

Nanostack Pulsed Laser Diode

Version 1.1

SPL DS90_3



Features:

- Reliable strained InGaAs/GaAs material
- High power large-optical-cavity structure
- Nanostack laser technology including multiple epitaxially stacked emitters
- Laser aperture 200 μm \times 10 μm

Applications

- Range finding
- Security, surveillance
- Illumination, ignition
- Testing and measuring applications

Notes

Depending on the mode of operation, these devices emit highly concentrated non visible infrared light which can be hazardous to the human eye. Products which incorporate these devices have to follow the safety precautions given in IEC 60825-1 and IEC 62471.

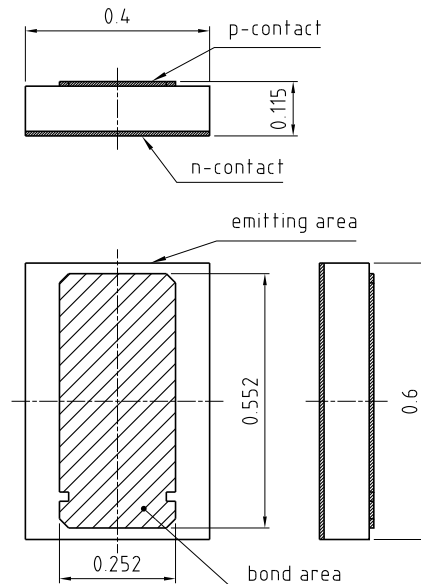
Ordering Information

Type:	Peak wavelength (typ) λ_{peak}	Ordering Code
SPL DS90_3	903	Q65111A5640

Characteristics ($T_A = 25\text{ °C}$)

Parameter	Symbol	Values			Unit
		min	typ	max	
Number of vertically stacked emitters			3		
Standard pulse center wavelength	λ_{pulse}	897	903	909	nm
Threshold current	I_{th}		0.55	0.7	A
Differential efficiency	η	3.5	3.7		W / A
Aperture size	w x h		200 x 10		μm x μm
Beam divergence (FWHM) perpendicular to pn-junction	Θ_{\perp}		25	30	°
Beam divergence (FWHM) parallel to pn-junction	Θ_{\parallel}		10		°
Differential series resistance	R_s		0.32	0.4	Ω
Characteristic temperature (threshold) ^{1) page 4}	T_0	100	115		K

Note: All characteristics and limitations refer to pulsed measurements (1 μs pulse width at 1kHz repetition rate) on unmounted laser dice. For exemplary characteristics of laser operation in plastic package see datasheet SPL PL90_3.

Chip Outlines (Dimensions in mm)

In this drawing only essential parameters are included

C63062-A4249-A1-01

Disclaimer

Language english will prevail in case of any discrepancies or deviations between the two language wordings.

Attention please!

The information describes the type of component and shall not be considered as assured characteristics.

Terms of delivery and rights to change design reserved. Due to technical requirements components may contain dangerous substances.

For information on the types in question please contact our Sales Organization.

If printed or downloaded, please find the latest version in the Internet.

Packing

Please use the recycling operators known to you. We can also help you – get in touch with your nearest sales office.

By agreement we will take packing material back, if it is sorted. You must bear the costs of transport. For packing material that is returned to us unsorted or which we are not obliged to accept, we shall have to invoice you for any costs incurred.

Components used in life-support devices or systems must be expressly authorized for such purpose!

Critical components* may only be used in life-support devices** or systems with the express written approval of OSRAM OS.

*) A critical component is a component used in a life-support device or system whose failure can reasonably be expected to cause the failure of that life-support device or system, or to affect its safety or the effectiveness of that device or system.

**) Life support devices or systems are intended (a) to be implanted in the human body, or (b) to support and/or maintain and sustain human life. If they fail, it is reasonable to assume that the health and the life of the user may be endangered.

Glossary

¹⁾ **Thermal behavior:** Model for the thermal behavior of threshold current: $I_{th}(T_2) = I_{th}(T_1) \times \exp(T_2 - T_1) / T_0$

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