

L11368

## High output power LED with mini-lens

The L11368 is a high-power LED with a microball lens bonded to the surface of the LED chip having an internal confined structure. In addition to the microball lens, the LED chip is sealed with a cap with mini-lens to make the output beam even narrower. This allows highly efficient input of the beam into an optical fiber, making the L11368 well suited for optical fiber communications.

### Features

- High radiant output power: 65  $\mu$ W typ. ( $I_F=50$  mA, GI 50)
- Cutoff frequency: 50 MHz typ. ( $I_F=50$  mA)

### Applications

- Optical fiber communication

### 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 $\mu$ s Duty ratio=50%	100	mA
Power dissipation	P		170	mW
Operating temperature	$T_{opr}$		-30 to +85	°C
Storage temperature	$T_{stg}$		-40 to +100	°C
Soldering	-		260 °C or less, within 5 s, at least 1 mm away from lead root	

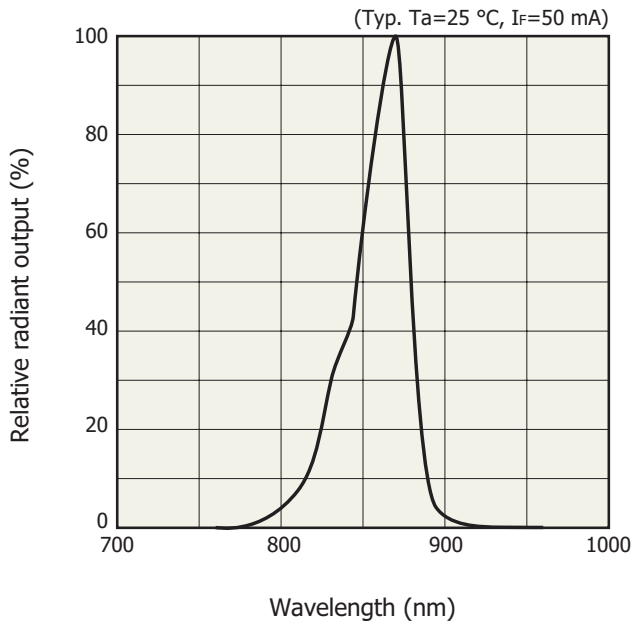
Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

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

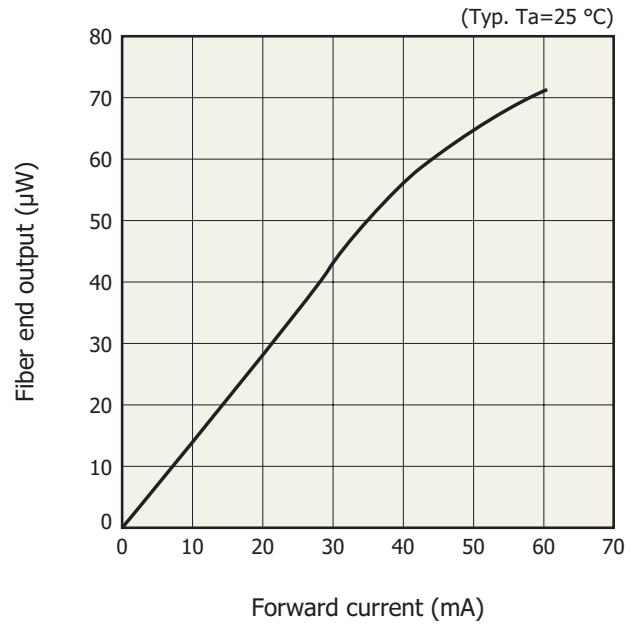
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak emission wavelength	$\lambda_p$	$I_F=50$ mA	850	870	890	nm
Spectral half-width	$\Delta\lambda$	$I_F=50$ mA	-	35	50	nm
Forward voltage	$V_F$	$I_F=50$ mA	-	2.0	2.4	V
Pulse forward voltage	$V_{FP}$	$I_F=100$ mA	-	2.4	3.6	V
Reverse current	$I_R$	$V_R=3$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

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

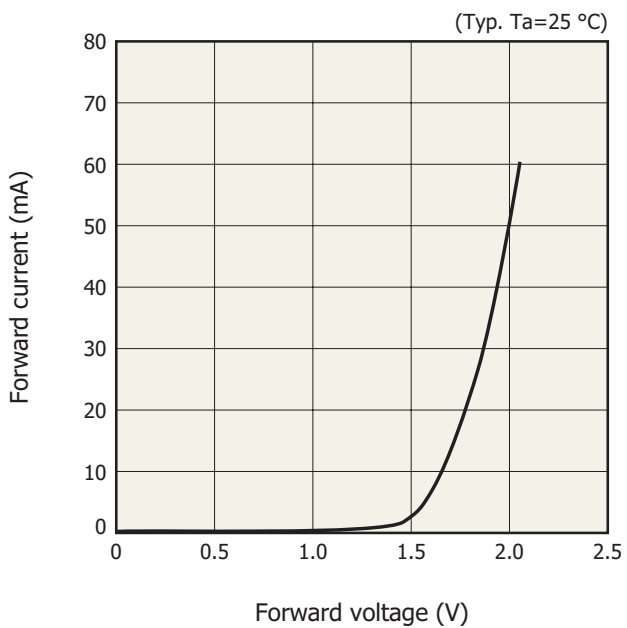
**Emission spectrum**



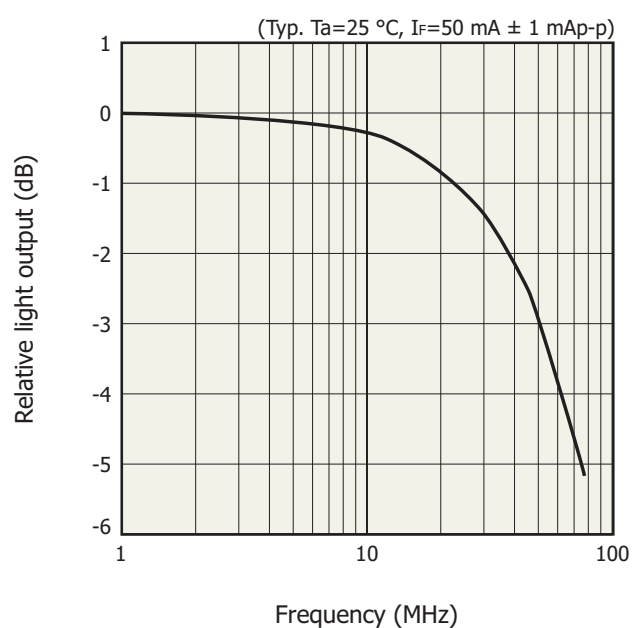
**Fiber end output vs. forward current**



**Forward current vs. forward voltage**

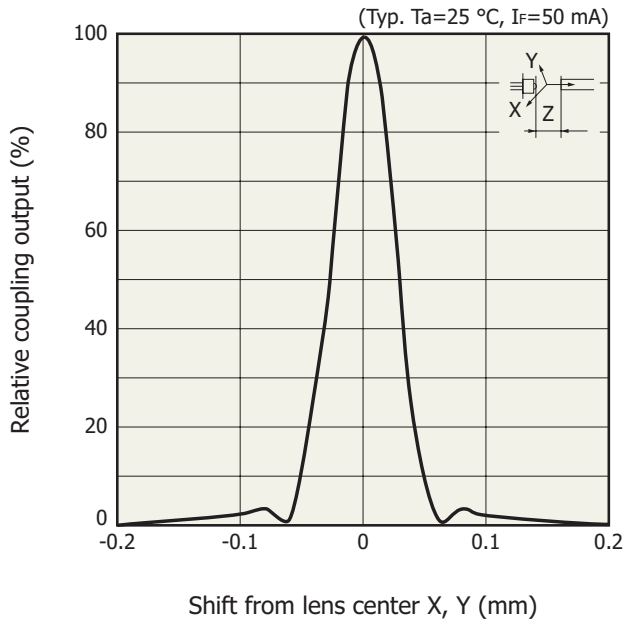


**Frequency characteristic**

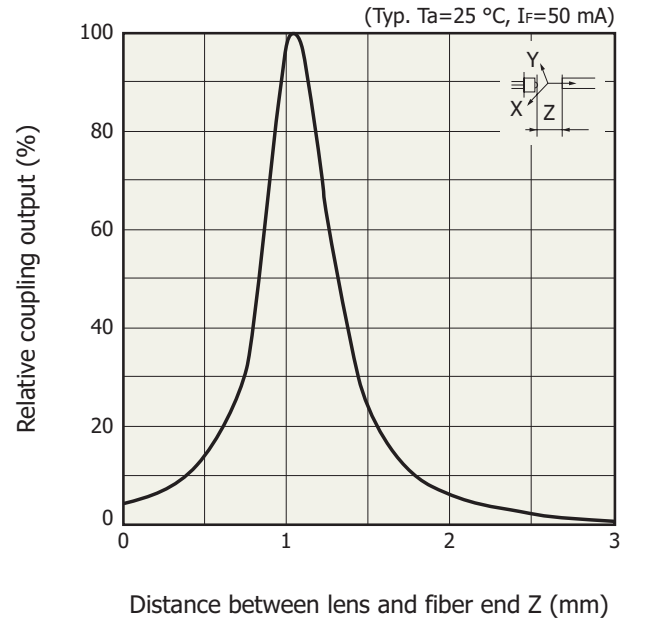


**Fiber coupling characteristic (GI 50)**

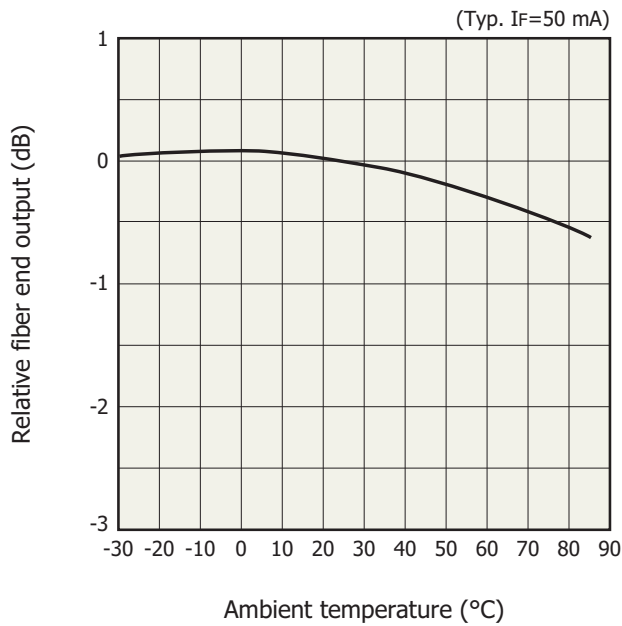
X, Y directions



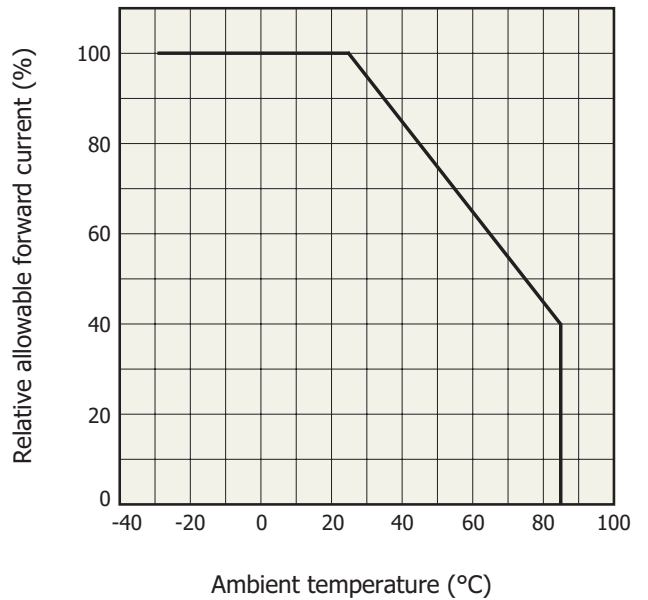
Z direction



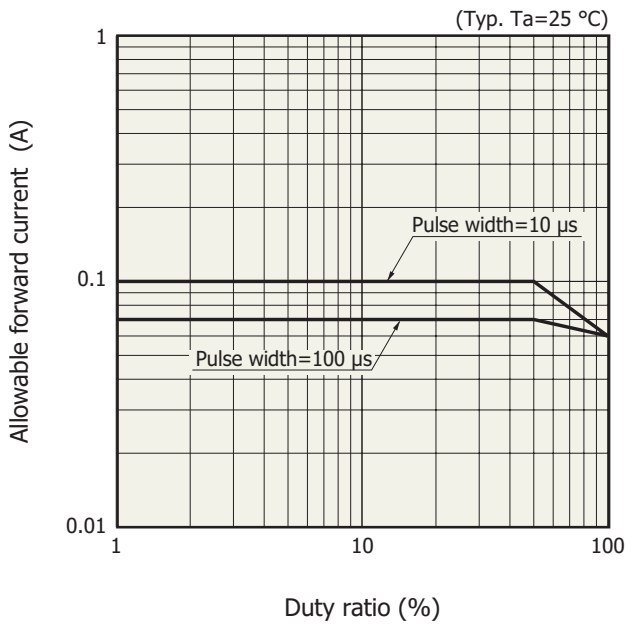
**Fiber end output vs. ambient temperature**



**Allowable forward current vs. ambient temperature**

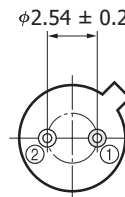
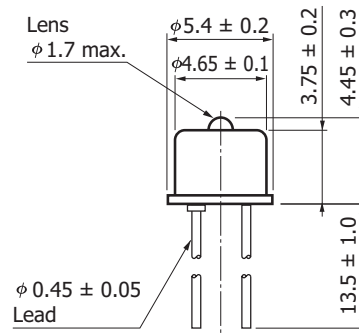


Allowable forward current vs. duty ratio



KLEDB0356EA

Dimensional outline (unit: mm)



Common to case



Package style: paper box  
(200 pcs/box)

KLEDA0094EA

Information described in this material is current as of March, 2018.

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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