ROITHNER LASERTECHNIK GmbH
WIEDNER HAUPTSTRASSE 76 1040 VIENNA AUSTRIA
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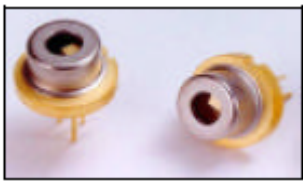
LD1550-C500



TECHNICAL DATA

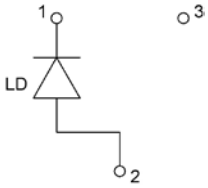
Infrared Laser Diode

Features

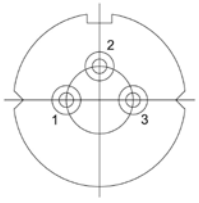
- Lasing Mode Structure: multi mode
- Peak Wavelength : typ. 1560 nm
- Optical Ouput Power: 500 mW, CW
- Package: 9.0 mm, flat window
- **MPD available on request**

Electrical Connection

Pin Configuration	Bottom View



PIN	Function
1	LD Cathode
2	LD Anode
3	*(PD on request)*



Absolute Maximum Ratings (T_C=15°C)

Item	Symbol	Value	Unit
CW Output Power	P_O	500	mW
LD Reverse Voltage	V_r	2	V
LD Forward Current	I_{op}	4.5	A
Operating Case Temperature	T_C	0 … +30	°C
Storage Temperature	T_{stg}	-40 … +85	°C

Specifications (T_C=15°C)

Item	Symbol	Min.	Typ.	Max.	Unit
Optical Specifications					
CW Output Power	P_O	-	500	-	mW
Center Wavelength	λ_C	1540	1560	1580	nm
Spectral Width (FWHM)	$\Delta\lambda$	-	9	-	nm
Wavelength Temperature Coefficient	$\Delta\lambda$ / ΔT	-	0.6	-	nm/K
FWHM Beam Divergence	$\Theta_{\parallel}$	-	7	-	deg
	$\Theta_{\perp}$	-	33	-	deg
Emitting Area Width	W_E	-	100	-	µm
Electrical Specifications					
Threshold Current	I_{th}	-	-	0.7	A
Operating Current	I_{op}	-	2.5	-	A
Slope Efficiency	η	0.28	-	-	W/A
Operating Voltage	V_{op}	-	1.8	-	V

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

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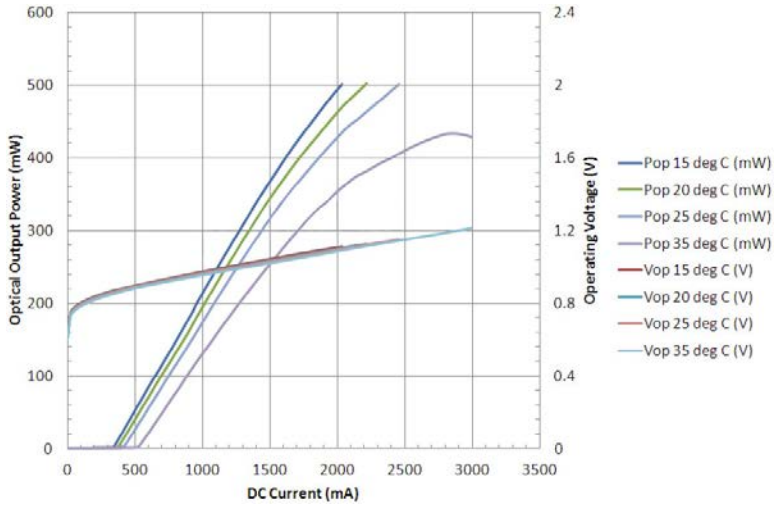
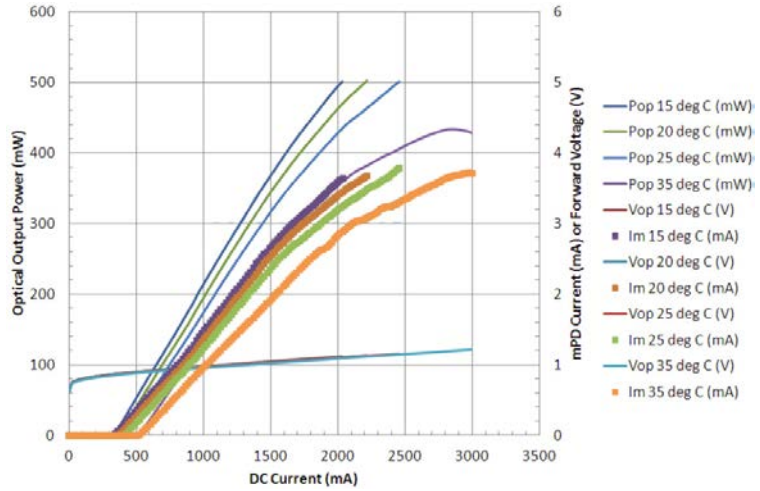
Typical Performance Curves

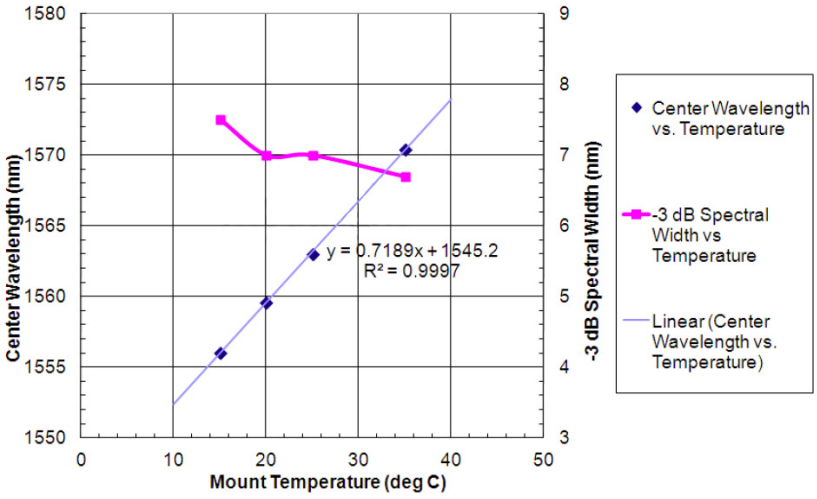
Operating Current vs Output Power/Operating Voltage



Operating Current vs mPD Current/Operating Voltage



Mount Temperature vs Center Wavelenght/Spectral Width



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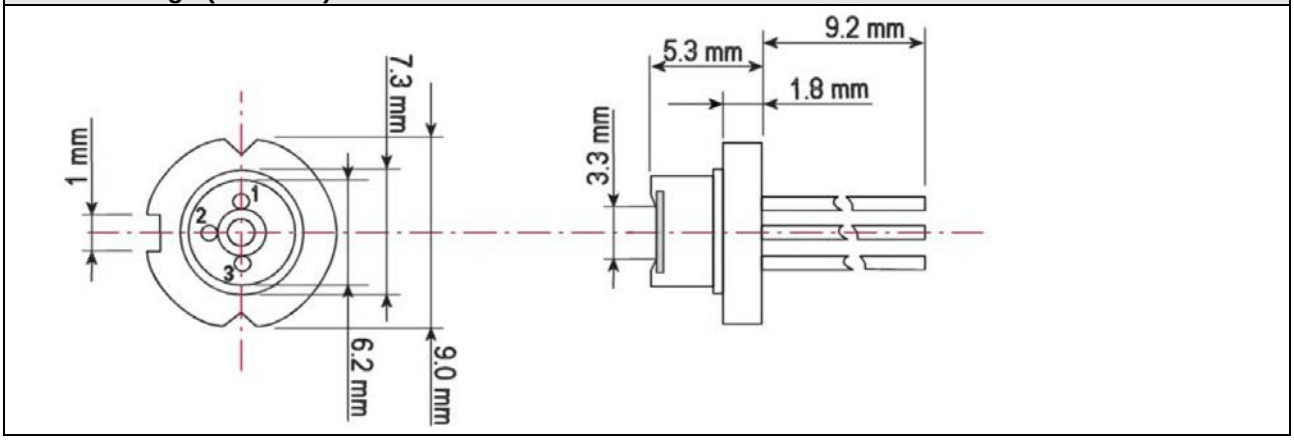
Package Dimensons

9 mm Package (*Unit:mm*)



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 swithing 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.