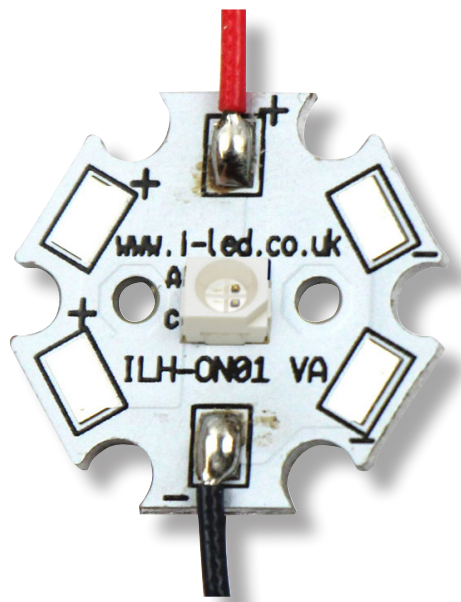




# ILS 1 PLCC-2 Dual Emitter PowerStar, 670nm & 870nm

ILH-L10922-SC201-WIR200.

The L10922 is a 2-wavelength LED array containing a red LED chip with a peak emission wavelength at 670nm and an infrared LED chip with a peak emission wavelength at 870nm.



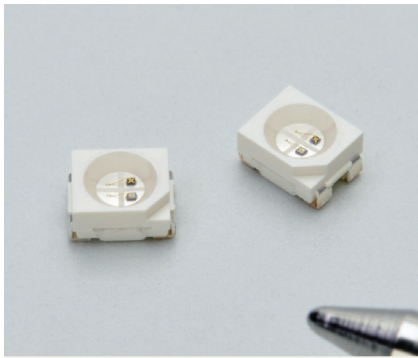
## FEATURES

- » High output
- » Compact, surface mount type package
- » Size (L x W x H): 20mm x 20mm x 3.85mm
- » High reliability
- » High Quality LED from Hamamatsu
- » Compatible with lead-free reflow
- » 200mm wires

## APPLICATIONS

- » Optical switches
- » Analysis and measurement

All photographs shown are for illustration purpose only. Actual product may vary.



L10922

## Surface mount type 2-wavelength LED array

The L10922 is a 2-wavelength LED array containing a red LED chip with a peak emission wavelength at 670 nm and an infrared LED chip with a peak emission wavelength at 870 nm.

### Features

- High output
- Compact, surface mount type package (3.5 × 2.6 × 1.8<sup>t</sup> mm)
- High reliability
- Low cost
- Compatible with lead-free reflow

### Applications

- Optical switches
- Analysis and measurement

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

Parameter	Symbol	Condition	Value		Unit
			Red LED	Infrared LED	
Reverse voltage	V <sub>R</sub>		5		V
Forward current	I <sub>F</sub>		70	80	mA
Forward current decrease rate	ΔI <sub>F</sub>	T <sub>a</sub> > 25 °C	0.9	1.1	mA/°C
Pulse forward current	I <sub>FP</sub>	Pulse width=10 μs, duty ratio=1%	0.6	0.5	A
Pulse forward current decrease rate	ΔI <sub>FP</sub>	T <sub>a</sub> > 25 °C	8	13	mA/°C
Power dissipation	P <sub>d max</sub>		150		mW
Operating temperature	T <sub>opr</sub>	No dew condensation*1	-30 to +85		°C
Storage temperature	T <sub>stg</sub>	No dew condensation*1	-40 to +100		°C
Reflow soldering conditions	-	JEDEC J-STD-020 MSL 5a	Peak temperature: 240 °C, 1 time		-

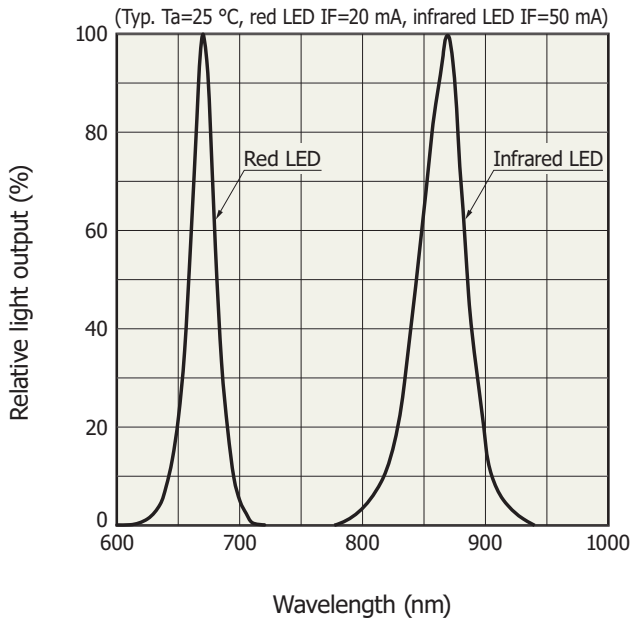
\*1: When there is a temperature difference between a product and the surrounding area in high humidity environment, dew condensation may occur on the product surface. Dew condensation on the product may cause deterioration in characteristics and reliability.

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

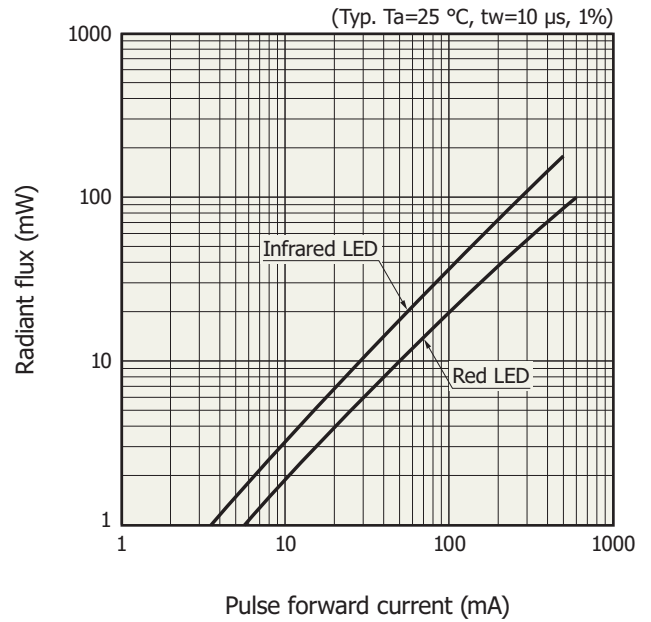
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak emission wavelength	λ <sub>R</sub>	Red LED I <sub>F</sub> =20 mA	650	670	700	nm
		Infrared LED I <sub>F</sub> =50 mA	840	870	900	
Spectral half width	Δλ	Red LED I <sub>F</sub> =20 mA	-	25	50	nm
		Infrared LED I <sub>F</sub> =50 mA	-	45	80	
Radiant flux	φ <sub>e</sub>	Red LED I <sub>F</sub> =20 mA	2.7	4	6.5	mW
		Infrared LED I <sub>F</sub> =50 mA	12	18	26	
Forward voltage	V <sub>F</sub>	Red LED I <sub>F</sub> =20 mA	-	1.8	2.1	V
		Infrared LED I <sub>F</sub> =50 mA	-	1.47	1.55	
Reverse current	I <sub>R</sub>	Red LED V <sub>R</sub> =5 V	-	-	20	μA
		Infrared LED V <sub>R</sub> =5 V	-	-	5	
Frequency characteristics*2	f <sub>c</sub>	Red LED I <sub>F</sub> =50 mA ± 1 mAp-p	2.2	3	-	MHz
		Infrared LED I <sub>F</sub> =50 mA ± 1 mAp-p	25	40	-	

\*2: Frequency at which the light output drops by 3 dB relative to the output at 100 kHz

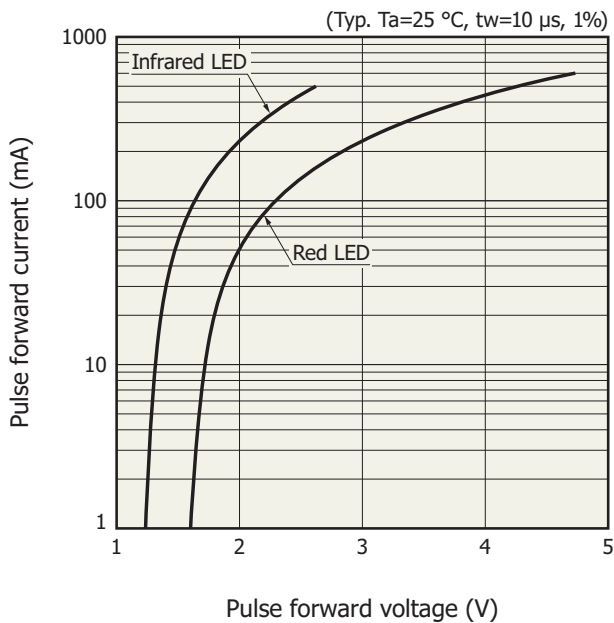
**Emission spectrum**



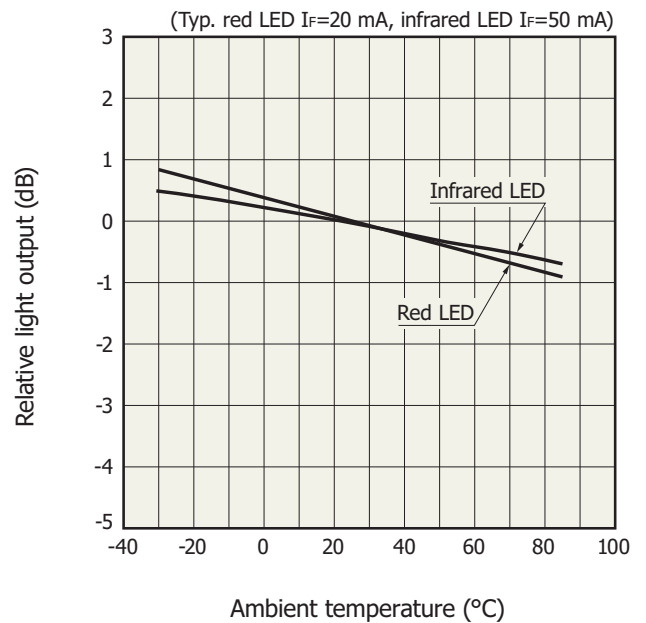
**Radiant flux vs. pulse forward current**



**Pulse forward current vs. pulse forward voltage**

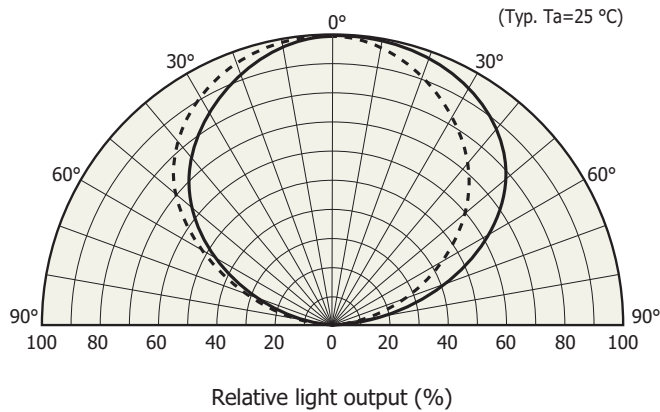


**Light output vs. ambient temperature**

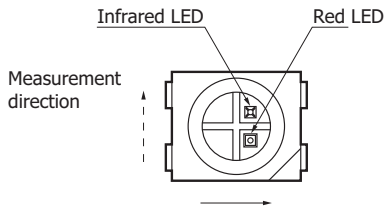
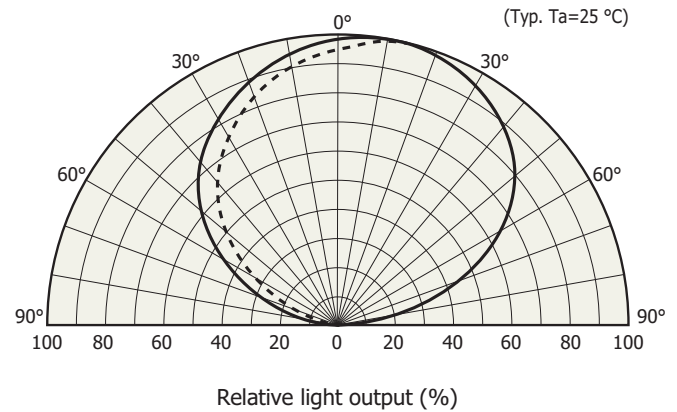


**Directivity**

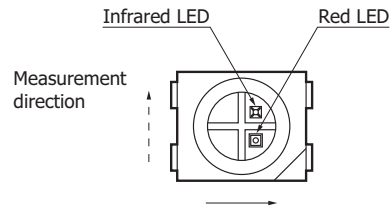
Red LED



Infrared LED



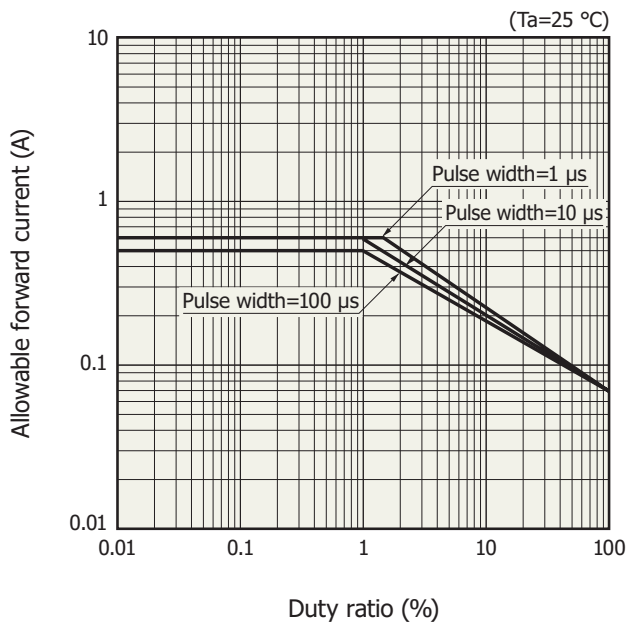
KLEDB0532EA



KLEDB0532EA

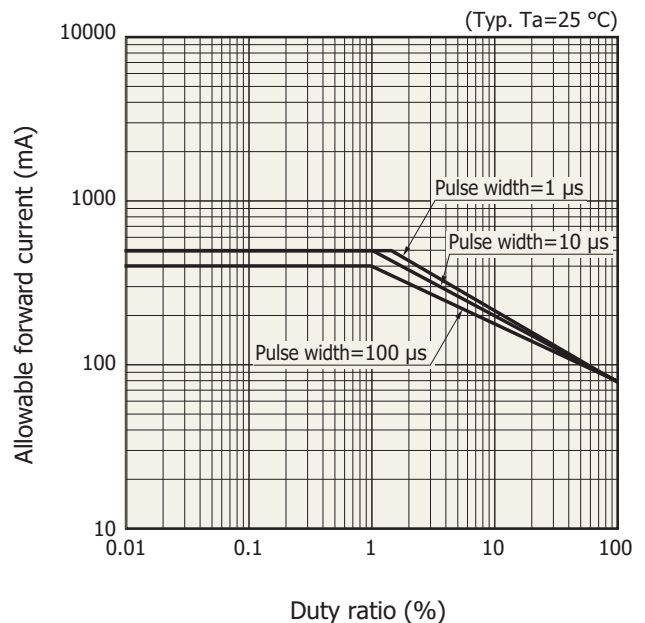
**Allowable forward current vs. duty ratio**

Red LED



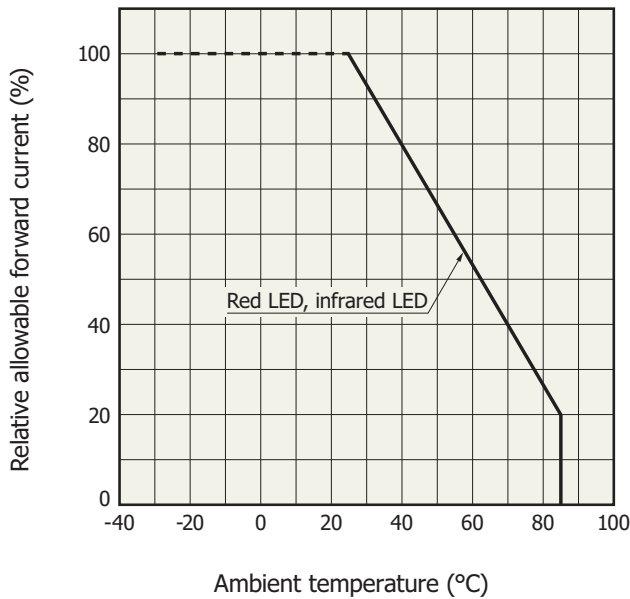
KLEDB0193EB

Infrared LED



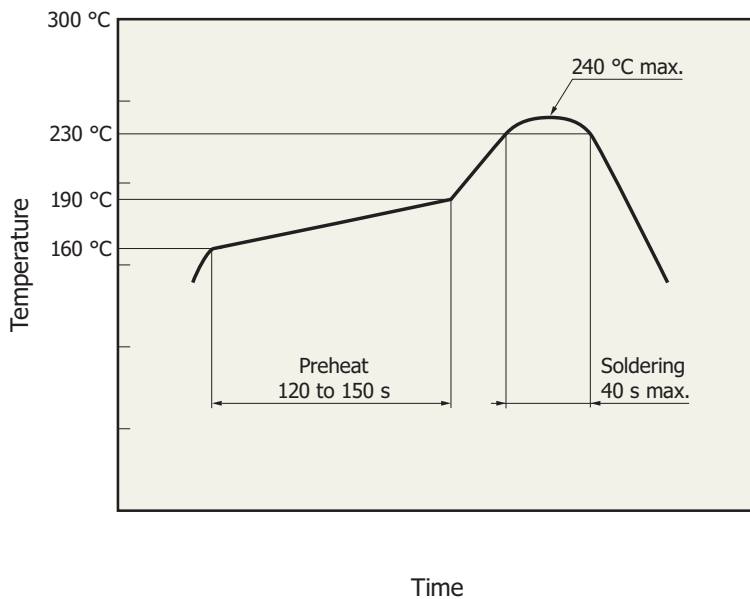
KLEDB0363EA

### ▣ Allowable forward current vs. ambient temperature



KLEDB0027EC

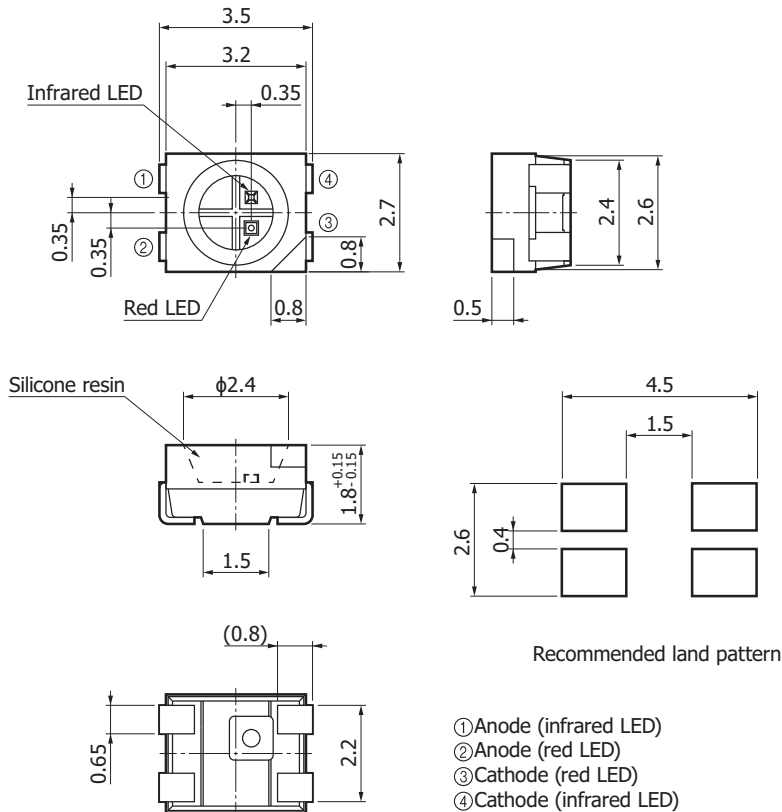
### ▣ Recommended solder reflow conditions



- After unpacking, store the device in an environment at a temperature range of 5 to 30 °C and a humidity of 60% or less, and perform reflow soldering within 24 hours.
- The effect that the product receives during reflow soldering varies depending on the circuit board and reflow oven that are used.
- When you set reflow soldering conditions, check that problems do not occur in the product by testing out the conditions in advance.

KLEDB0531EA

### Dimensional outline (unit: mm)



- ① Anode (infrared LED)
- ② Anode (red LED)
- ③ Cathode (red LED)
- ④ Cathode (infrared LED)

Tolerance unless otherwise noted:  $\pm 0.1$   
Standard packing state: reel (1000 pcs/roll)

KLEDA0111EA

### Related information

[www.hamamatsu.com/sp/ssd/doc\\_en.html](http://www.hamamatsu.com/sp/ssd/doc_en.html)

#### Precautions

- Disclaimer
- Surface mount type products

#### Technical information

- LED



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