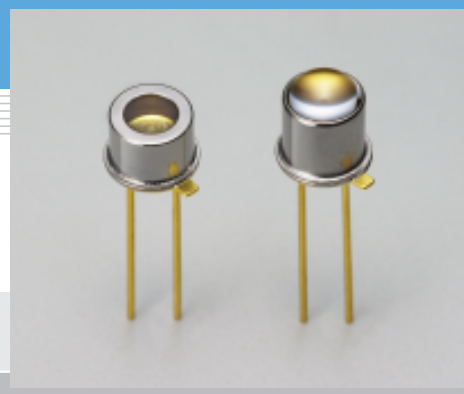


Infrared LED

L7850 series

Peak emission wavelength: 1.45 μm



L7850 series is a long wavelength LED using an InGaAs chip. Peak emission occurs at 1.45 μm , making L7850 series ideal for detection of water content or moisture. L7850-01 has a glass lens window for narrow directivity (beam spread).

Features

- Peak emission wavelength: 1.45 μm
- High radiant output power
- Narrow directivity (L7850-01)

Applications

- Light source for moisture meter
- Light source for photosensitive material

■ Absolute maximum ratings (Ta=25 °C, unless otherwise noted)

Parameter	Symbol	Condition	Value	Unit
Reverse voltage	VR		1	V
Forward current	IF		80	mA
Forward current derating rate	-	Ta > 25 °C	1.1	mA/°C
Pulse forward current	IFP	Pulse width=10 μs Duty ratio=1 %	1.0	A
Pulse forward current derating rate	-	Ta > 25 °C	13	mA/°C
Power dissipation	P		150	mW
Operating temperature	Topr		-30 to +85	°C
Storage temperature	Tstg		-40 to +100 *1	°C

*1: L7850 series is guaranteed to resist temperature cycle test of up to 5 cycles.

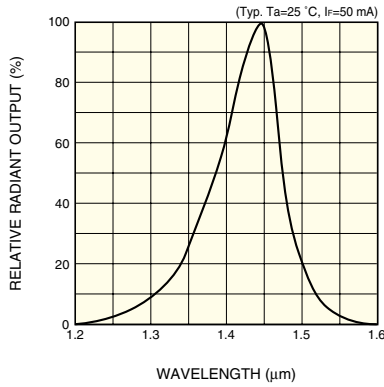
■ Electrical and optical characteristics (Ta=25 °C)

Parameter	Symbol	Condition	L7850/-01			Unit
			Min.	Typ.	Max.	
Peak emission wavelength	λ_p	IF=50 mA	1.4	1.45	1.5	μm
Spectral half width (FWHM)	$\Delta\lambda$	IF=50 mA	-	100	150	nm
Radiant flux	ϕ_e	IF=50 mA	0.7	1.0	-	mW
Forward voltage	VF	IF=50 mA	-	1.0	1.5	V
Pulse forward voltage	VFP	IF=1 A	-	2	3	V
Reverse current	IR	VR=1 V	-	-	10	μA
Cut-off frequency *2	fc	IF=50 mA $\pm$ 10 mAp-p	1	3	-	MHz

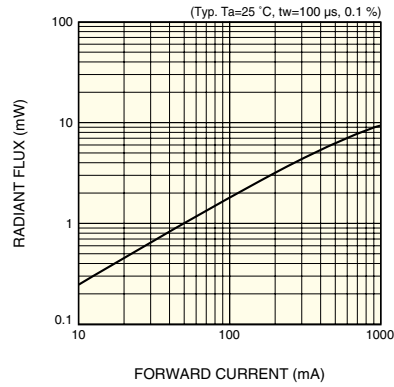
*2: Frequency at which the light output drops by -3 dB based on light output at 100 kHz.

L7850 series may be damaged or performance may deteriorate due to static electricity, so use caution when handling.

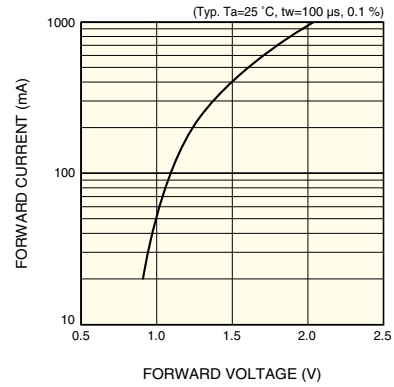
Emission spectrum



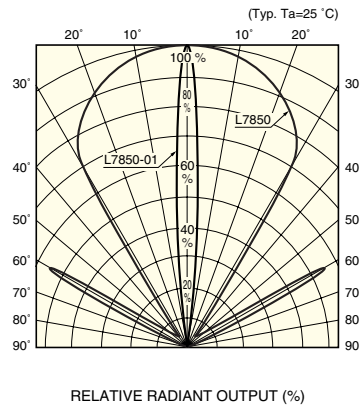
Radiant flux vs. forward current



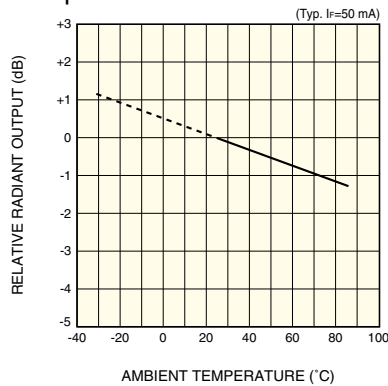
Forward current vs. forward voltage



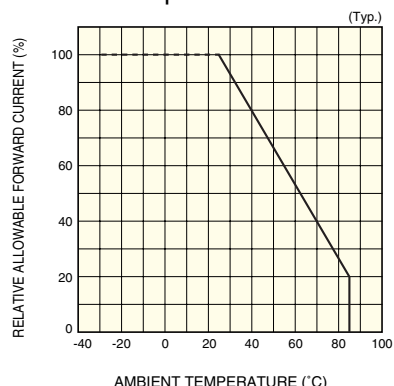
Directivity



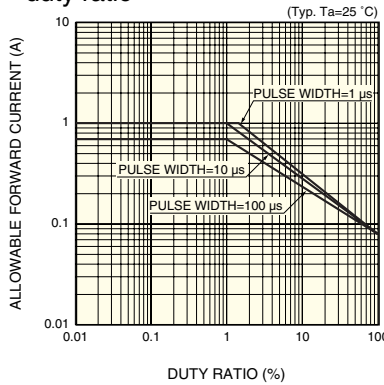
Radiant output vs. ambient temperature



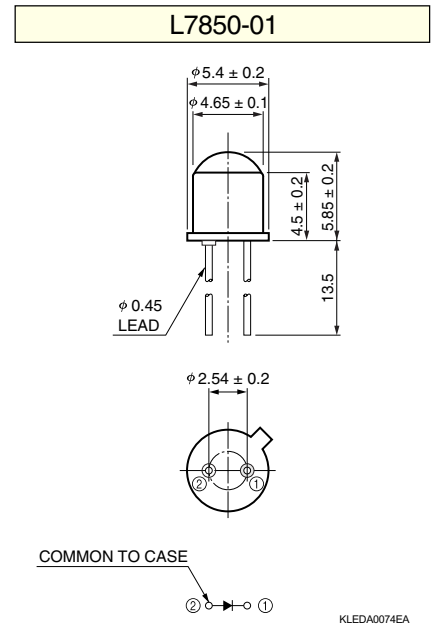
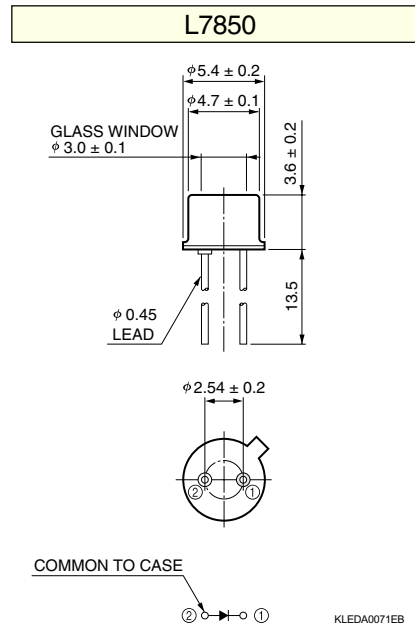
Allowable forward current vs. ambient temperature



Allowable forward current vs. duty ratio



Dimensional outlines (unit: mm)



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