ROITHNER LASERTECHNIK GmbH
WIEDNER HAUPTSTRASSE 76 1040 VIENNA AUSTRIA
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LD1625-C120

TECHNICAL DATA

Infrared Laser Diode pulsed

Features

- Lasing Mode Structure: single mode
- Peak Wavelength : typ. 1625 nm
- Optical Ouput Power: 120 mW, pulse mode
- Package: 5.6 mm, flat window

Absolute Maximum Ratings (T_C=25°C)

Item	Symbol	Value	Unit
CW Output Power	P_O	120	mW
LD Reverse Voltage	V_r	2	V
LD Forward Current	I_{op}	1200 *	mA
Operating Case Temperature	T_C	0 … +60	°C
Storage Temperature	T_{stg}	-40 … +85	°C

* DC ≤ 1%, PW ≤ 10 µs

Specifications (T_C=25°C)

Item	Conditions	Symbol	Min.	Typ.	Max.	Unit
Optical Specifications						
CW Output Power	I_{op}=500mA, PW=10µs, DC=1%	P_O	100	120	-	mW
Center Wavelength	I_{op}=500mA, PW=10µs, DC=1%	λ_C	1600	1625	1650	nm
Spectral Width *	I_{op}=500mA, PW=10µs, DC=1%	$\Delta\lambda$	-	4	7	nm
FWHM Beam Divergence	CW, P_O=40mW	$\Theta_{\parallel}$	-	17	-	deg.
		$\Theta_{\perp}$	-	44	-	deg.
Electrical Specifications						
Threshold Current	PW=10µs, DC=1%	I_{th}	-	45	-	mA
Slope Efficiency	CW, P_O=40mW	η	-	0.3	-	W/A
Operating Voltage	CW, P_O=40mW	V_{op}	-	1.0	1.9	V

* RMS, -20 dB

The above specifications are for reference purpose only and subjected to change without prior notice.

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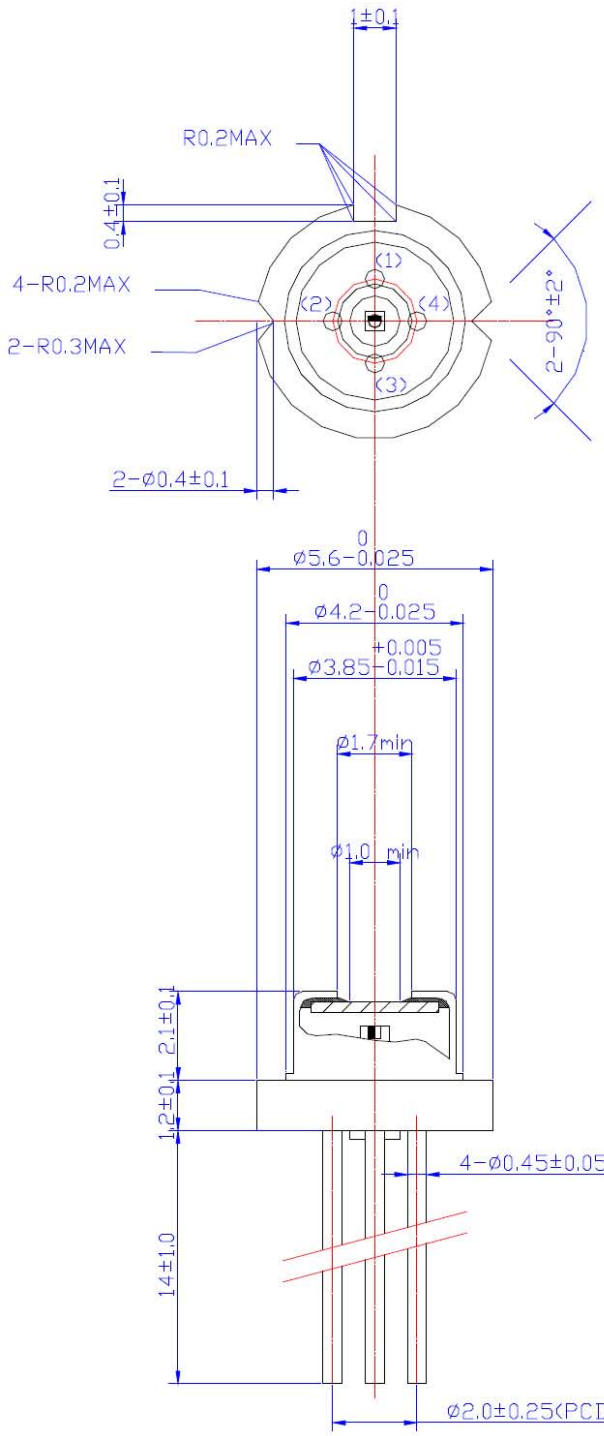
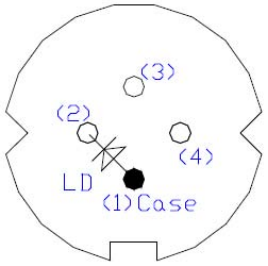
Package Dimensons

5.6 mm Package (*Unit:mm*)



Bottom View



PIN	Funciton
1	Case, LD Anode
2	LD Cathode
3	nc
4	nc

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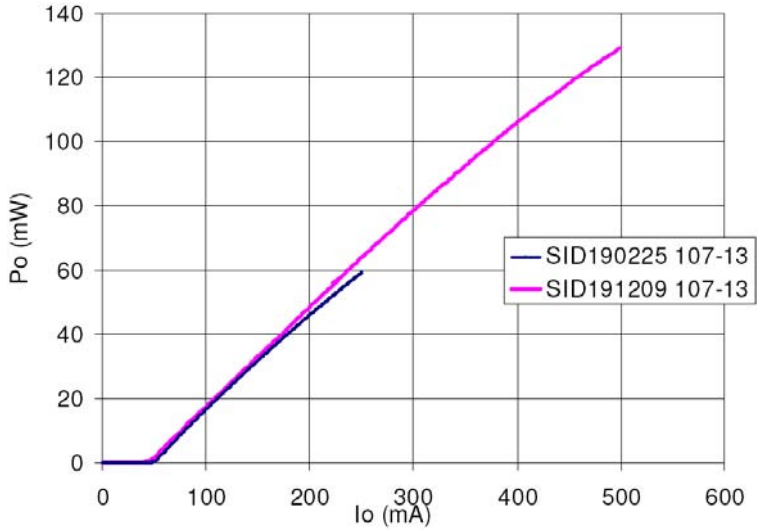
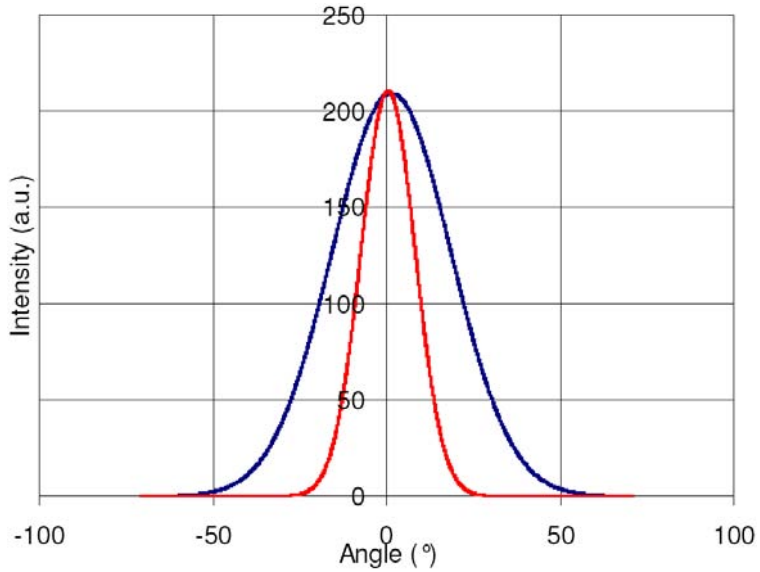
Typical Performance Curves

Chip-level LI curve, 25°C fixture temperature



CW mode (blue), pulsed (10 µs PW, 1% DC) mode (magenda)

Chip-level far field curves, CW mode, Pop = 40 mW, 25°C fixture temperature



prependicular (blue), parallel (red)

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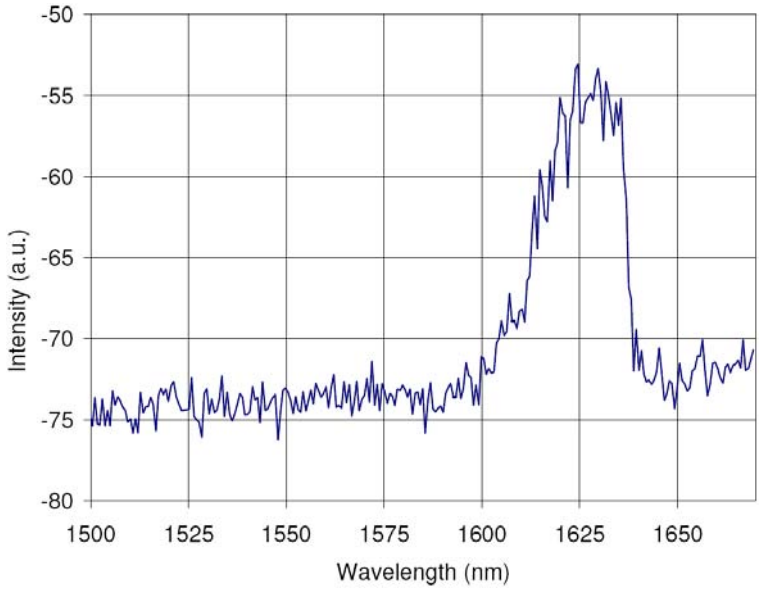
Chip-level spectral measurement



pulsed (10 µs PW, 1% DC) mode, 25°C fixture temperature

Safety of Laser light

- Laser Light can damage the human eyes and skin. Do not expose the eye or skin directly to any laser light and/or through optical lens. When handling the LDs, wear appropriate safety glasses to prevent laser light, even any reflections from entering to the eye. Focused laser beam through optical instruments will increase the chance of eye hazard.
- The LD emitts invisible light

Cautions

1. Operating methode

- This LD shall change its forward voltage requirement and optical ouput power according to temperature change. Also, the LD will require more operation current to maintain same ouput power as it degrades. [In order to maintain output power, use of APC (Automatic Power Control) is recommended. Which use monitor feedback to adjust the operation current.]
- Confirm that electrical spike current generated by switching on and off does not exceed the maximum operating current level specified herein above as absolute maximum rating. Also, employ appropriat countermeasures to reduce chattering and/or overshooting in the circuit.

2. Static Electricity

- Static electricity or electrical surges will reduce and degrade the reliability of the LDs. It is recommended to use a wrist trap or anti-electrostatic glove when handeling the product.

3. Absolute Maximum Rating

- Active layer of LDs shall have high current density and generate high electric field during its operation. In order to prevent excessive damage, the LD must be operated striclty below absolute maximum rating.