



High output power LED with mini-lens

This product is an LED with a micro-ball lens bonded to the surface of the high-power LED chip having an internal confined structure. Further, a cap with a mini-lens is used as a seal to make the output beam even narrower. This allows highly efficient input into optical fibers, making the product well suited for optical fiber communications. With the L11368-01 (3 pins), the case can be connected to ground.

Features

- ➔ High light output: 65 μ W typ. ($I_F=50$ mA, GI 50)
- ➔ Cutoff frequency: 50 MHz typ. ($I_F=50$ mA)

Applications

- ➔ Optical fiber communications

Absolute maximum ratings ($T_a=25$ °C)

Parameter	Symbol	Condition	Specification	Unit
Forward current	I_F		60	mA
Reverse voltage	V_R		3	V
Pulse forward current	I_{FM}	Pulse width=10 μ s Duty ratio=50%	100	mA
Power dissipation	P		170	mW
Operating temperature	T_{opr}	No dew condensation*1	-30 to +85	°C
Storage temperature	T_{stg}	No dew condensation*1	-40 to +100	°C
Soldering conditions	-		260 °C or less, within 5 s, at least 1 mm away from lead roots	-

*1: When there is a temperature difference between a product and the surrounding area in high humidity environment, dew condensation may occur on the product surface. Dew condensation on the product may cause deterioration in characteristics and reliability.

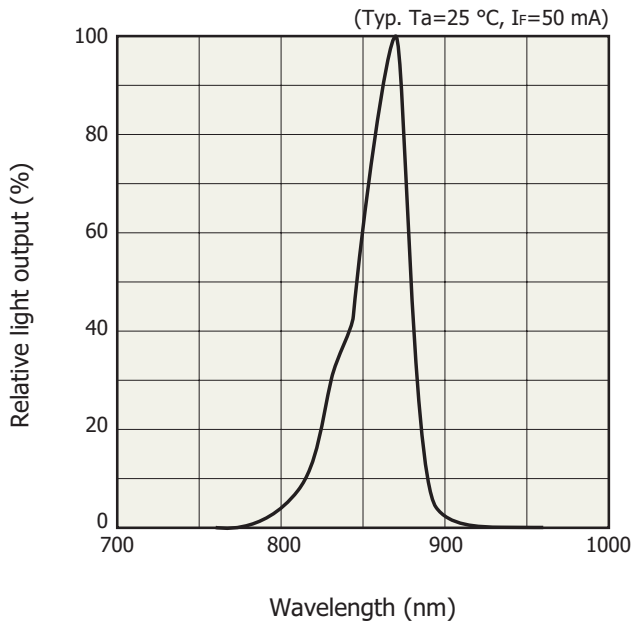
Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

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

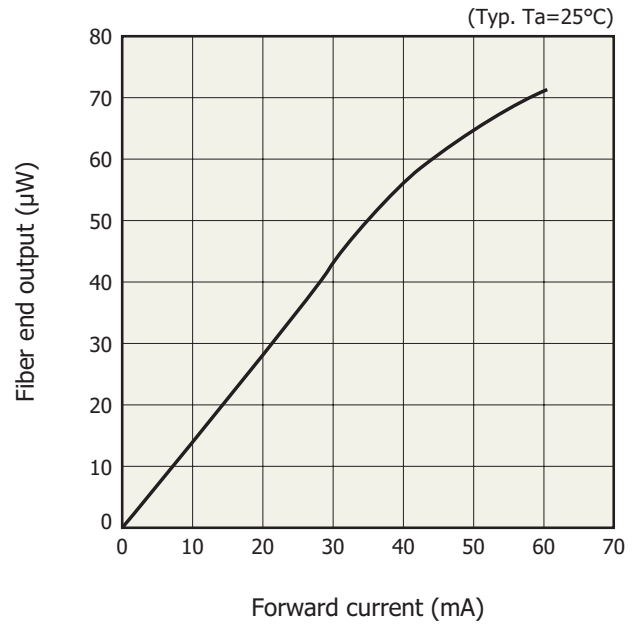
Parameter	Symbol	Condition	L11368/-01			Unit
			Min.	Typ.	Max.	
Peak emission wavelength	λ_p	$I_F=50$ mA	850	870	890	nm
Spectral half width	$\Delta\lambda$	$I_F=50$ mA	-	35	50	nm
Forward voltage	V_F	$I_F=50$ mA	-	2.0	2.4	V
Pulse forward voltage	V_{FP}	$I_F=100$ mA	-	2.4	3.6	V
Reverse current	I_R	$V_R=3$ V	-	-	10	μ A
Fiber end output	Pf	$I_F=50$ mA, GI 50	45	65	-	μ W
Cutoff frequency*2	fc	$I_F=50$ mA + 1 mAp-p	35	50	-	MHz

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

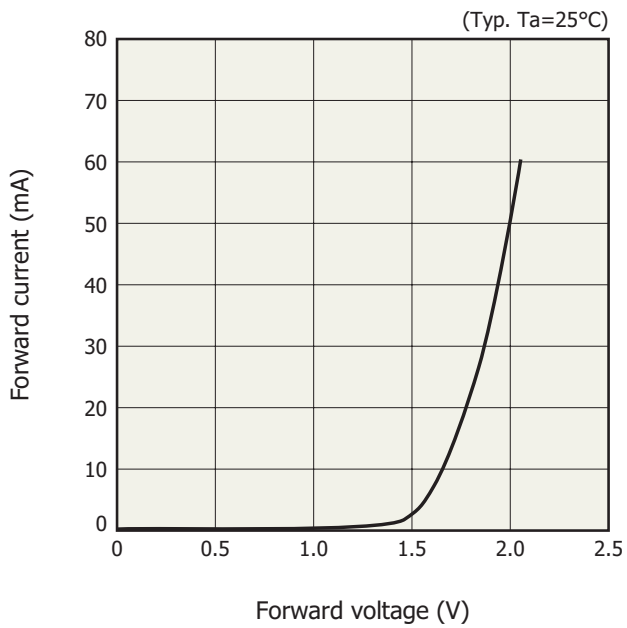
Emission spectrum



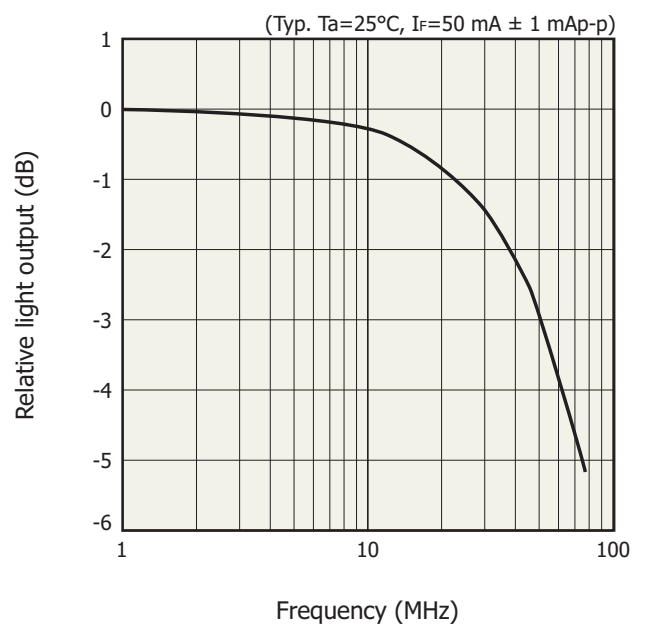
Fiber end output vs. forward current



Forward current vs. forward voltage

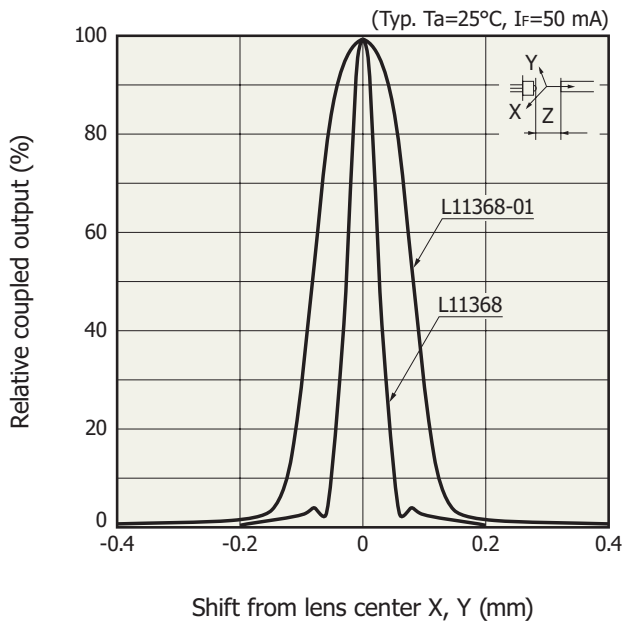


Frequency characteristics

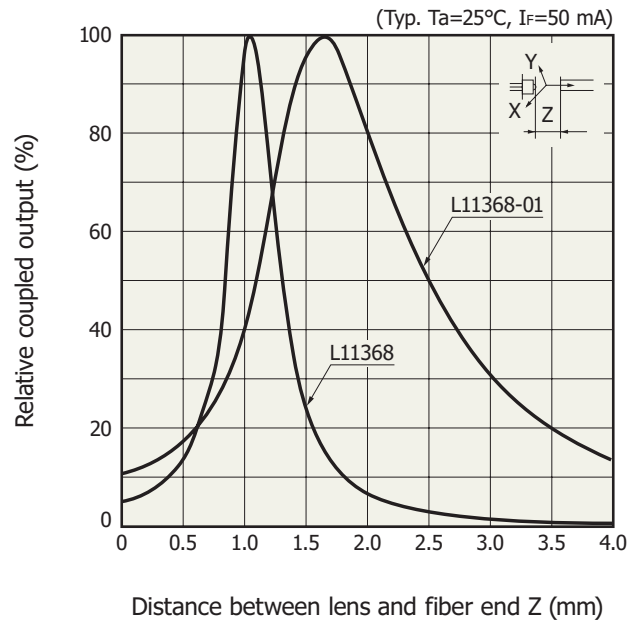


Fiber coupling characteristics (GI 50)

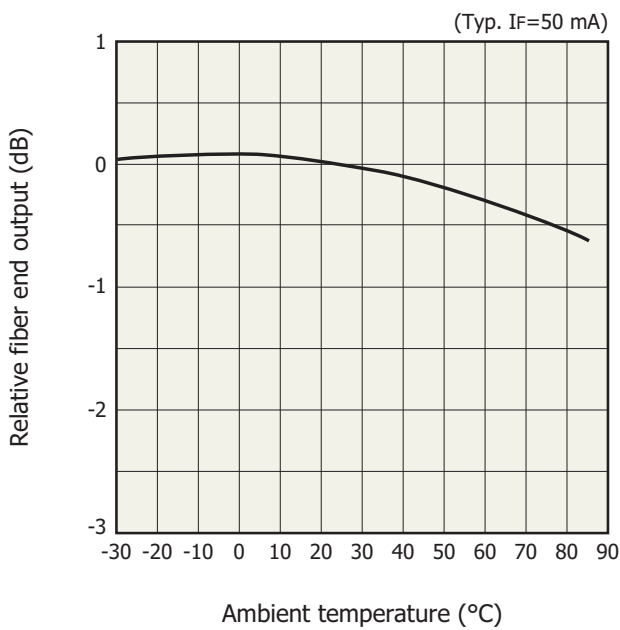
X, Y axes



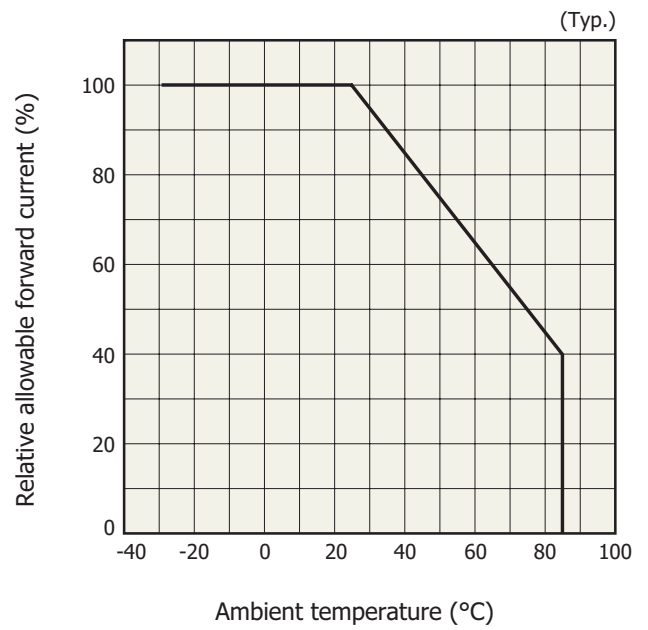
Z axis



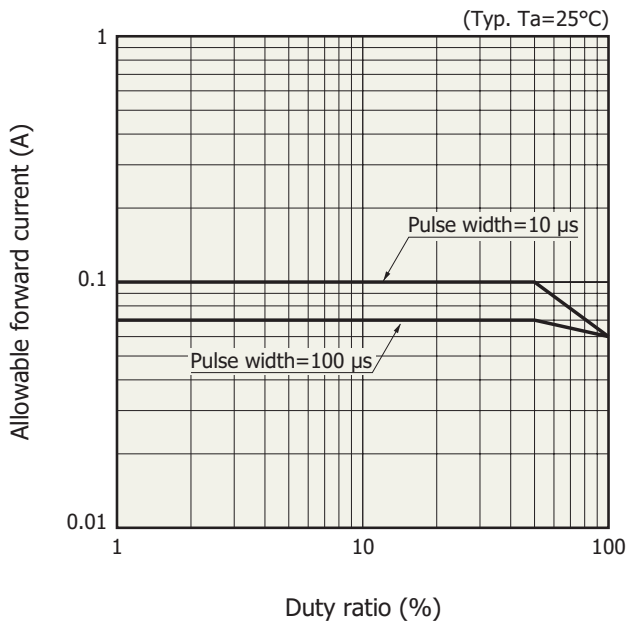
Fiber end output vs. ambient temperature



Allowable forward current vs. ambient temperature

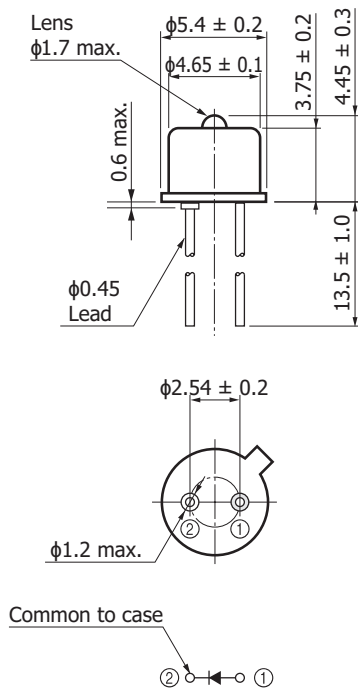


▣ Allowable forward current vs. duty ratio



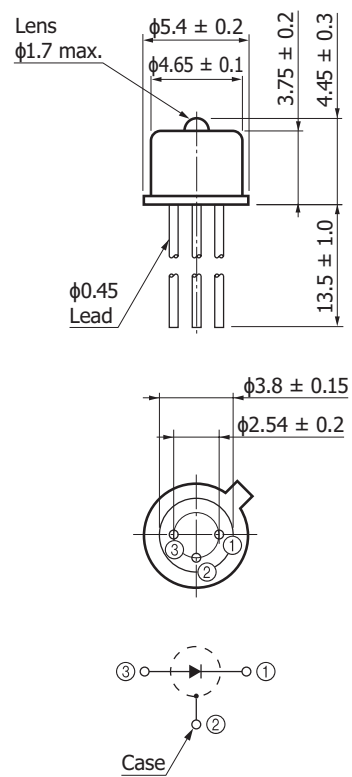
▣ Dimensional outline (unit: mm)

L11368



KLEDA0094EB

L11368-01



KLEDA0110EA

Standard packing specifications

- Packing state: Paper box (200 pieces/box)

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

Information described in this material is current as of May 2022.

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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