



L9725-01

High output power LED of compact SMD type

Features

- High radiant output power
- Compact / surface mount type package
- High reliability
- Low price
- Compatible with lead-free reflow soldering (RoHS compliance)

Applications

- Optical switches
- Automobile use

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

Parameter	Symbol	Condition	Specification	Unit
Reverse voltage	V _R		5	V
Forward current	I _F		80	mA
Derating rate of forward current	-	T _a > 25 °C	0.7	mA/°C
Pulse forward current	I _{FP}	Pulse width=10 μs Duty ratio=1%	0.5	A
Derating rate of pulse forward current	-	T _a > 25 °C	4.6	mA/°C
Power dissipation	P _d		150	mW
Operating temperature	T _{opr}	No condensation*1	-30 to +90	°C
Storage temperature	T _{stg}	No condensation*1	-40 to +125	°C
Soldering temperature	T _{sol}		250 (twice)*2	°C

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

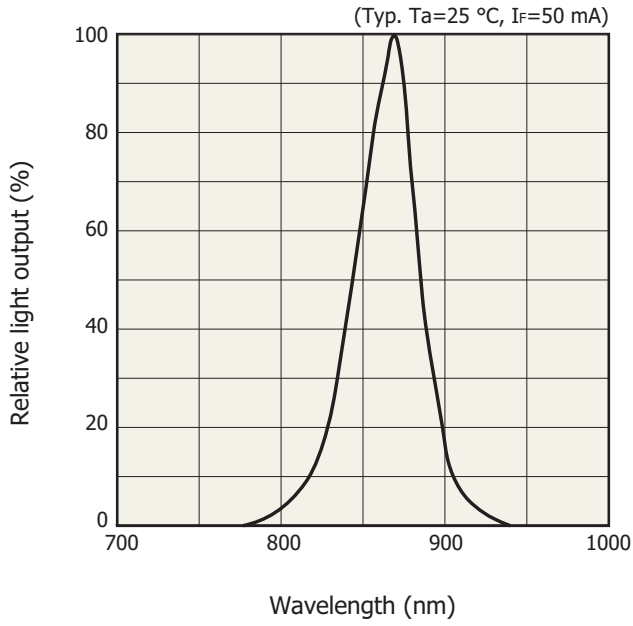
*2: Reflow soldering, JEDEC J-STD-020 MSL 4, see P.3

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)

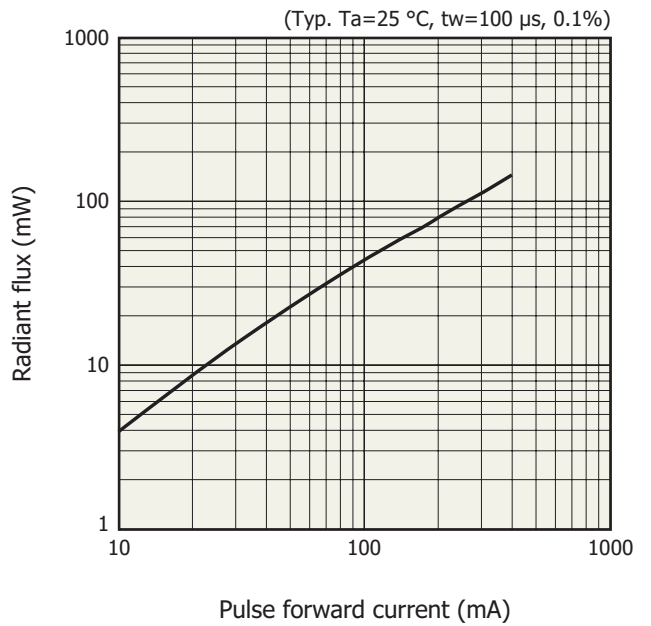
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak emission wavelength	λ _p	I _F =50 mA	840	870	900	nm
Spectral half-width	Δλ	I _F =50 mA	-	45	70	nm
Radiant flux	φ _e	I _F =50 mA	18	23	29	mW
Forward voltage	V _F	I _F =50 mA	-	1.45	1.75	V
Pulse forward voltage	V _{FP}	I _{FP} =500 mA	-	2.3	3.5	V
Reverse current	I _R	V _R =5 V	-	-	5	μA
Cutoff frequency	f _c	I _F =30 mA ± 4 mA _{p-p}	25	40	-	MHz

Emission spectrum



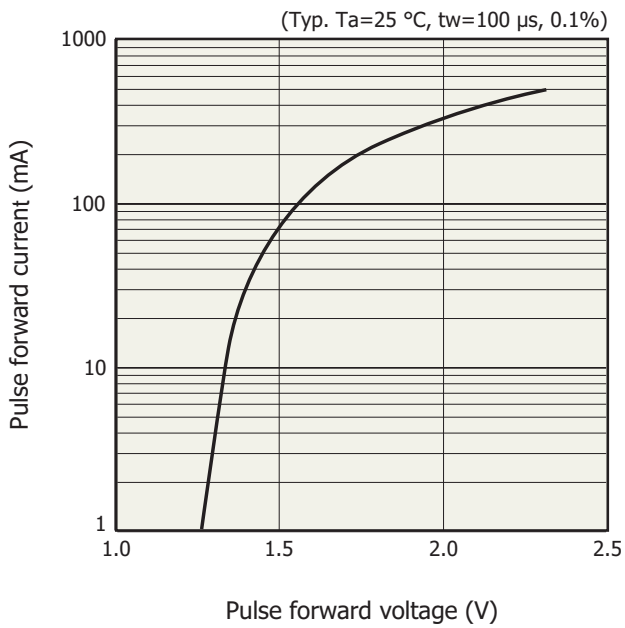
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Radiant flux vs. pulse forward current

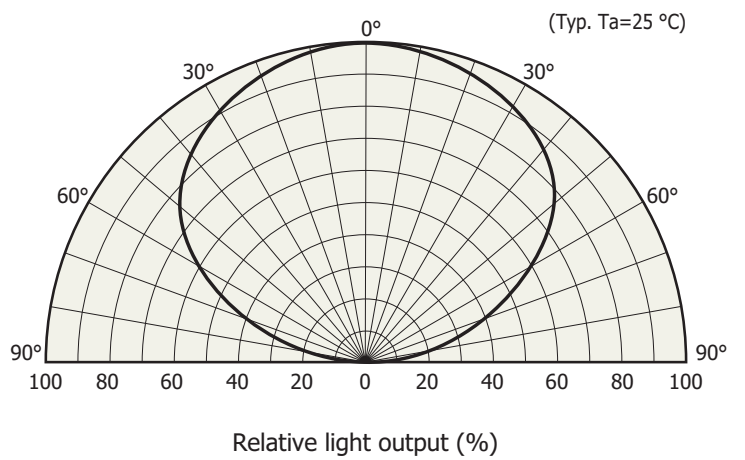


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Pulse forward current vs. pulse forward voltage **Directivity**

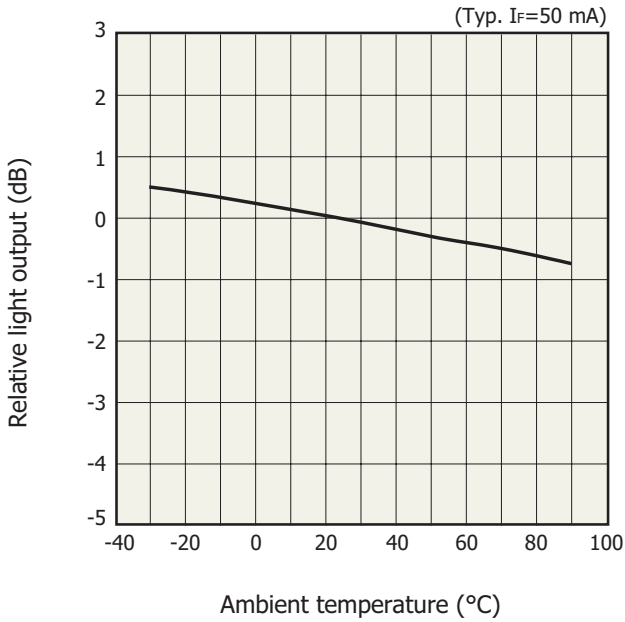


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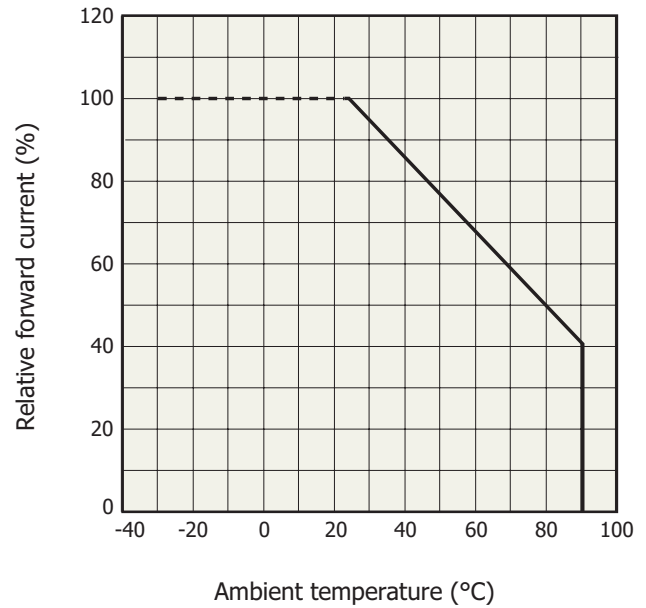
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❑ Light output vs. ambient temperature



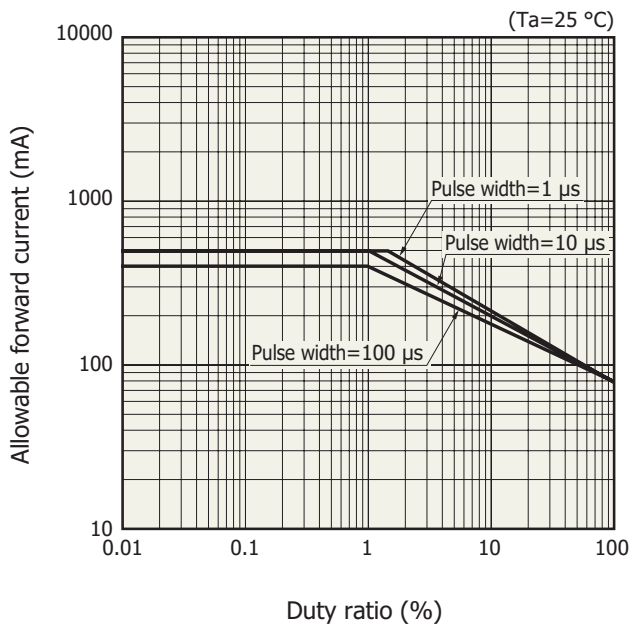
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❑ Allowable forward current vs. ambient temperature



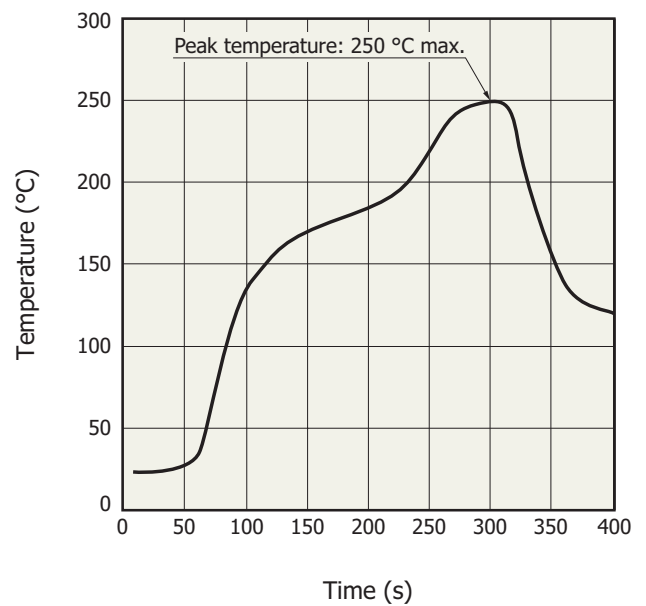
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❑ Allowable forward current vs. duty ratio



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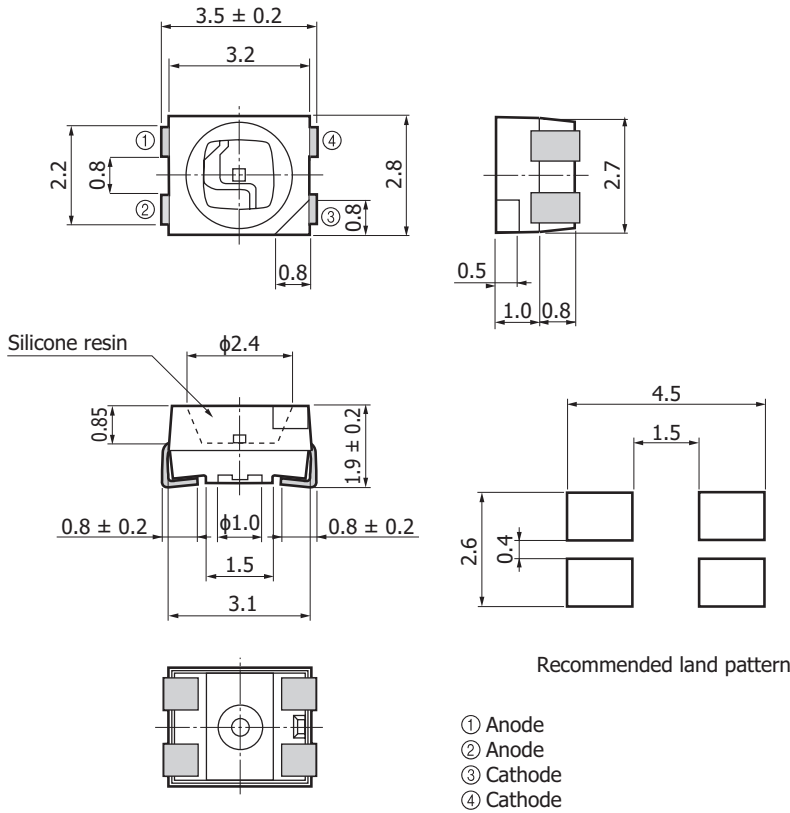
❑ Recommended reflow soldering condition



- After unpacking, store this device in an environment at a temperature from 5 to 30 °C and a humidity below 60%, and perform reflow soldering on this device within 72 hours.
- Thermal stress applied to the device during reflow soldering differs depending on the PC boards and reflow oven being used.
- When setting the reflow conditions, make sure that the reflow soldering process does not degrade device reliability.

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Dimensional outline (unit: mm, tolerance unless otherwise noted: ± 0.1)



- ① Anode
- ② Anode
- ③ Cathode
- ④ Cathode

█ Electrode
 Distance from emission area center to package center: X, Y±0.2
 Packing: reel (1000 pcs/reel)

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Information described in this material is current as of March, 2021.

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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