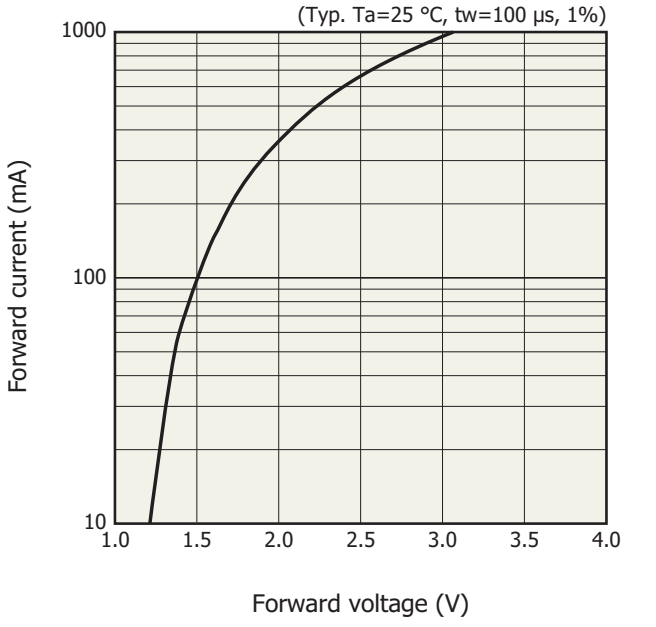
Emission spectrum



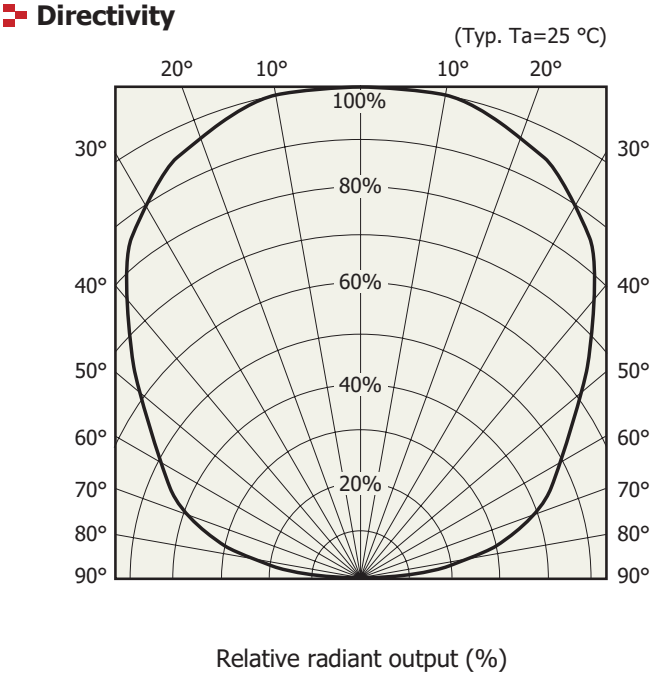
Radiant flux vs. forward current



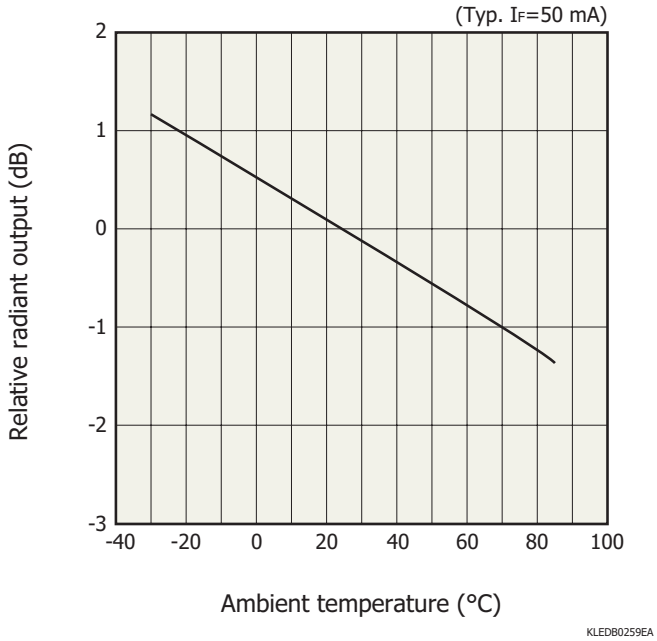
Forward current vs. forward voltage



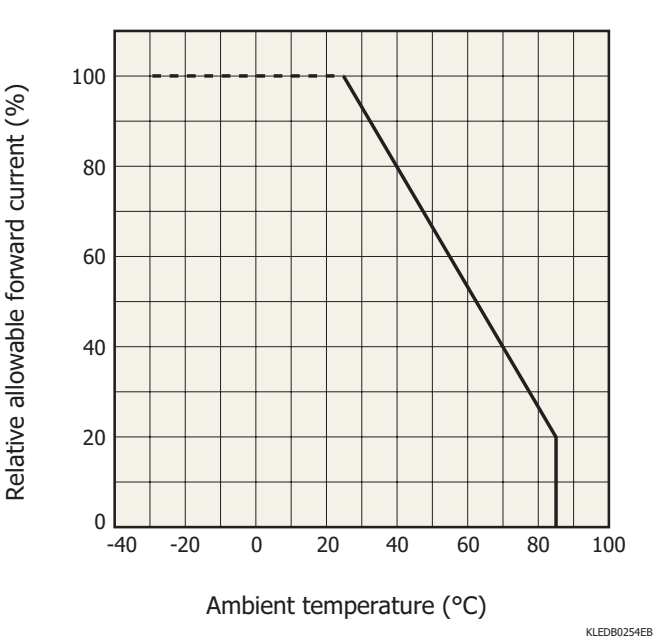
Directivity



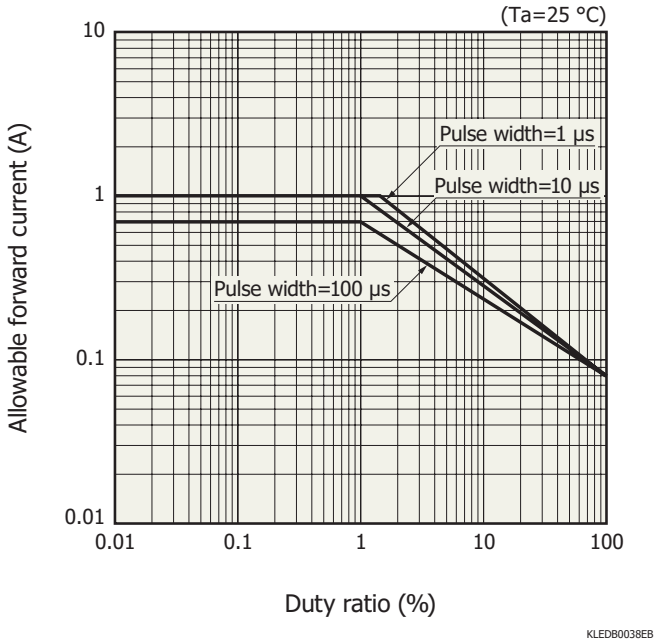
Radiant output vs. ambient temperature



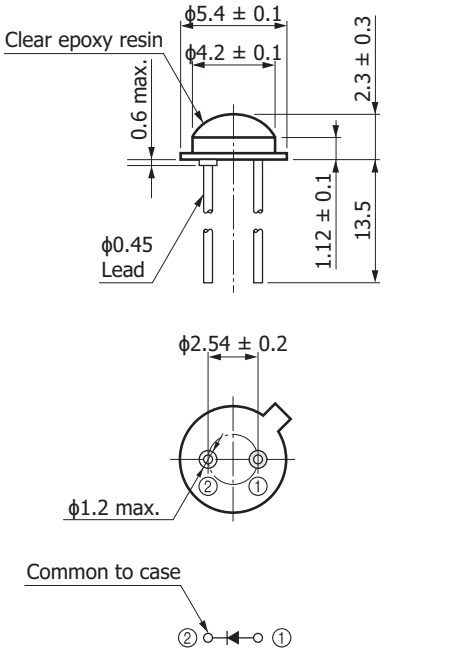
Allowable forward current vs. ambient temperature



Allowable forward current vs. duty ratio



Dimensional outline (unit: mm)



Related information

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

■ Precautions
· Disclaimer
· Safety consideration
· Compound opto-semiconductors (photosensors, light emitters)

■ Technical information
· LED / Technical note

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