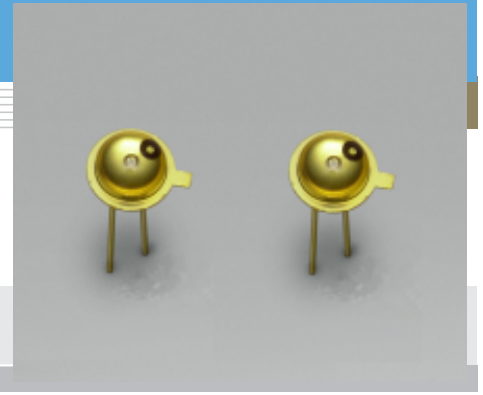


Infrared LED

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)

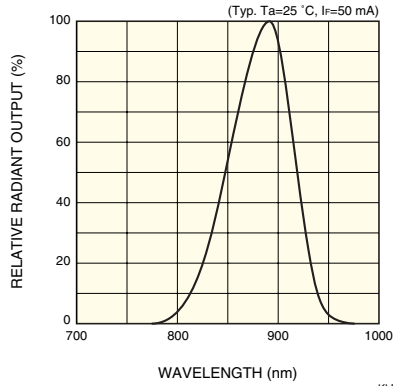
Parameter	Symbol	Condition	Value	Unit
Forward current	I _F		80	mA
Reverse voltage	V _R		5	V
Pulse forward current	I _{FP}	Pulse width=10 μs Duty ratio=1 %	1.0	A
Operating temperature	T _{opr}		-30 to +85	°C
Storage temperature	T _{stg}		-40 to +100 *	°C

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

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

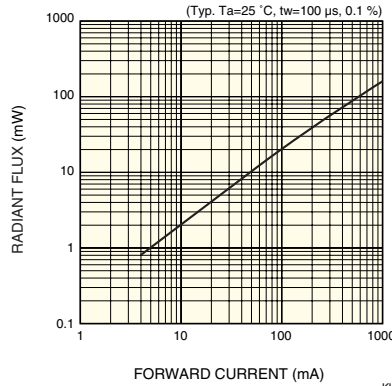
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak emission wavelength	λ _p	I _F =50 mA	870	890	920	nm
Spectral half width	Δλ	I _F =50 mA	-	80	-	nm
Forward voltage	V _F	I _F =50 mA	-	1.4	1.5	V
Pulse forward voltage	V _{FP}	I _F =1.0 A	-	2.8	3.4	V
Reverse current	I _R	V _R =5 V	-	-	5	μA
Radiant flux	φ _e	I _F =50 mA	8	10	-	mW
Radiant illuminance	P _E	I _F =50 mA	-	1.0	-	mW/cm ²
Rise time	t _r	I _F =50 mA, 10 to 90 %	-	0.45	0.7	μs
Fall time	t _f	I _F =50 mA, 90 to 10 %	-	0.45	0.7	μs

Emission spectrum



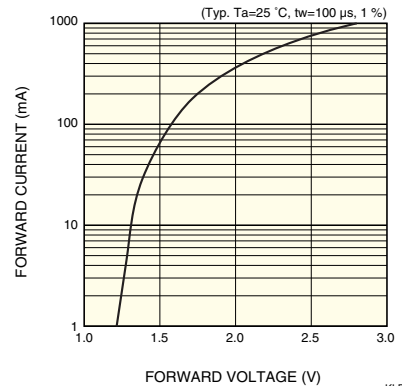
KLEDB0117EB

Radiant flux vs. forward current



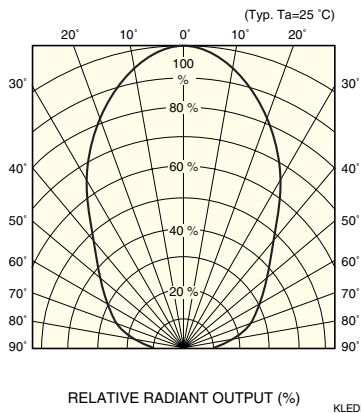
KLEDB0120EA

Forward current vs. forward voltage



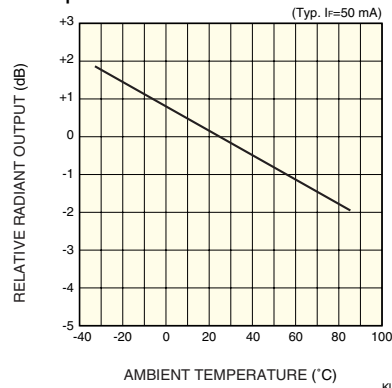
KLEDB0121EA

Directivity



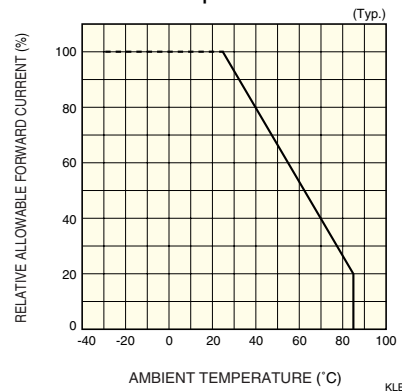
KLEDB0118EA

Radiant output vs. ambient temperature



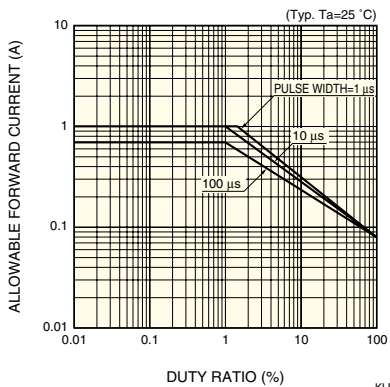
KLEDB0150EA

Allowable forward current vs. ambient temperature



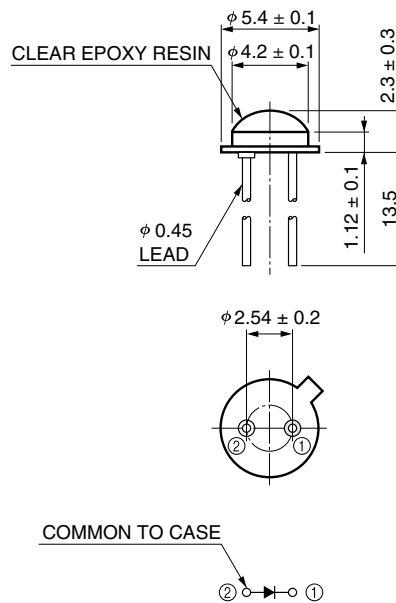
KLEDB0027EB

Allowable forward current vs. duty ratio



KLEDB0038EA

Dimensional outline (unit: mm)



KLEDA0009ED

HAMAMATSU

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