



## L11368 series

### 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  $\mu$ 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	L11368	L11368-01	Unit
Forward current	$I_F$		60		mA
Reverse voltage	$V_R$		3		V
Pulse forward current	$I_{FM}$	Pulse width=10 $\mu$ s Duty ratio=50%	100		mA
Power dissipation	P		170	150	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 environments, dew condensation may occur on the product surface. Dew condensation on the product may cause deterioration in characteristics and reliability.

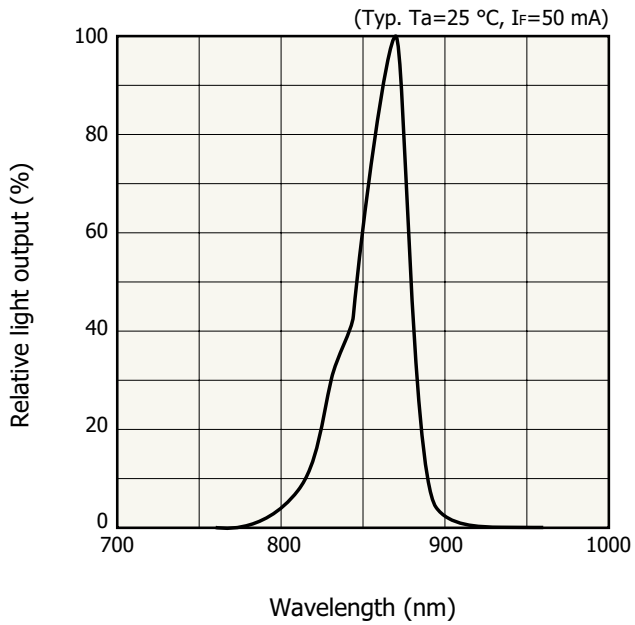
Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

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

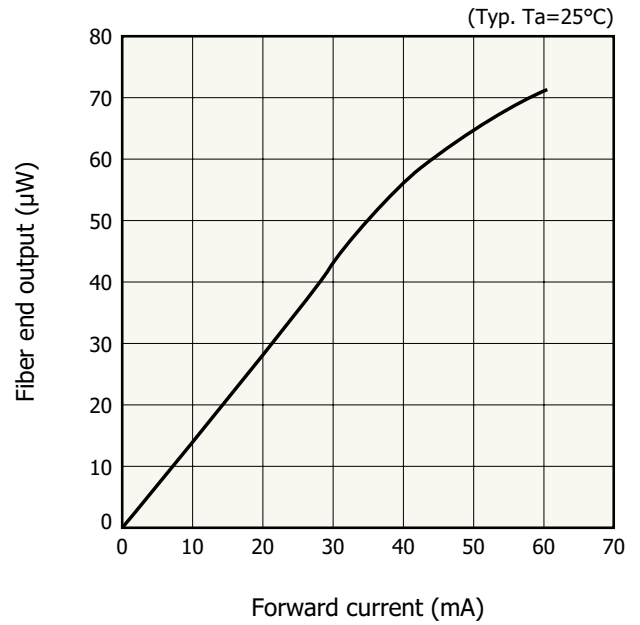
Parameter	Symbol	Condition	L11368/-01			Unit
			Min.	Typ.	Max.	
Peak emission wavelength	$\lambda_p$	$I_F=50$ mA	850	870	890	nm
Spectral half width	$\Delta\lambda$	$I_F=50$ mA	-	35	50	nm
Forward voltage	$V_F$	$I_F=50$ mA	-	2.0	2.4	V
Pulse forward voltage	$V_{FP}$	$I_F=100$ mA	-	2.4	3.6	V
Reverse current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

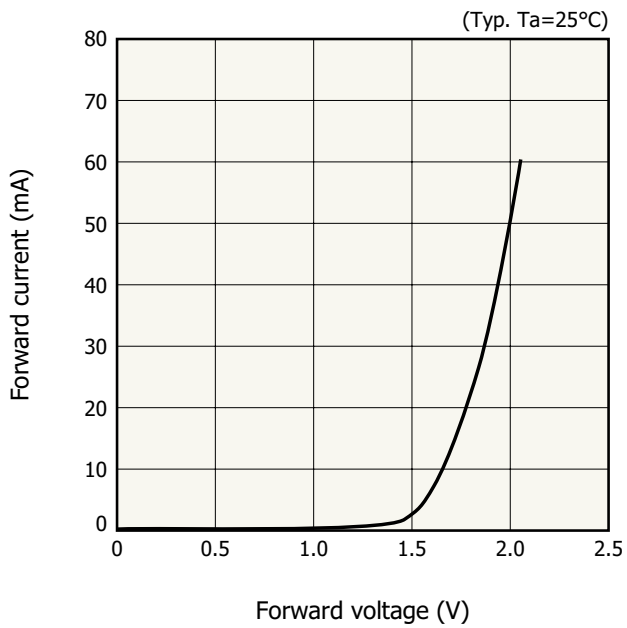
❑ Emission spectrum



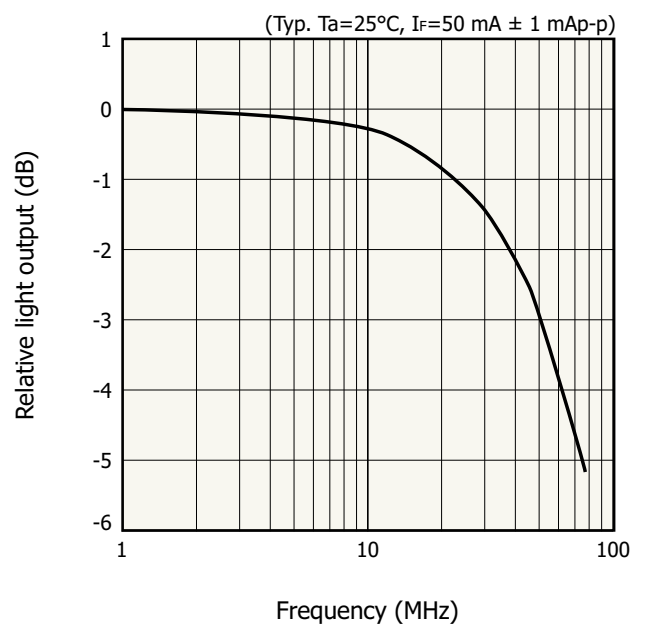
❑ Fiber end output vs. forward current



❑ Forward current vs. forward voltage

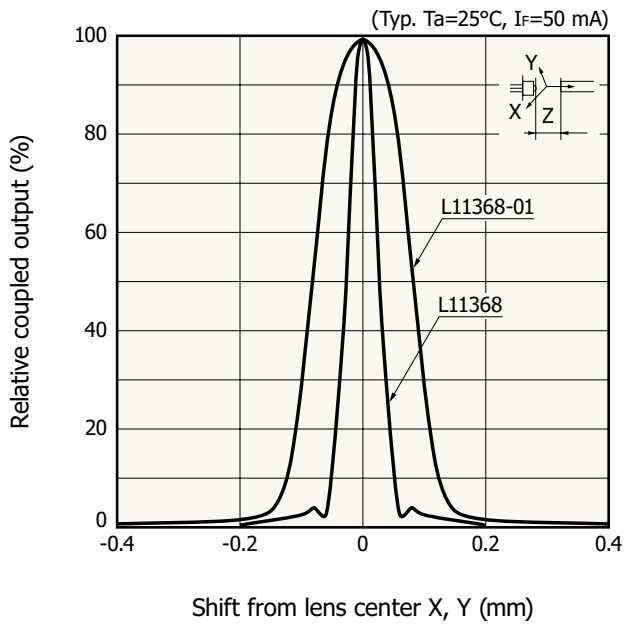


❑ Frequency characteristics

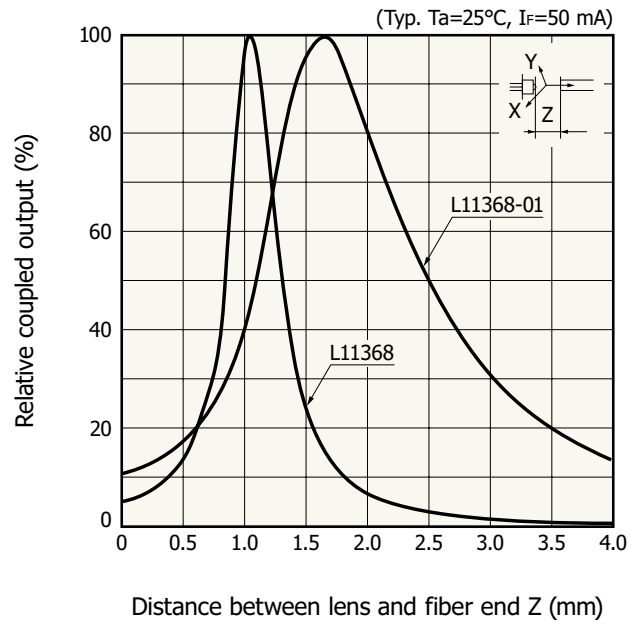


**Fiber coupling characteristics (GI 50)**

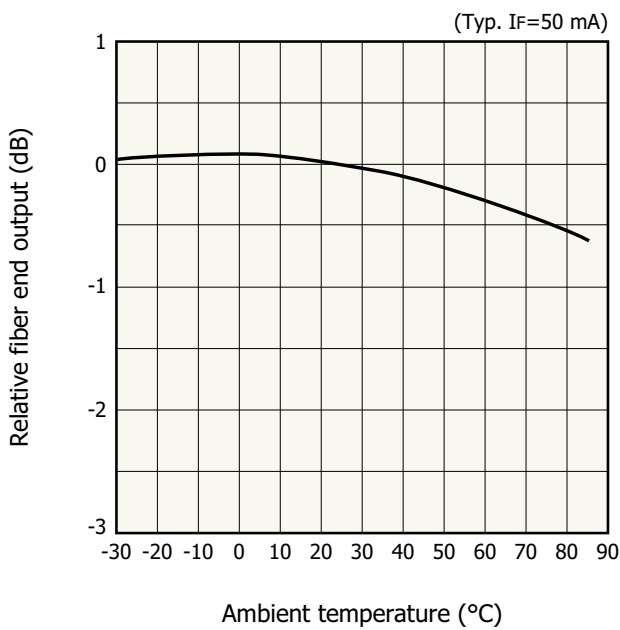
X, Y axes



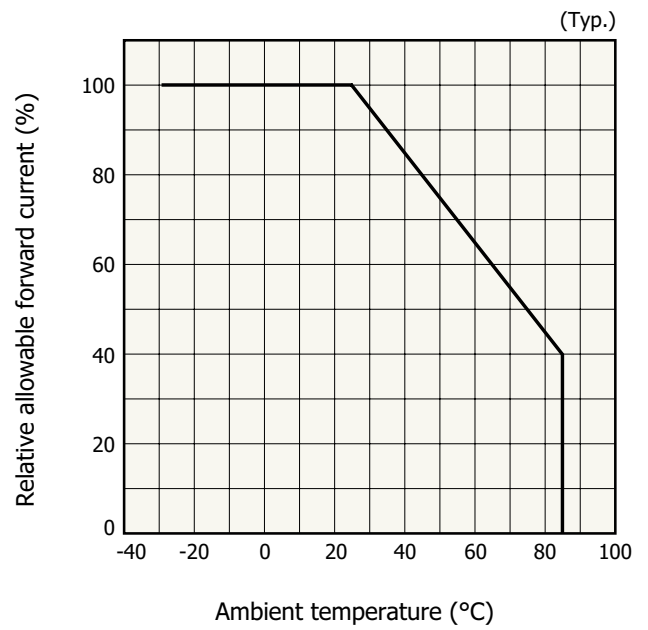
Z axis



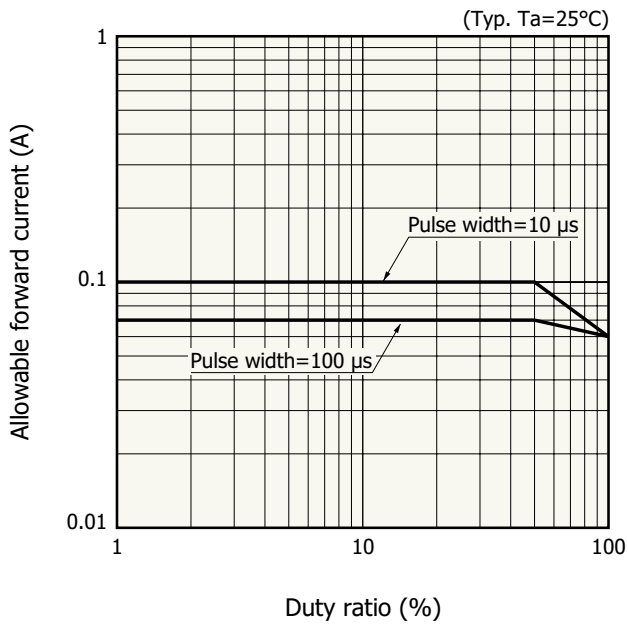
**Fiber end output vs. ambient temperature**



**Allowable forward current vs. ambient temperature**



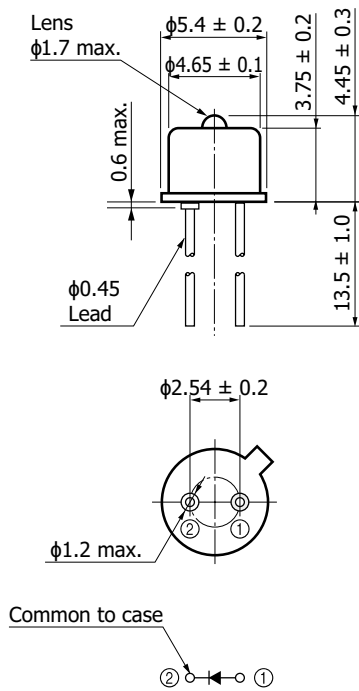
▣ Allowable forward current vs. duty ratio



KLEDB0356EA

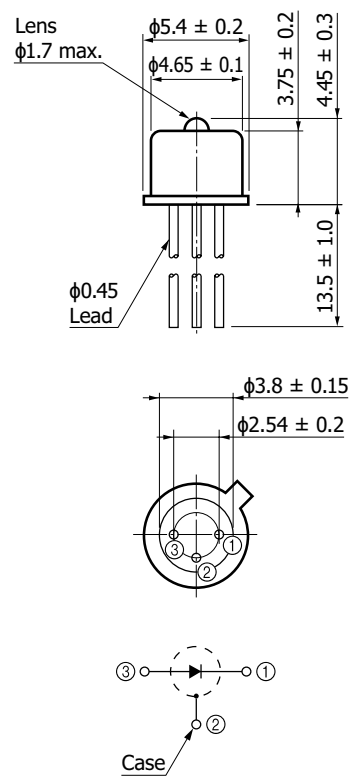
▣ Dimensional outline (unit: mm)

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](http://www.hamamatsu.com/sp/ssd/doc_en.html)

- Precautions
  - Disclaimer
  - Safety consideration
  - Compound opto-semiconductors (photosensors, light emitters)
- Technical note
  - LED

Information described in this material is current as of August 2024.

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