SPL PL90

Radial T1 3/4

Pulsed Laser Diode in Plastic Package 25 W Peak Power

Applications

- Electronic Equipment
- Equipment Illumination (e.g. Curing, Endoscope)
- Highbay Industrial
- Industrial Automation (Machine Controls, Light Barriers, Vision Controls)
- Safety and Security, CCTV

Features:

- Laser wavelength 905 nm
- Suited for short laser pulses from 1 to 100 ns
- Laser aperture 200 µm x 2 µm
- Cost effective plastic package for high volume applications

Ordering Information

Type	Peak output power typ. I_F = 30 A; t_p = 100 ns; f = 1 kHz; T_A = 25 °C P_{opt}	Ordering Code
SPL PL90	25 W	Q62702P1760

Maximum Ratings

T_A = 25 °C

Parameter	Symbol		Values
Operating Temperature	T_{op}	min. max.	-40 °C 85 °C
Storage Temperature	T_{stg}	min. max.	-40 °C 100 °C
Peak output power	P_{opt}	max.	30 W
Forward current	I_F	max.	40 A
Pulse width (FWHM)	t_P	max.	100 ns
Duty cycle	dc	max.	0.1 %
Reverse voltage	V_R	max.	3 V
Soldering temperature (2 mm from bottom edge of case)	T_S	max.	260 °C

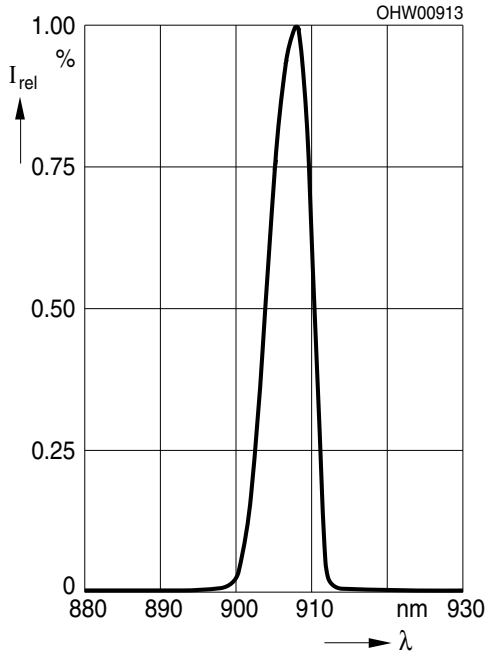
Characteristics

I_F = 30 A; t_p = 100 ns; f = 1 kHz; T_A = 25 °C

Parameter	Symbol		Values
Operating voltage	V_{op}	min. typ. max.	3.3 V 4.3 V 5.3 V
Peak Wavelength	λ_{peak}	min. typ. max.	895 nm 905 nm 915 nm
Spectral bandwidth at 50% $I_{rel,max}$	$\Delta\lambda$	typ.	7 nm
Peak output power	P_{opt}	min. typ. max.	20 W 25 W 30 W
Beam divergence (FWHM) parallel to pn-junction	$\Theta_{\parallel}$	typ.	9 °
Beam divergence (FWHM) perpendicular to pn-junction	$\Theta_{\perp}$	typ.	25 °
Threshold current	I_{th}	min. typ. max.	0.5 A 0.75 A 1 A
Rise time	t_r	typ.	1 ns
Fall time	t_f	typ.	1 ns
Aperture size	w x h	typ.	200 X 2 µm²
Temperature coefficient of wavelength	TC_λ	typ.	0.28 nm / K
Temperature coefficient of optical power	TC_P	typ.	-0.4 % / K
Thermal resistance junction ambient real	R_{thJA}	typ.	160 K / W

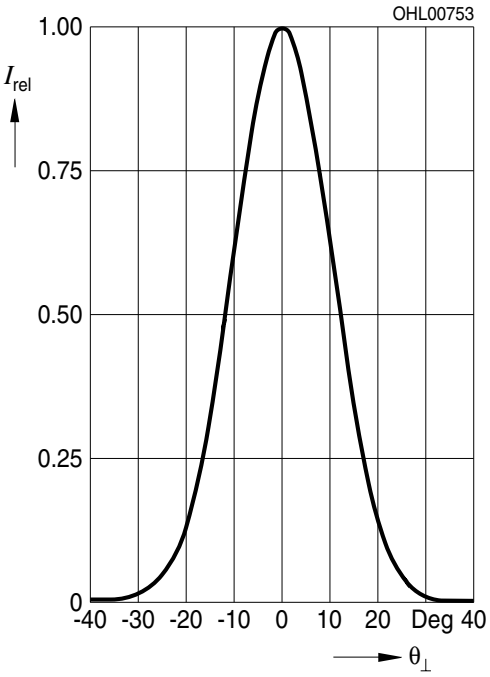
Relative Spectral Emission [1), 2)]

$I_{rel} = f(\lambda)$; $I_F = 30$ A; $P_{opt} = 25$ W; $t_p = 100$ ns



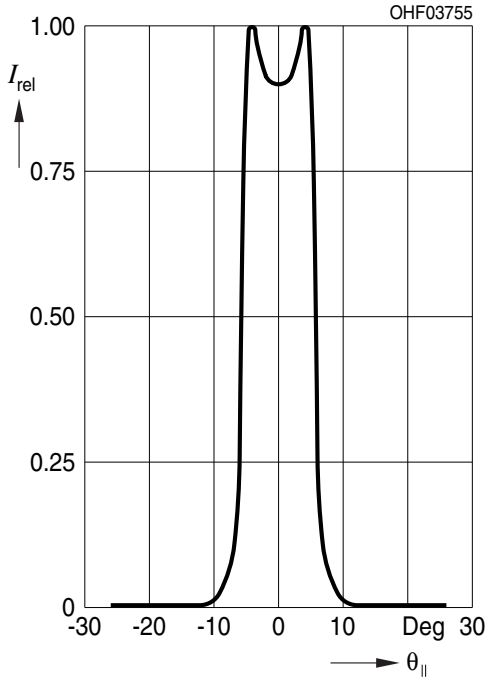
Far-Field Distribution Perpendicular to pn-Junction [1), 2)]

$I_{rel} = f(\Theta_\perp)$; $P_{opt} = 25$ W



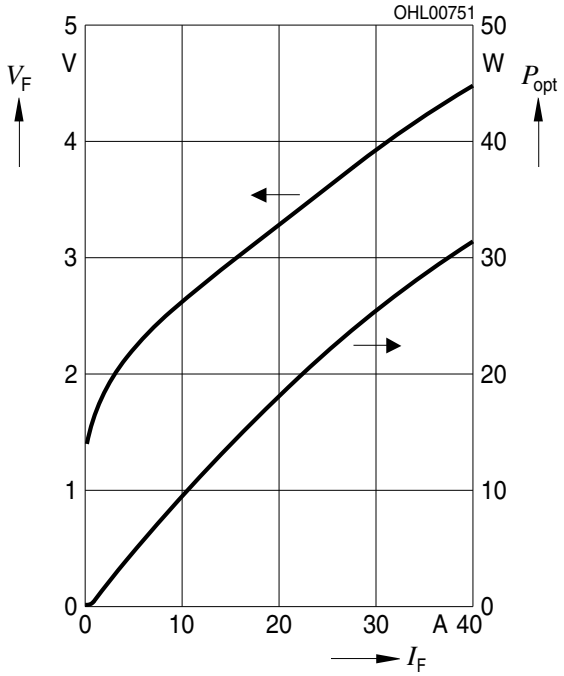
Far-Field Distribution Parallel to pn-Junction [1), 2)]

$I_{rel} = f(\Theta_{II})$; P_{opt} = 25 W

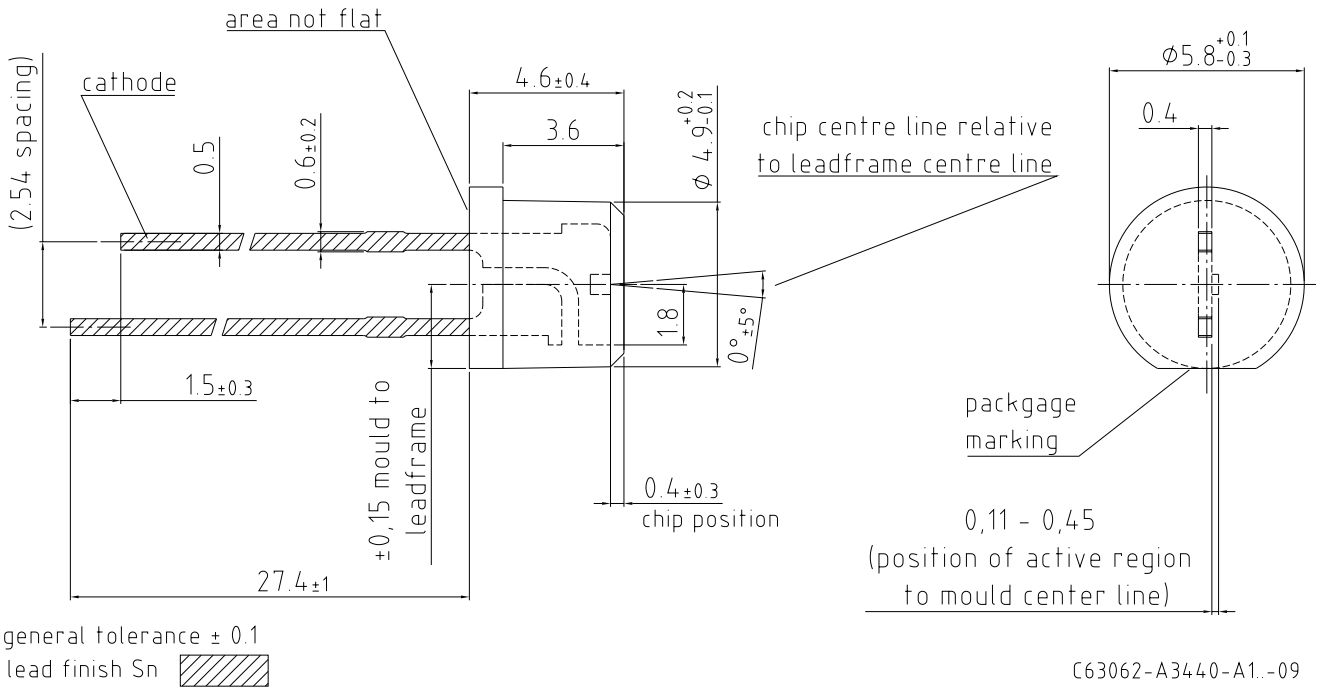


Opt. Power / Forward Voltage [1), 2)]

P_{opt}, $V_F = f(I_F)$



Dimensional Drawing [3)]



Approximate Weight: 241.0 mg

Package marking: Anode

Notes

Depending on the mode of operation, these devices emit highly concentrated visible and non visible light 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.

For further application related informations please visit www.osram-os.com/appnotes

Disclaimer

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

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Glossary

1) **Typical Values**: Due to the special conditions of the manufacturing processes of LED, the typical data or calculated correlations of technical parameters can only reflect statistical figures. These do not necessarily correspond to the actual parameters of each single product, which could differ from the typical data and calculated correlations or the typical characteristic line. If requested, e.g. because of technical improvements, these typ. data will be changed without any further notice.

2) **Testing temperature**: T_A = 25°C

3) **Tolerance of Measure**: Unless otherwise noted in drawing, tolerances are specified with ±0.1 and dimensions are specified in mm.

Published by OSRAM Opto Semiconductors GmbH
Leibnizstraße 4, D-93055 Regensburg

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