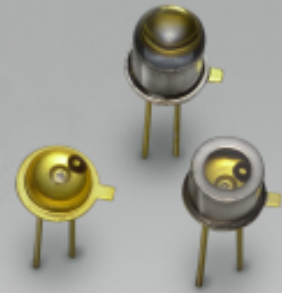


# Infrared LED

## L1915 series

### TO-46 type GaAlAs infrared LED



L1915 is mounted on a TO-46 metal stem potted with clear epoxy resin. L1915-01 is encapsulated in a TO-46 package sealed with a glass lens window. L1915-02 is also encapsulated in a TO-46 package but sealed with a flat glass window.

#### 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)

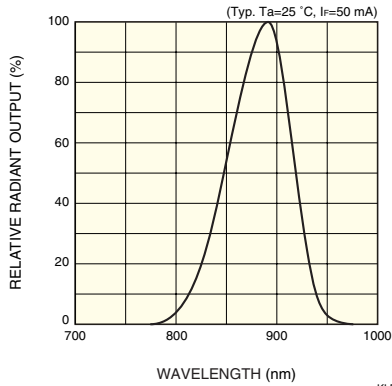
Parameter	Symbol	Condition	Value	Unit
Forward current	I <sub>F</sub>		100	mA
Reverse voltage	V <sub>R</sub>		5	V
Pulse forward current	I <sub>FP</sub>	Pulse width=10 μs Duty ratio=1 %	1.5	A
Operating temperature	T <sub>opr</sub>		-30 to +85	°C
Storage temperature	T <sub>stg</sub>		-40 to +100 *	°C

\* L1915 is guaranteed to resist temperature cycle test of up to 5 cycles.

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

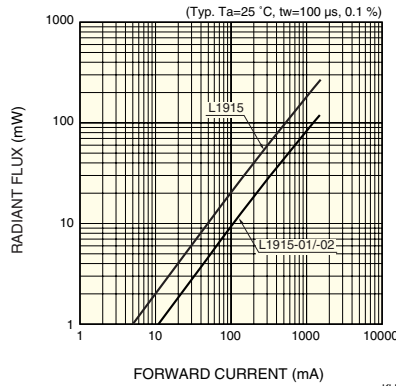
Parameter	Symbol	Condition	L1915			L1915-01			L1915-02			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Peak emission wavelength	λ <sub>p</sub>	I <sub>F</sub> =50 mA	870	890	920	870	890	920	870	890	920	nm
Spectral half width	Δλ	I <sub>F</sub> =50 mA	-	80	-	-	80	-	-	80	-	nm
Forward voltage	V <sub>F</sub>	I <sub>F</sub> =50 mA	-	1.4	1.5	-	1.4	1.5	-	1.4	1.5	V
Pulse forward voltage	V <sub>FP</sub>	I <sub>F</sub> =1.5 A	-	3.1	3.8	-	3.1	3.8	-	3.1	3.8	V
Reverse current	I <sub>R</sub>	V <sub>R</sub> =5 V	-	-	5	-	-	5	-	-	5	μA
Radiant flux	φ <sub>e</sub>	I <sub>F</sub> =50 mA	8	10	-	3.6	4.5	-	3.6	4.5	-	mW
Radiant illuminance	P <sub>E</sub>	I <sub>F</sub> =50 mA	-	1.0	-	-	2.7	-	-	1.0	-	mW/cm <sup>2</sup>
Rise time	t <sub>r</sub>	I <sub>F</sub> =50 mA, 10 to 90 %	-	0.45	0.7	-	0.45	0.7	-	0.45	0.7	μs
Fall time	t <sub>f</sub>	I <sub>F</sub> =50 mA, 90 to 10 %	-	0.45	0.7	-	0.45	0.7	-	0.45	0.7	μs

## Emission spectrum



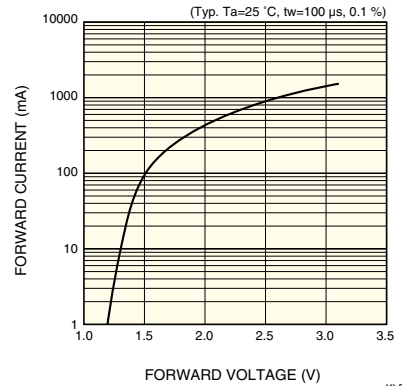
KLEDB0117EB

## Radiant flux vs. forward current



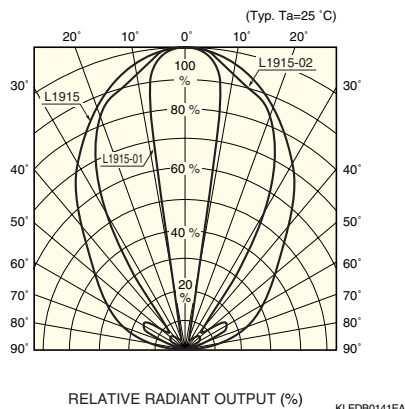
KLEDB0139EB

## Forward current vs. forward voltage



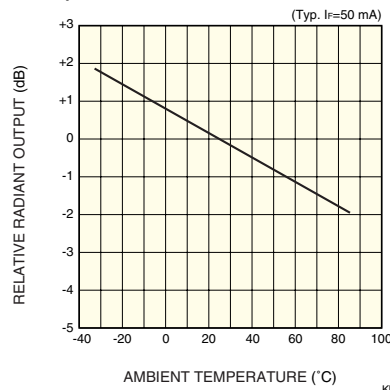
KLEDB0140EB

## Directivity



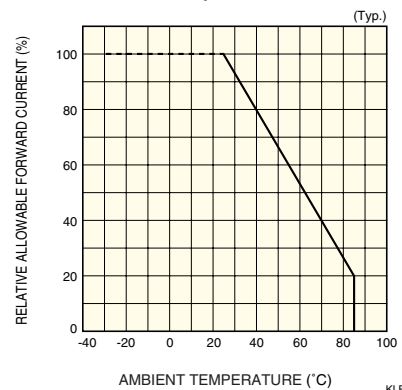
KLEDB0141EA

## Radiant output vs. ambient temperature



KLEDB0150EA

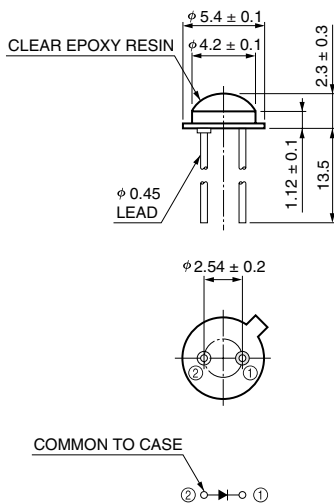
## Allowable forward current vs. ambient temperature



KLEDB0027EB

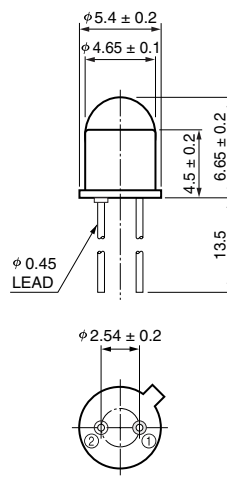
## Dimensional outlines (unit: mm)

### L1915



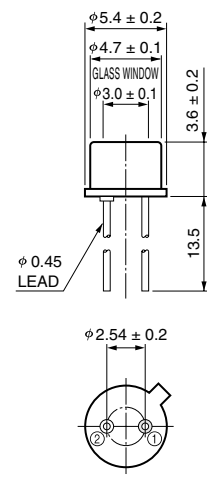
KLEDA009ED

### L1915-01



KLEDA0052EB

### L1915-02



KLEDA0053EB