ROITHNER LASERTECHNIK GmbH
WIEDNER HAUPTSTRASSE 76 1040 VIENNA AUSTRIA
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LD-445-1000MG

TECHNICAL DATA

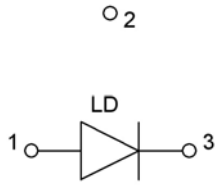
Blue Laser Diode

Features

- Multi Transverse Mode
- Peak Wavelength: 445 nm
- Optical Ouput Power: 1W
- Package: 5.6 mm, dismounted

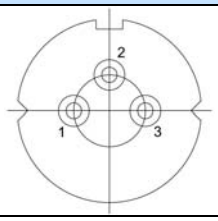
Electrical Connection

Pin Configuration	Bottom View



m-type

PIN	Function
1	LD Anode
2	n.c
3	LD Cathode



Absolute Maximum Ratings (T_C=25°C)

Item	Symbol	Value	Unit
LD Reverse Voltage	V_R (LD)	4.5	V
LD Forward Current	I_F	1.4	A
Operating Case Temperature	T_C	0 … +35	°C
Storage Temperature	T_{stg}	-30 … +70	°C

Specifications (T_C=25°C, I_{OP}=1.05A)

Item	Symbol	Min.	Typ.	Max.	Unit
Optical Specifications					
Optical Output Power (CW)	P_O	0.9	1.00	1.10	W
Dominant Wavelength	λ_D	442	445	448	nm
Beam Divergence Full Angle (1/e²)	$\Theta_{\parallel}$	5	12	25	deg
	$\Theta_{\perp}$	30	40	50	deg
Emission Point Accuracy	$\Delta\theta_{\perp}$	-5	$\Delta\theta_{\perp}$	5	deg
Electrical Specifications					
Threshold Current	I_{th}	150	-	200	mA
Operating Current	I_{op}	-	1.05	-	A
Operating Voltage	V_{op}	4.0	-	6.0	V
Slope Efficiency	η	0.8	-	1.8	W/A

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

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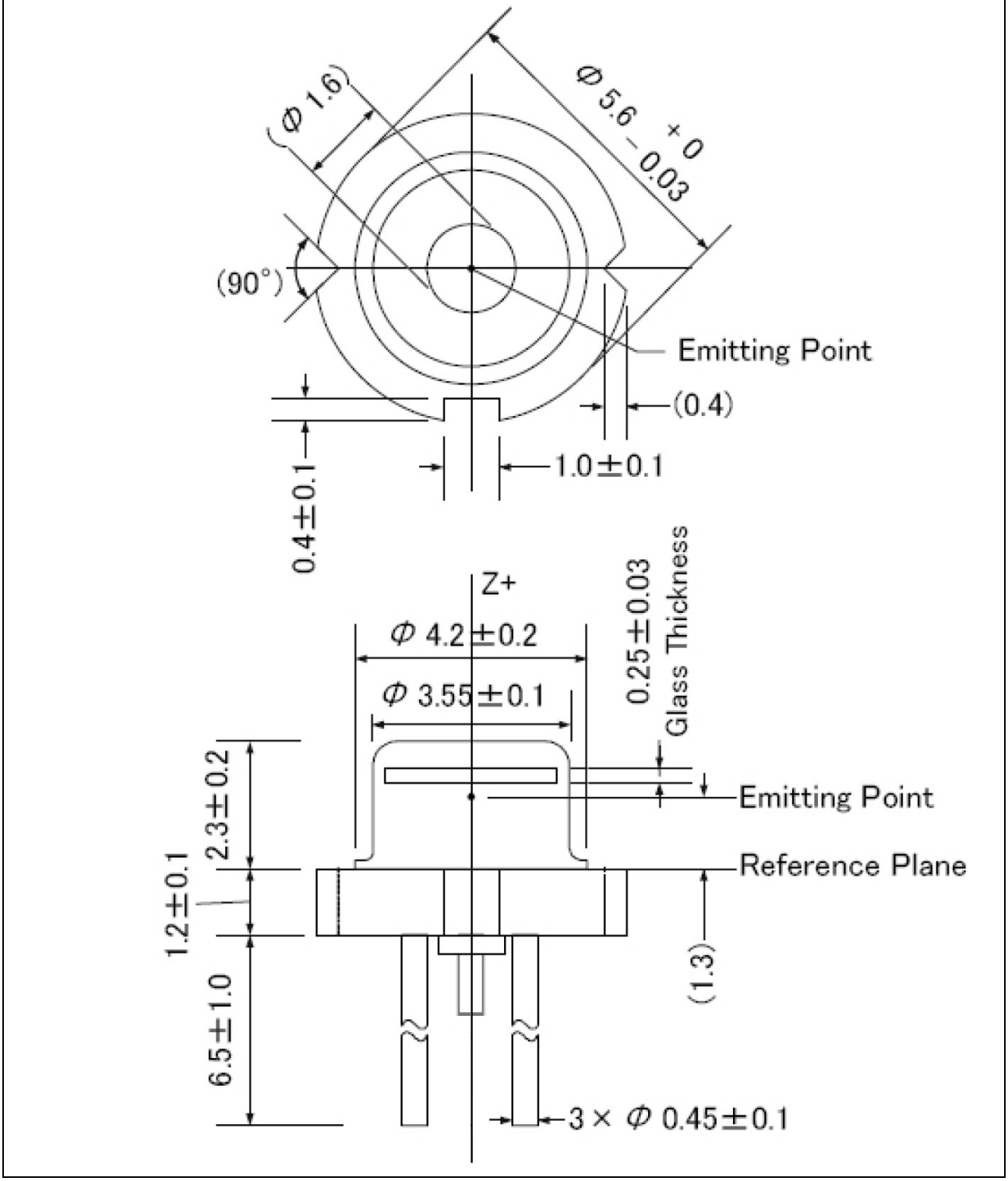
Package Dimensons

5.6 mm Package



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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.

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.