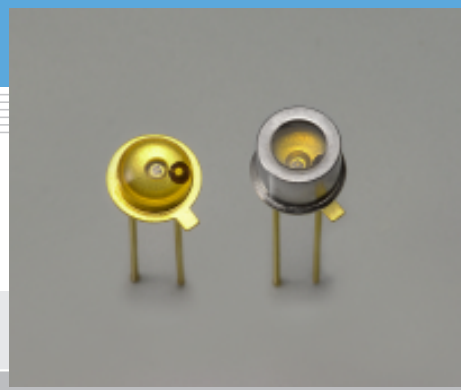


Infrared LED

L1939 series

φ300 μm emission spot, no electrode in emission area



Features

- Small emission spot: φ300 μm
- Wide directivity
- High reliability, long life

Applications

- Auto-focus
- Optical switches
- Mark sensors

■ Absolute maximum ratings (Ta=25 °C)

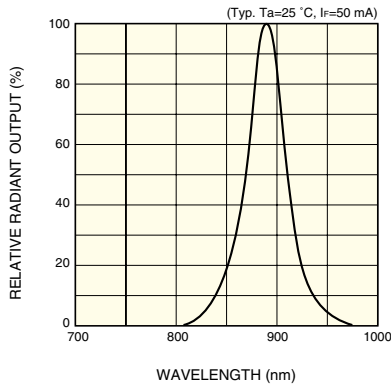
Parameter	Symbol	Condition	Value	Unit
Forward current	IF		100	mA
Reverse voltage	VR		5	V
Pulse forward current	IFP	Pulse width=10 μs Duty ratio=1 %	1.5	A
Operating temperature	Topr		-30 to +85	°C
Storage temperature	Tstg		-40 to +100 *	°C

* L1939 is guaranteed to resist temperature cycle test of up to 5 cycles.

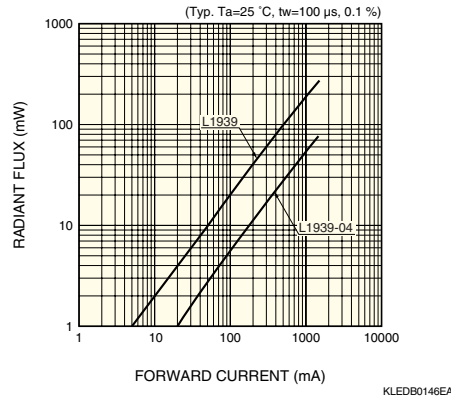
■ Electrical and optical characteristics (Ta=25 °C)

Parameter	Symbol	Condition	L1939			L1939-04			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Peak emission wavelength	λp	IF=50 mA	870	890	920	870	890	920	nm
Spectral half width	Δλ	IF=50 mA	-	50	-	-	50	-	nm
Forward voltage	VF	IF=50 mA	-	1.4	1.5	-	1.4	1.5	V
Pulse forward voltage	VFP	IF=1.5 A	-	2.7	3.4	-	2.7	3.4	V
Reverse current	IR	VR=5 V	-	-	5	-	-	5	μA
Radiant flux	φe	IF=50 mA	8.0	10.0	-	2.0	2.8	-	mW
Radiant illuminance	PE	IF=50 mA	-	0.4	-	-	0.35	-	mW/cm ²
Rise time	tr	IF=50 mA, 10 to 90 %	-	0.45	0.7	-	0.45	0.7	μs
Fall time	tf	IF=50 mA, 90 to 10 %	-	0.45	0.7	-	0.45	0.7	μs

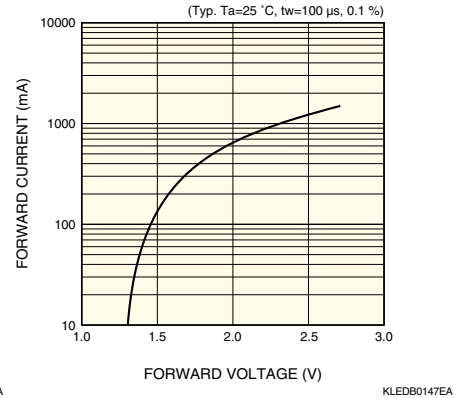
Emission spectrum



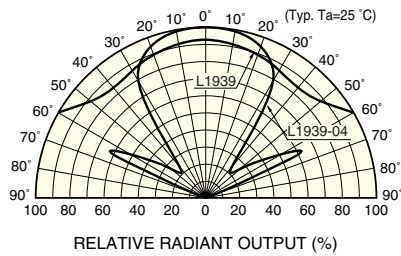
Radiant flux vs. forward current



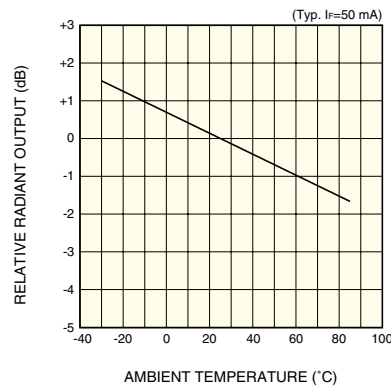
Forward current vs. forward voltage



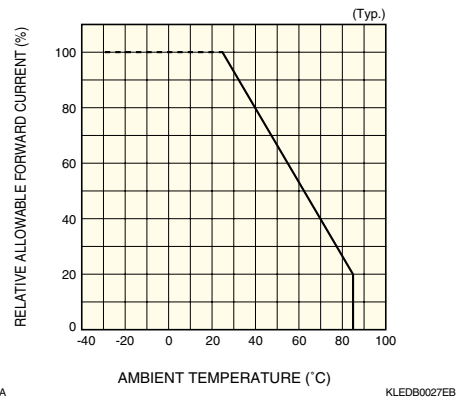
Directivity



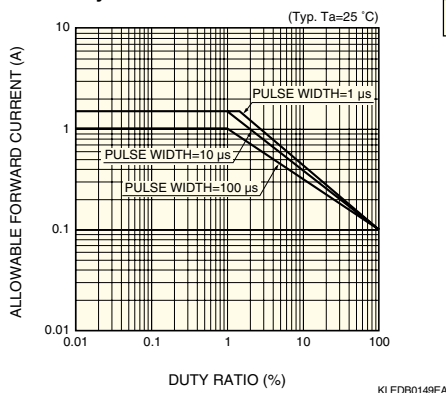
Radiant output vs. ambient temperature



Allowable forward current vs. ambient temperature

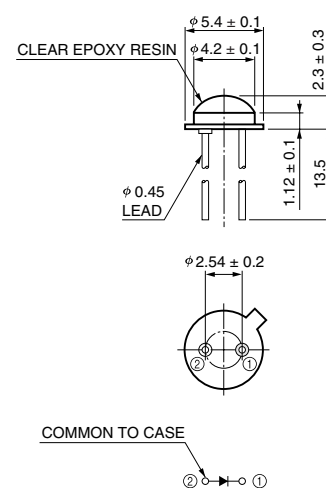


Allowable forward current vs. duty ratio



Dimensional outlines (unit: mm)

① L1939



② L1939-04

