

# Red LED

L11767



## High output power red emitting diode

The L11767 is a high output red LED that delivers light output more than twice that of our previous products. Electric power required to provide the same brightness as the previous products is reduced by as much as 70%. The L11767 also offers high reliability since it is a 4-element (AlGaInP) LED.

### Features

- High radiant output power (more than twice compared to previous products)  
13 mW ( $I_F=20$  mA typ.)
- High reliability

### Applications

- Optical switches, etc.

### Absolute maximum ratings ( $T_a=25$ °C unless otherwise noted)

Parameter	Symbol	Condition	Value	Unit
Reverse voltage	$V_R$		5	V
Forward current	$I_F$		60	mA
Derating rate of forward current		$T_a > 25$ °C	0.8	mA/°C
Pulse forward current	$I_{FP}$	Pulse width=10 $\mu$ s Duty ratio=1%	0.5	A
Derating rate of pulse forward current		$T_a > 25$ °C	6.7	mA/°C
Power dissipation	P		180	mW
Operating temperature	$T_{opr}$		-30 to +85	°C
Storage temperature	$T_{stg}$	*1	-40 to +100	°C
Soldering condition	-		Less than 260 °C, within 5 seconds *2	-

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

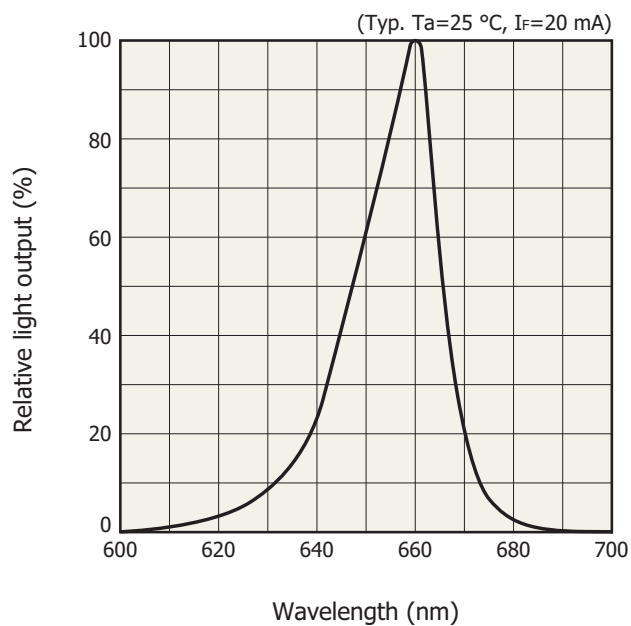
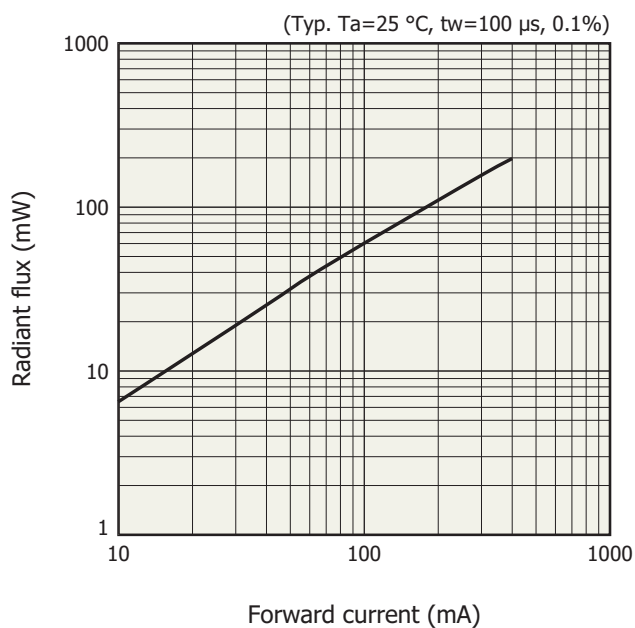
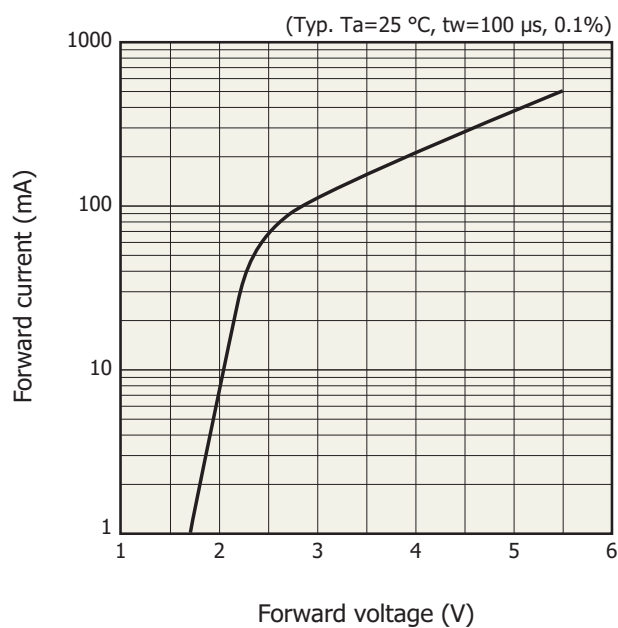
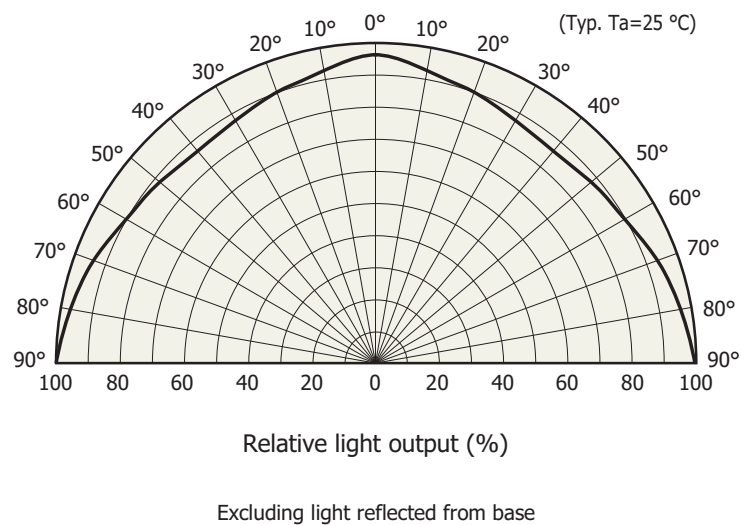
\*2: At a position at least 1 mm away from the lead base

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.

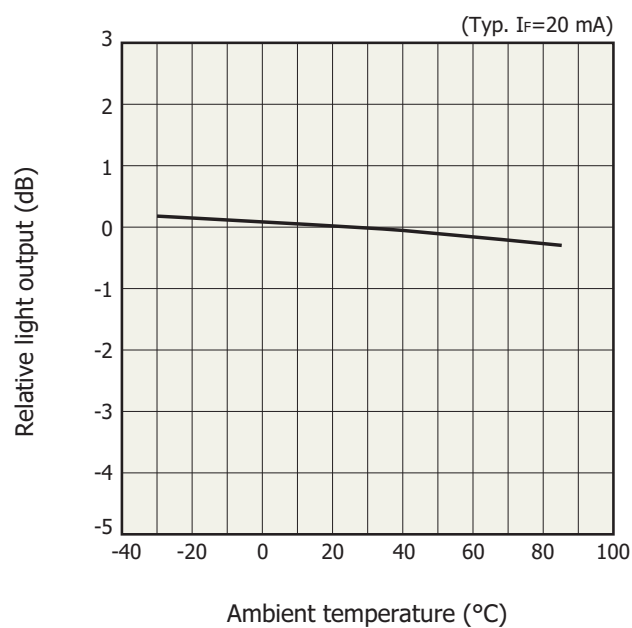
### Electrical and optical characteristics ( $T_a=25$ °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak emission wavelength	$\lambda_p$	$I_F=20$ mA	650	660	670	nm
Spectral half-width	$\Delta\lambda$	$I_F=20$ mA	-	18	30	nm
Forward voltage	$V_F$	$I_F=20$ mA	-	2.1	2.5	V
Reverse current	$I_R$	$V_R=5$ V	-	-	20	$\mu$ A
Radiant flux	$\phi_e$	$I_F=20$ mA	10	13	-	mW
Cutoff frequency*3	f <sub>c</sub>	$I_F=20$ mA $\pm$ 1 mAp-p	3	6	-	MHz

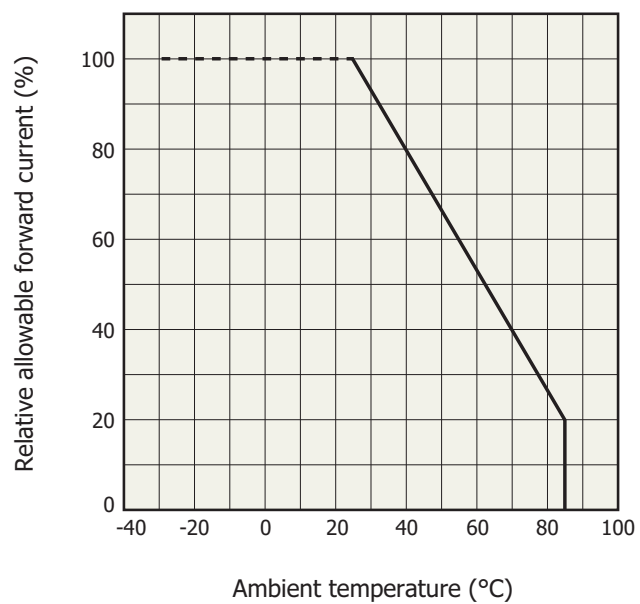
\*3: Frequency at which the light output drops by 3 dB relative to the output at 100 kHz

**Emission spectrum****Radiant flux vs. forward current****Forward current vs. forward voltage****Directivity**

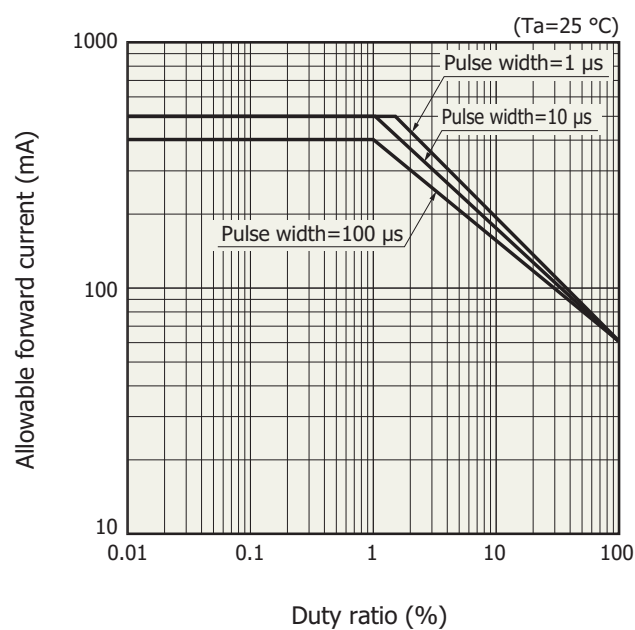
## ❖ Light output vs. ambient temperature



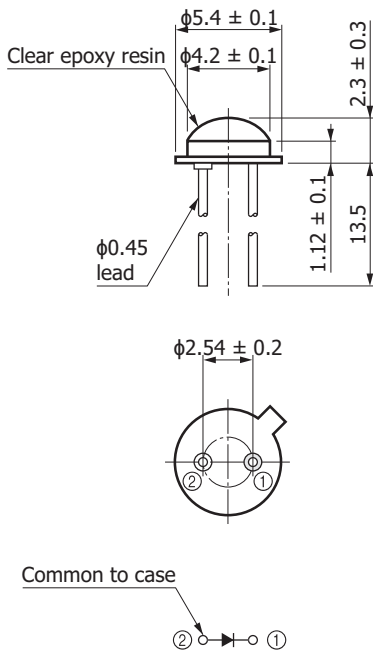
## ❖ Allowable forward current vs. ambient temperature



## ❖ Allowable forward current vs. duty ratio



### Dimensional outline (unit: mm)



KLEDA0009ED

### 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.

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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