



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 <sub>R</sub>		5	V
Forward current	I <sub>F</sub>		80	mA
Forward current reduction rate	-	Ta>25 °C	1.1	mA/°C
Pulse forward current	I <sub>FP</sub>	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	T <sub>opr</sub>		-30 to +85	°C
Storage temperature	T <sub>stg</sub>		-40 to +100 *1	°C

\*1: Guaranteed to resist temperature cycle test of up to 5 cycles

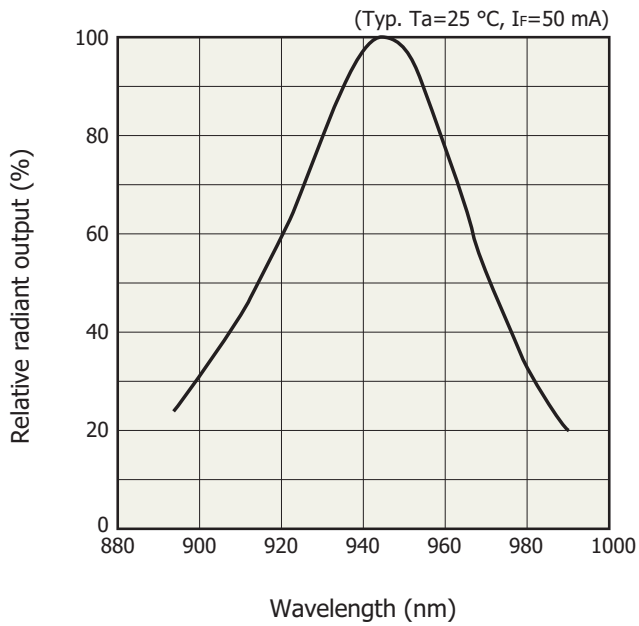
Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

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

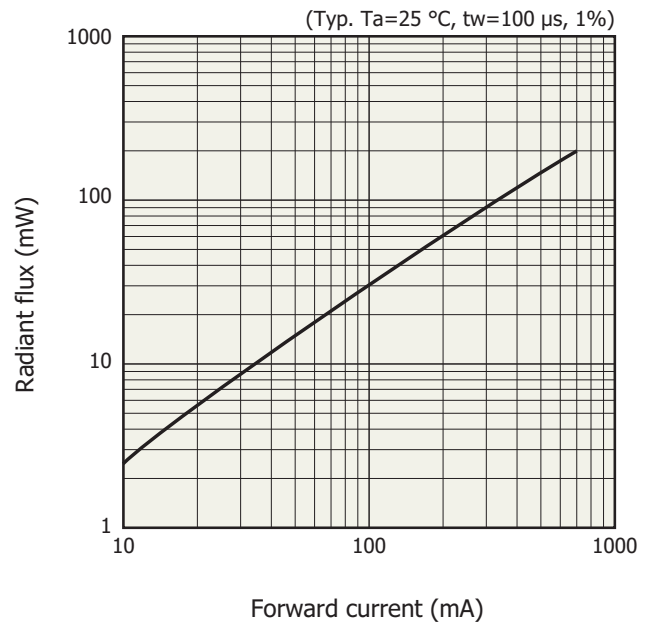
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak emission wavelength	λ <sub>p</sub>	I <sub>F</sub> =50 mA	920	945	970	nm
Spectral half width	Δλ	I <sub>F</sub> =50 mA	-	60	-	nm
Forward voltage	V <sub>F</sub>	I <sub>F</sub> =50 mA	-	1.34	1.42	V
Pulse forward voltage	V <sub>FP</sub>	I <sub>F</sub> =1 A	-	3.1	3.8	V
Reverse current	I <sub>R</sub>	V <sub>R</sub> =5 V	-	-	5	μA
Radiant flux	φ <sub>e</sub>	I <sub>F</sub> =50 mA	10	15	-	mW
Cutoff frequency*2	f <sub>c</sub>	I <sub>F</sub> =50 mA ± 4 mAp-p	0.1	0.3	-	MHz

\*2: Frequency at which the optical output drops by 3 dB from that at 10 kHz

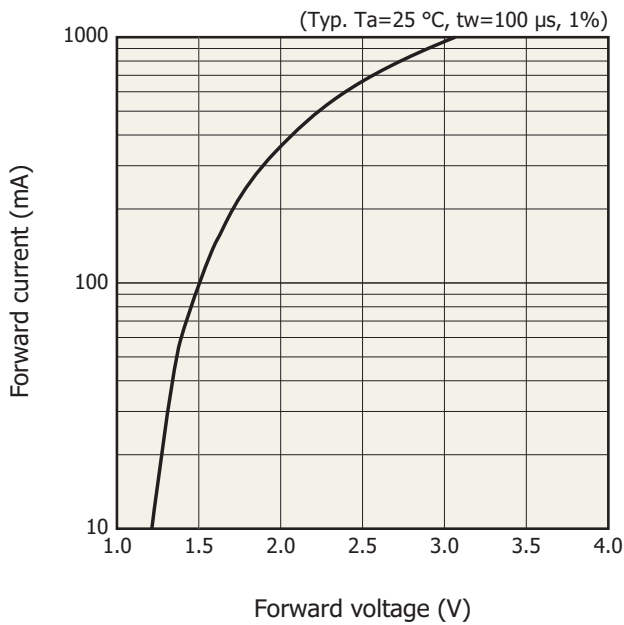
**Emission spectrum**



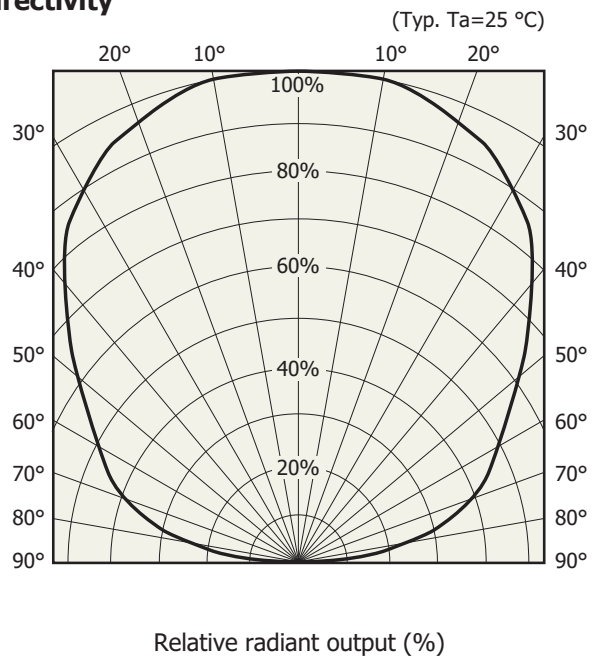
**Radiant flux vs. forward current**



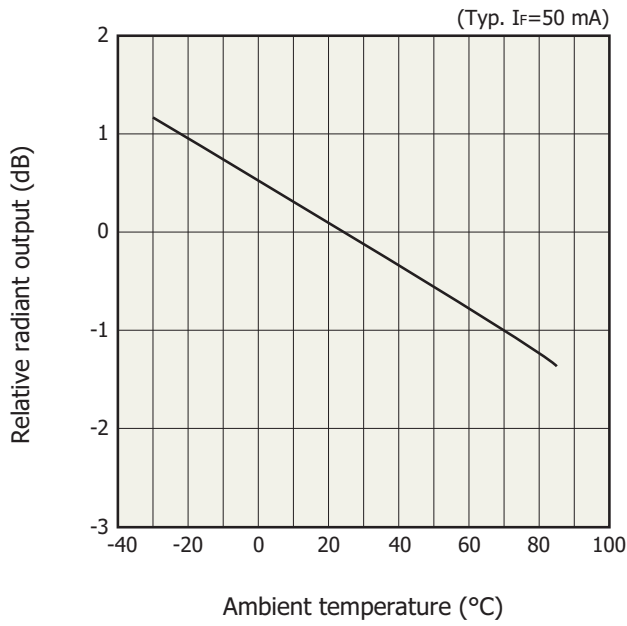
**Forward current vs. forward voltage**



**Directivity**

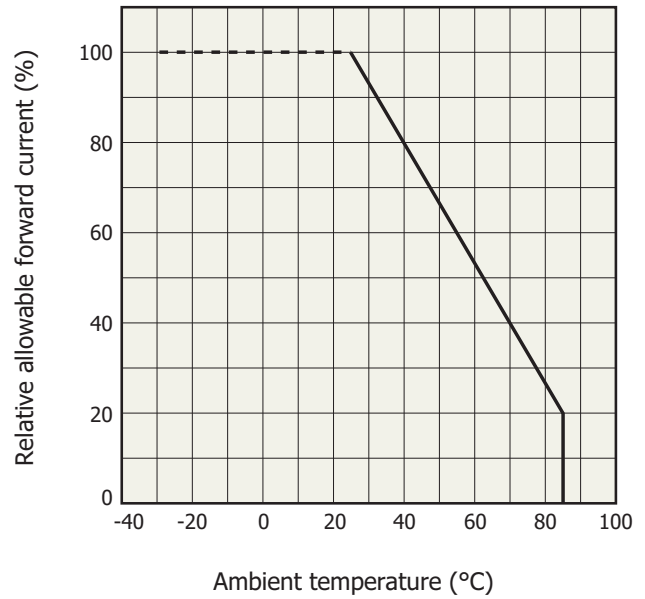


❑ Radiant output vs. ambient temperature



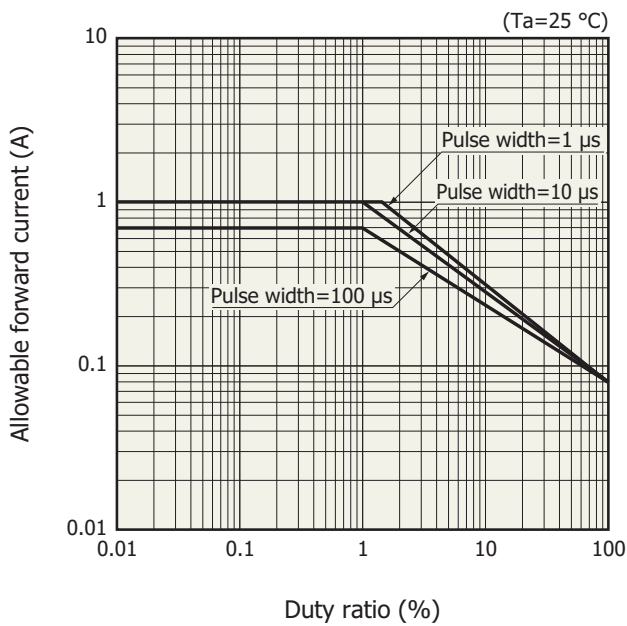
KLEDB0259EA

❑ Allowable forward current vs. ambient temperature



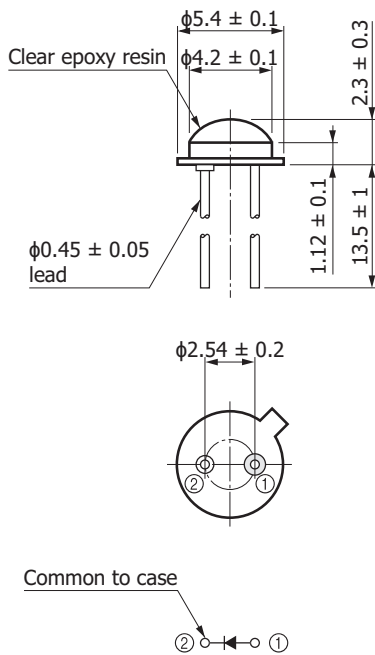
KLEDB0254EB

❑ Allowable forward current vs. duty ratio



KLEDB0038EB

### Dimensional outline (unit: mm)



### Related information

[www.hamamatsu.com/sp/ssd/doc\\_en.html](http://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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