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LD-445-5000G

- **Blue Laser Diode**
- **445 nm, 5 W**
- **Multi-Mode**
- **ESD Protection**
- **9.0 mm TO Package**

Description

LD-445-5000G is a **blue multi transverse mode** laser diode, typically emitting at 445 nm, with max. allowed operating temperature of 90°C. **LD-445-5000G** comes in 9.0 mm TO-Can package with **integrated ESD protection device.**

Maximum Rating*

Parameter	Symbol	Values Min.	Values Max.	Unit
Operating Temperature*	T_{OPR}	- 20	+ 90	°C
Storage Temperature*	T_{STG}	- 40	+ 120	°C
Junction Temperature	T_J		+ 160	°C
Soldering Temperature (t_{max} = 10 s)	T_{SOL}		+ 260	°C

* operating close to or outside these conditions may damage the device

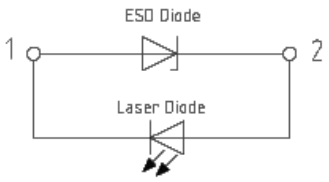
Electro-Optical Characteristics (T_{CASE} = 25°C)

Parameter		Symbol	Values Min.	Values Typ.	Values Max.	Unit
Peak Wavelength		**λ_P**	**440**	**445**	**455**	**nm**
Spectral Linewidth		λ_Δ		1.5		nm
Optical Output Power		P_O		5		W
Operating Voltage		V_F		4.3	5.0	V
Threshold Current		I_{th}		0.3	0.5	A
Operating Current		I_F		3.0	3.8	A
Polarization (TE)		P_{TE}		100:1		
Beam Divergence (FWHM)	parallel	$\Theta_{\parallel}$	6	9	13	deg.
	perpendicular	$\Theta_{\perp}$	41	49	57	deg.

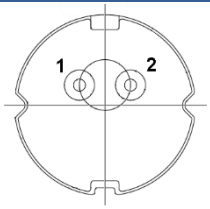
Electrical Connection

Pin Configuration

Pin #	Function
Pin 1	LD Cathode
Pin 2	LD Anode



Bottom View



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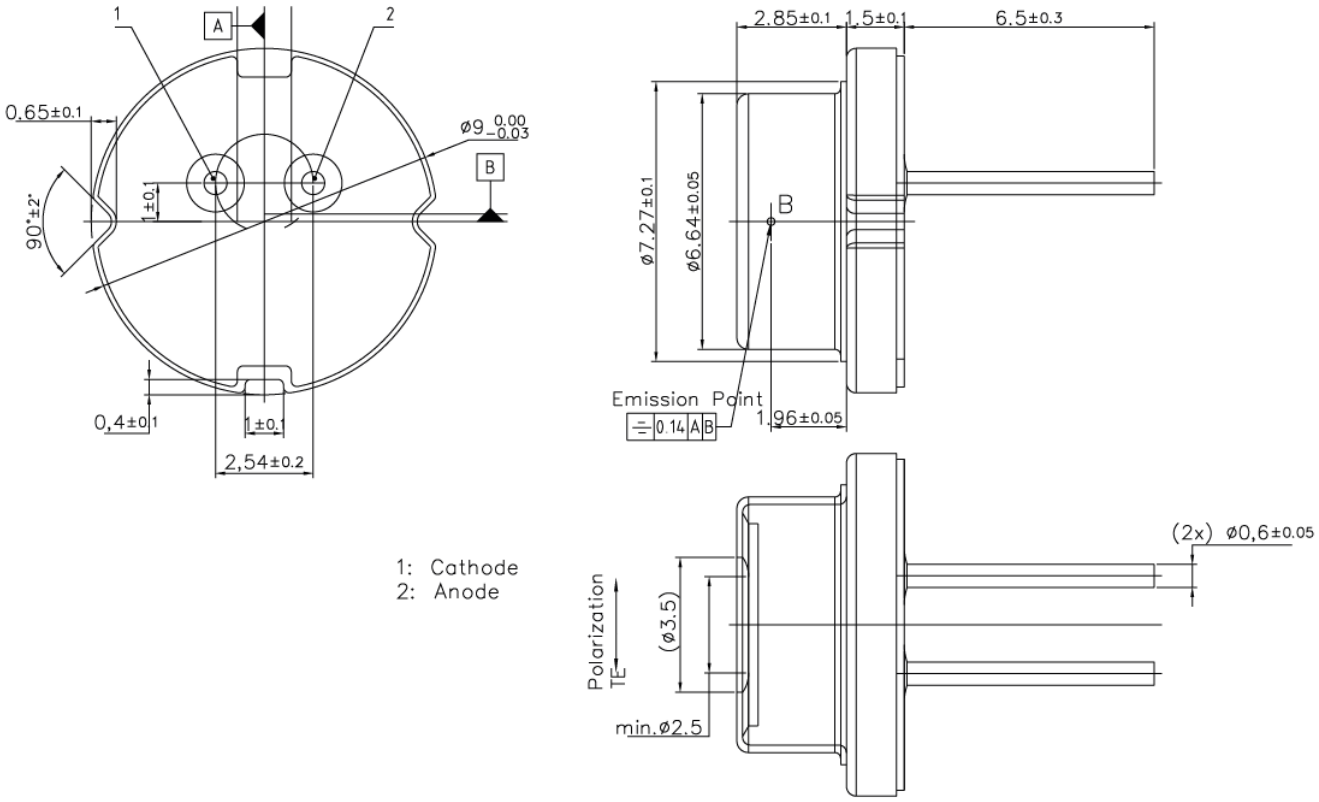
Outline Dimensions

9.0 mm TO-Can



All dimensions in mm

Precautions

Safety

Caution: Laser light emitted from any laser diode may be **harmful to the human eye**. Avoid looking directly into the laser diode's aperture when the diode is in operation.

Note: The use of optical lenses with this laser diode will increase eye hazard

ESD caution

Always do handle laser diodes with extreme care to **prevent electrostatic discharge**, the primary cause of unexpected diode failure. To prevent ESD related failures, we do advise to always **wearing wrist straps**, and **grounding all applicable work surfaces**, when handling laser diodes

Operating considerations

We do advise to operate this laser diode with a current source only. The current of a laser diode is an exponential function of the voltage across it. **Usage of current regulated drive circuits is mandatory.** Laser diodes may be damaged by excessive drive currents or switching transients

Proper heat sinking will greatly enhance stability and lifetime of the laser diode