



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 μ 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 μ 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	

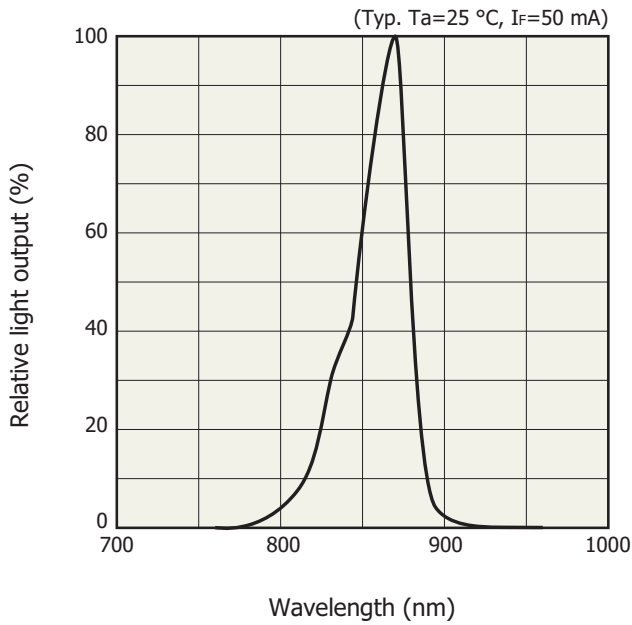
Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

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

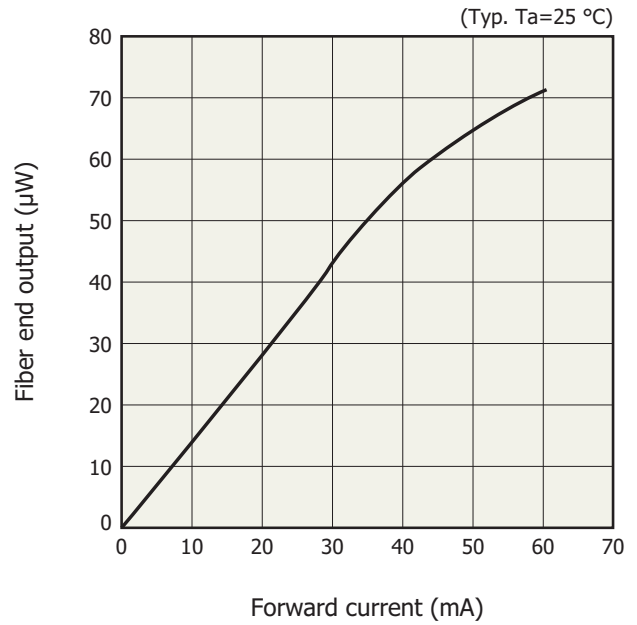
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak emission wavelength	λ_p	$I_F=50$ mA	850	870	890	nm
Spectral half-width	$\Delta\lambda$	$I_F=50$ mA	-	35	50	nm
Forward voltage	V_F	$I_F=50$ mA	-	2.0	2.4	V
Pulse forward voltage	V_{FP}	$I_F=100$ mA	-	2.4	3.6	V
Reverse current	I_R	$V_R=3$ V	-	-	10	μ A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

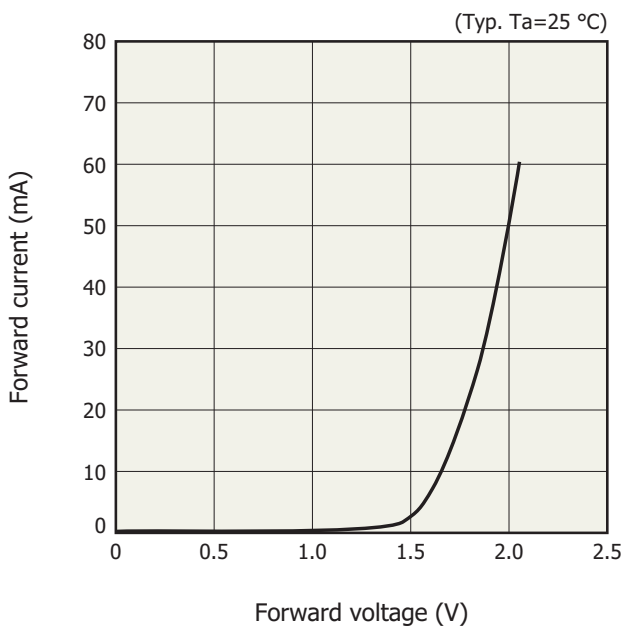
❑ Emission spectrum



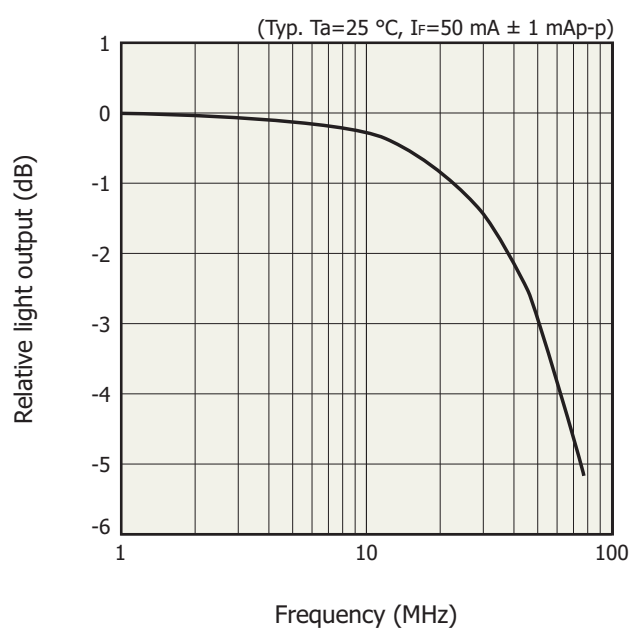
❑ Fiber end output vs. forward current



❑ Forward current vs. forward voltage

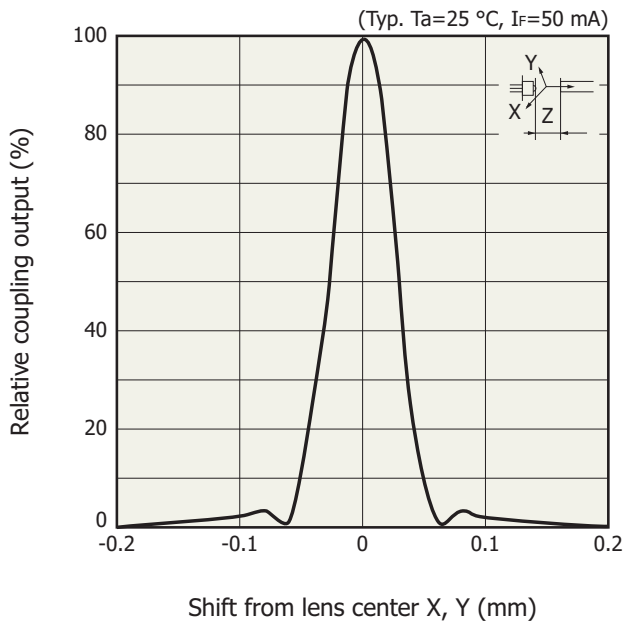


❑ Frequency characteristic



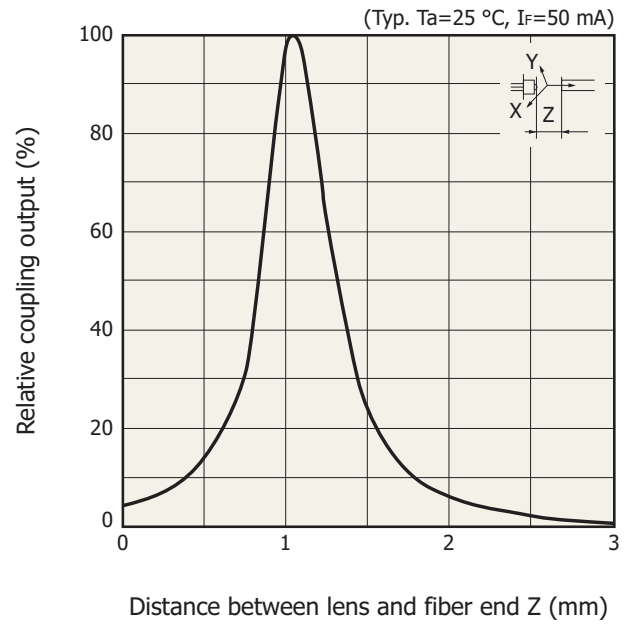
Fiber coupling characteristic (GI 50)

X, Y directions



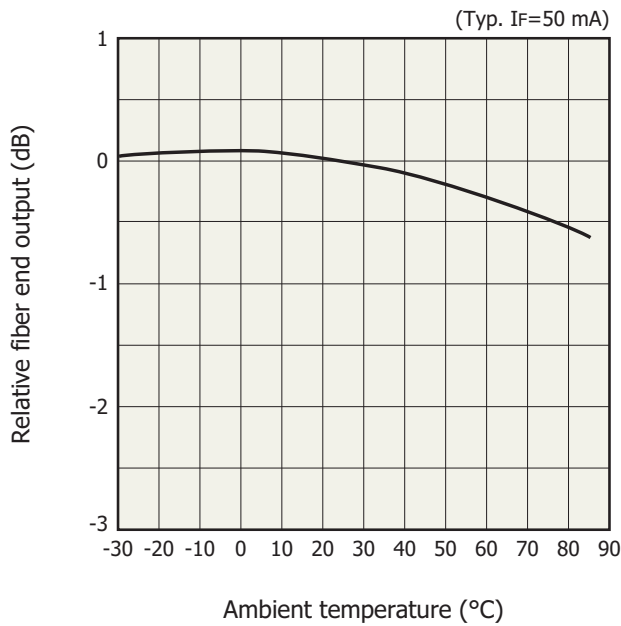
KLEDB0353EA

Z direction



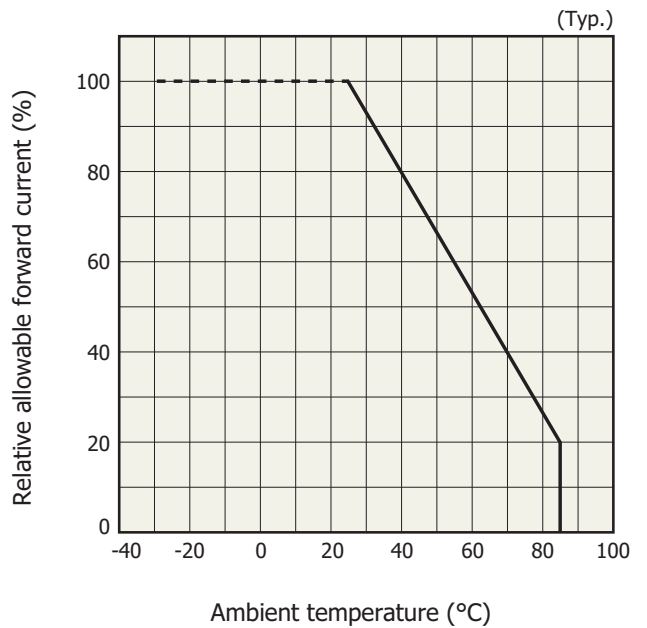
KLEDB0354EA

Fiber end output vs. ambient temperature



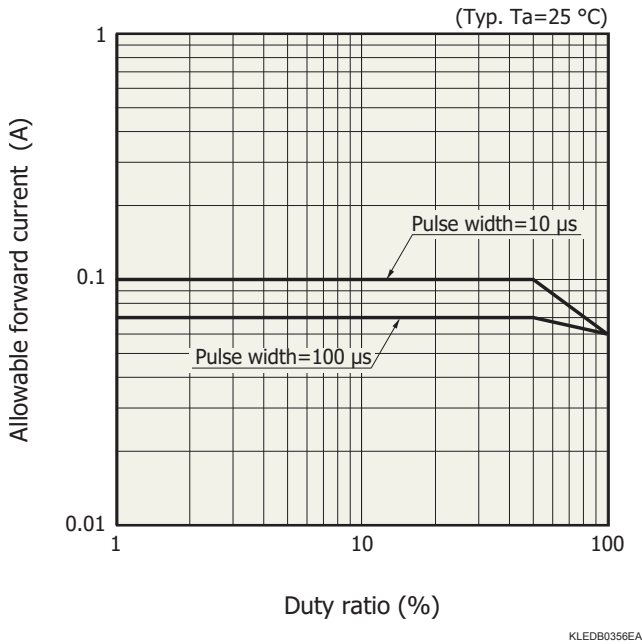
KLEDB0355EA

Allowable forward current vs. ambient temperature

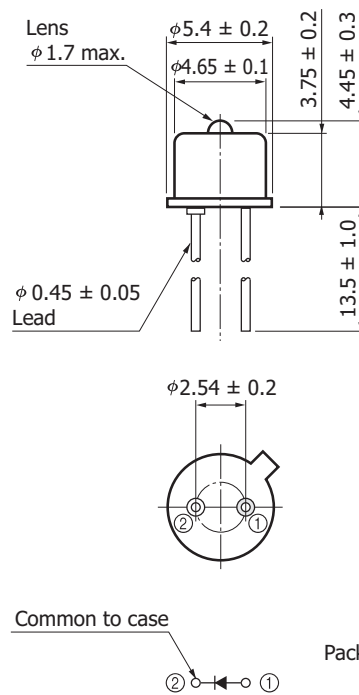


KLEDB0027EB

Allowable forward current vs. duty ratio



Dimensional outline (unit: mm)



Information described in this material is current as of March, 2012.

Product specifications are subject to change without prior notice due to improvements or other reasons. Before assembly into final products, please contact us for the delivery specification sheet to check the latest information.

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.