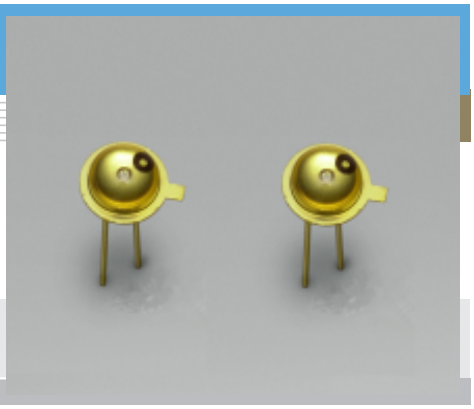
Infrared LED
L1909

TO-46 type GaAlAs infrared LED



Features

- High radiant output power
- Direct modulation possible
- High reliability and long life

Applications

- Auto-focus
- Automatic control systems
- Optical switches
- Mark sensors
- Optical remote control

■ Absolute maximum ratings (Ta=25 °C)

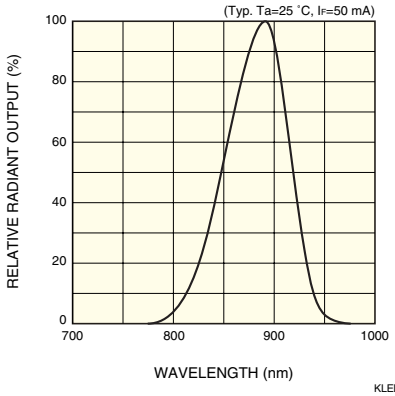
Parameter	Symbol	Condition	Value	Unit
Forward current	I_F		80	mA
Reverse voltage	V_R		5	V
Pulse forward current	I_{FP}	Pulse width=10 µs Duty ratio=1 %	1.0	A
Operating temperature	Topr		-30 to +85	°C
Storage temperature	Tstg		-40 to +100 *	°C

* Guaranteed to resist temperature cycle test of up to 5 cycles.

■ Electrical and optical characteristics (Ta=25 °C)

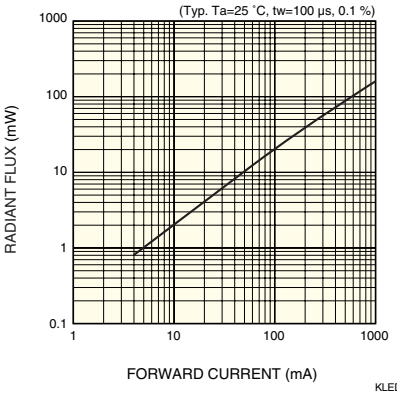
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak emission wavelength	λp	I_F=50 mA	870	890	920	nm
Spectral half width	Δλ	I_F=50 mA	-	80	-	nm
Forward voltage	V_F	I_F=50 mA	-	1.4	1.5	V
Pulse forward voltage	V_{FP}	I_F=1.0 A	-	2.8	3.4	V
Reverse current	I_R	V_R=5 V	-	-	5	µA
Radiant flux	φe	I_F=50 mA	8	10	-	mW
Radiant illuminance	P_E	I_F=50 mA	-	1.0	-	mW/cm^2
Rise time	tr	I_F=50 mA, 10 to 90 %	-	0.45	0.7	µs
Fall time	tf	I_F=50 mA, 90 to 10 %	-	0.45	0.7	µs

■ Emission spectrum



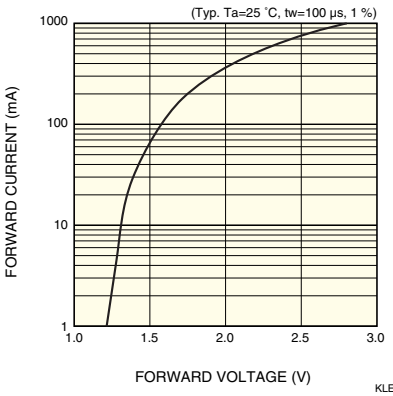
KLEDB0117EB

■ Radiant flux vs. forward current



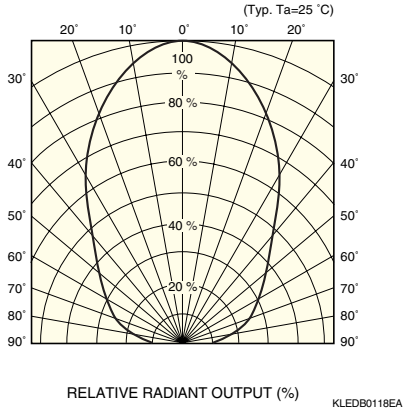
KLEDB0120EA

■ Forward current vs. forward voltage



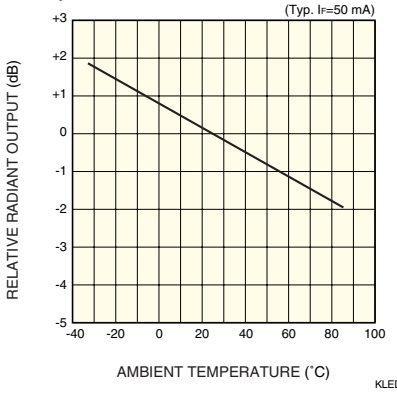
KLEDB0121EA

■ Directivity



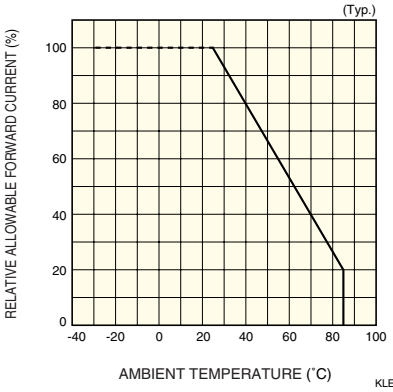
KLEDB0118EA

■ Radiant output vs. ambient temperature



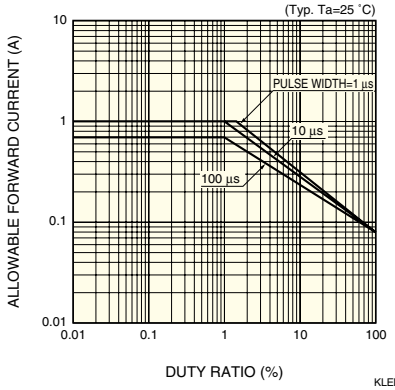
KLEDB0150EA

■ Allowable forward current vs. ambient temperature



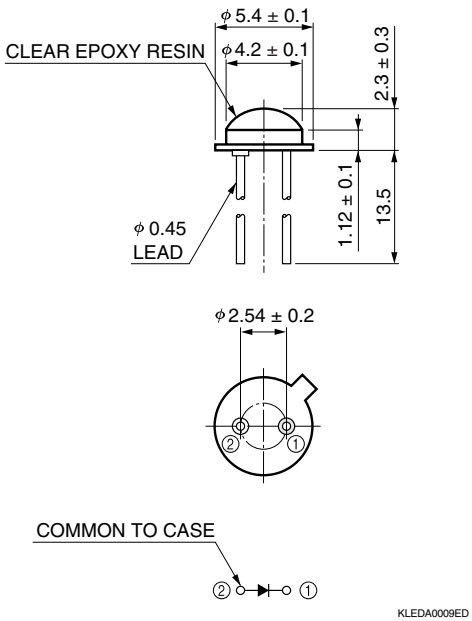
KLEDB0027EB

■ Allowable forward current vs. duty ratio



KLEDB0038EA

■ Dimensional outline (unit: mm)



KLEDA0009ED

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