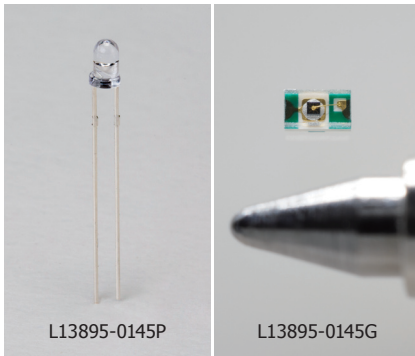


Infrared LED

L13895 series



**High power LED,
peak emission wavelength: 1.45 μm**

The L13895 series is a high-power LED that emits infrared light at a peak of 1.45 μm. A bullet-shaped package (L13895-0145P) and a surface mount type (L13895-0145G) are available. It offers high output power, high reliability and low cost.

Features

- High output
- Low cost
- High reliability
- Bullet-shaped package: **L13895-0145P**
- Small and surface mount type: **L13895-0145G**
- Suitable for lead-free reflow: **L13895-0145G**

Applications

- Light sources for foreign object sorting
- Moisture meters

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

Parameter	Symbol	Condition	L13895-0145P	L13895-0145G	Unit
Reverse voltage	V _R max		1	1	V
Forward current	I _F max		100	80	mA
Forward current decrease rate	ΔI _F	Ta>25 °C	1	0.8	mA/°C
Pulse forward current	I _{FP} max	*1	1	0.5	A
Pulse forward current decrease rate	ΔI _{FP}	Ta>25 °C	10	5	mA/°C
Power dissipation	P _d max		0.15		W
Operating temperature	T _{opr}	No dew condensation*2	-30 to +85	-30 to +85	°C
Storage temperature	T _{stg}	No dew condensation*2	-30 to +100	-40 to +100	°C
Soldering conditions	-		230 °C, within 5 s, at least 2 mm away from resin bottom surface		-
Reflow soldering conditions	T _{sol}	JEDEC level 2a	-	Peak temperature: 250 °C, 2 times	-

*1: Pulse width=10 μs, duty ratio=1%

*2: 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.

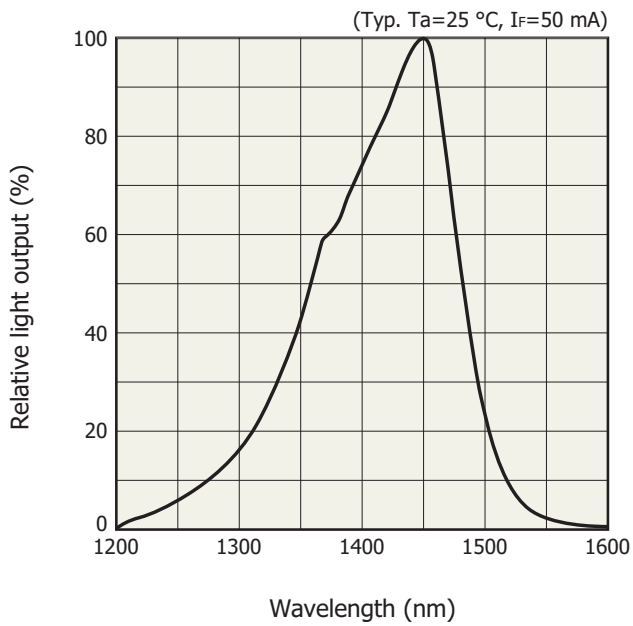
Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

Electrical and optical characteristics (Ta=25 °C)

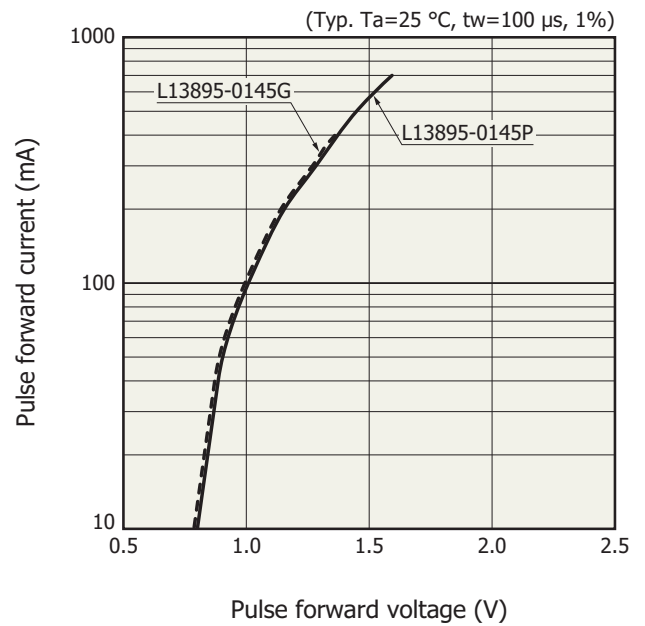
Parameter	Symbol	Condition	L13895-0145P			L13895-0145G			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Peak emission wavelength	λ _p	I _F =50 mA	1400	1450	1500	1400	1450	1500	nm
Spectral half width	Δλ	I _F =50 mA	-	120	170	-	120	170	nm
Forward voltage	V _F	I _F =50 mA	-	0.9	1.3	-	0.9	1.2	V
Reverse current	I _R	V _R =1 V	-	-	10	-	-	10	μA
Radiant flux	φ _e	I _F =50 mA	-	5	-	3	4	-	mW
Radiant intensity	I _e	I _F =50 mA	12	20	-	-	-	-	mW/sr
Cutoff frequency*2	f _c	I _F =50 mA ± 10 mAp-p	5	10	-	5	10	-	MHz

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

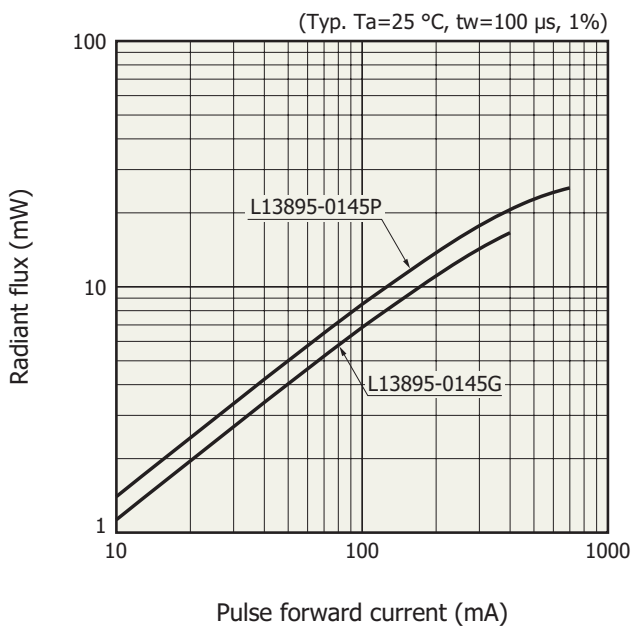
Emission spectrum



Pulse forward current vs. pulse forward voltage

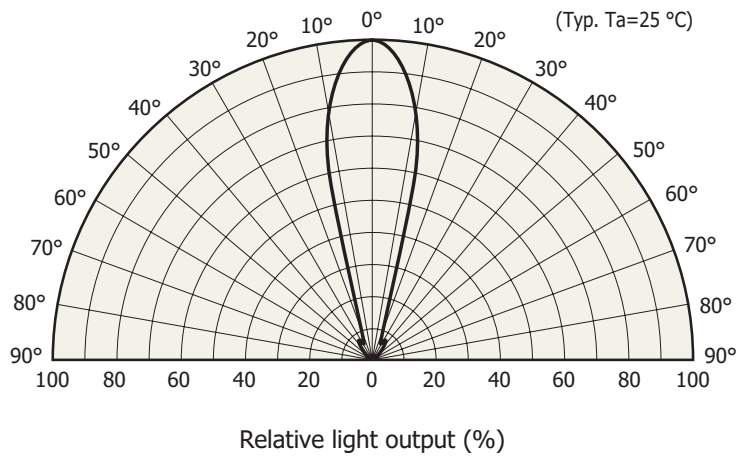


Radiant flux vs. pulse forward current



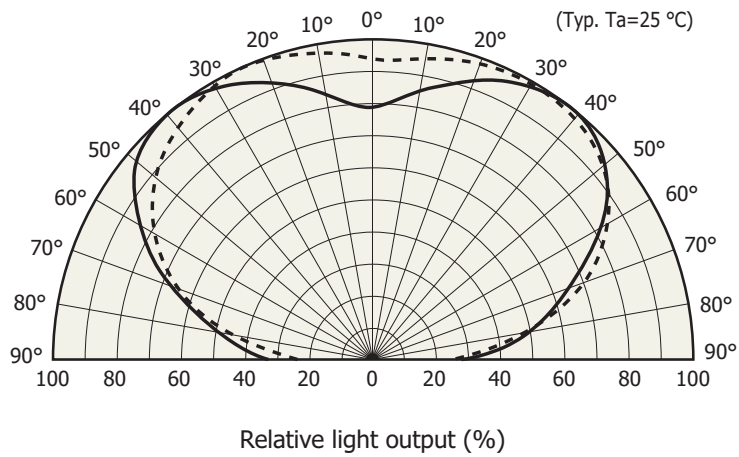
Directivity

L13895-0145P



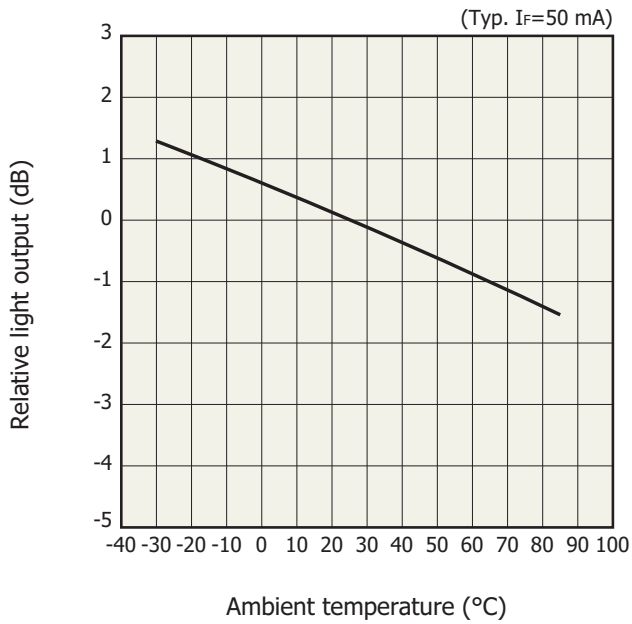
KLEDB0469EA

L13895-0145G



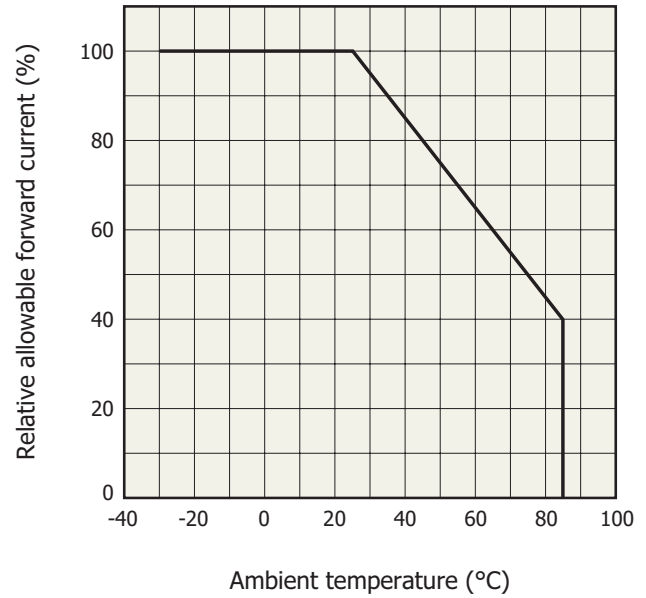
KLEDB0487EA

Light output vs. ambient temperature



KLEDB0470EA

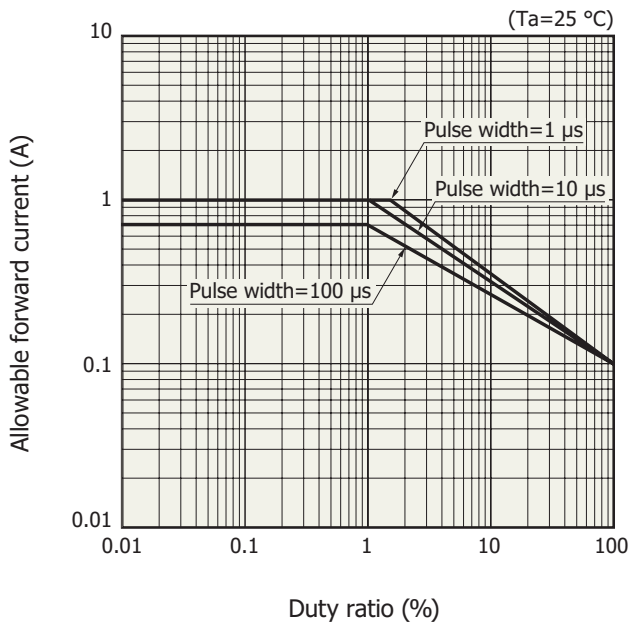
Allowable forward current vs. ambient temperature



KLEDB0471EA

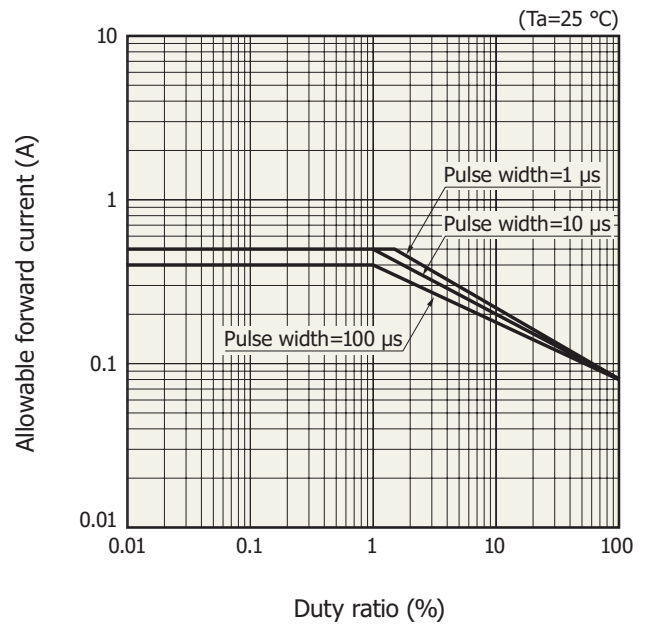
Allowable forward current vs. duty ratio

L13895-0145P



KLEDB0472EA

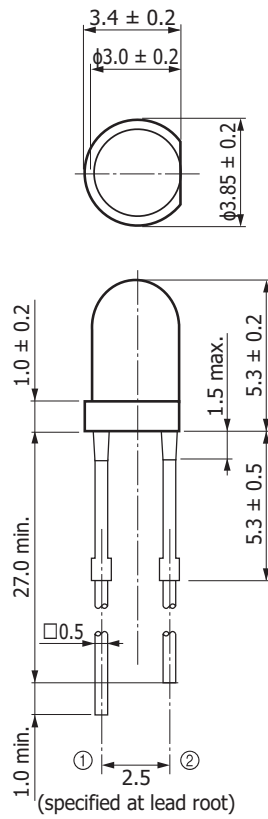
L13895-0145G



KLEDB0488EA

Dimensional outline (unit: mm)

L13895-0145P

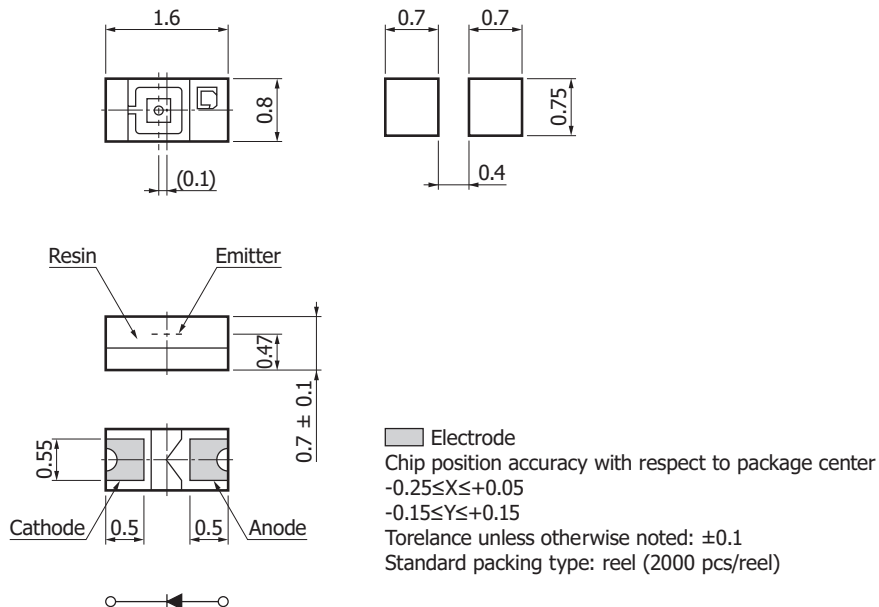


Standard packing type:
anti-static bag (100 pcs/pack)

KLEDA0098EC

L13895-0145G

Recommended land pattern



KLEDA0107EA

Related information

www.hamamatsu.com/sp/ssd/doc_en.html

■ Precautions

- Disclaimer
- Metal, ceramic, plastic packages
- Surface mount type products

Information described in this material is current as of January 2018.

Product specifications are subject to change without prior notice due to improvements or other reasons. This document has been carefully prepared and the information contained is believed to be accurate. In rare cases, however, there may be inaccuracies such as text errors. Before using these products, always contact us for the delivery specification sheet to check the latest specifications.

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