



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# Nanostack Pulsed Laser Diode

## Version 1.1

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### 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  $\mu\text{m}$   $\times$  10  $\mu\text{m}$

#### 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

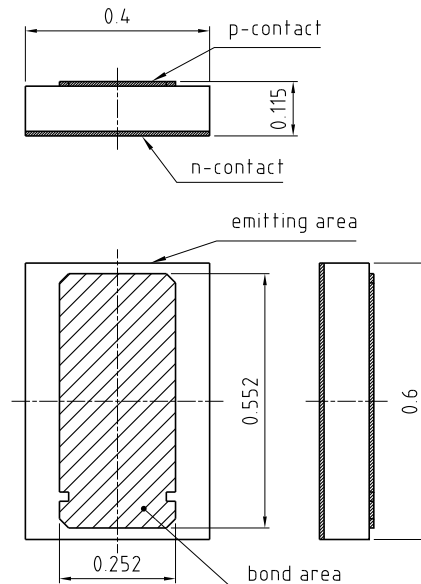
Type:	Peak wavelength (typ) $\lambda_{\text{peak}}$	Ordering Code
SPL DS90_3	903	Q65111A5640

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

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

**Note:** All characteristics and limitations refer to pulsed measurements (1  $\mu\text{s}$  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**

<sup>1)</sup> **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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