



## Laser Diode ZBD-LD-455-5000M-F141

ZBD-LD-455-5000M-F141 is a multimode laser diode with 5.0W CW output power at 455nm. Its beam pattern is linear with  $14^\circ \times 1^\circ$  ( $\theta_{//} \cdot \theta_{\perp}$ ). It is supplied in a 9mm floating mounted TO can with Zener Diode. The laser diode is suitable for opto-electronic applications.

### ■ Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Forward Current (Tc=25°C)	I <sub>f</sub>	3.5	A
Reverse Current (Tc=25°C)	I <sub>r</sub> (LD)	85	mA
Storage Temperature	T <sub>stg</sub>	-40~85	°C
Operating Case Temperature	T <sub>c</sub>	0~70	°C

### ■ Initial Electrical/Optical Characteristics (Tc=25°C)

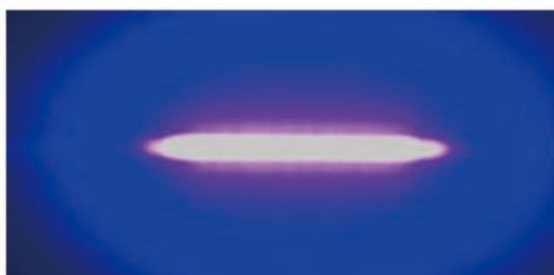
Parameter	Symbol	Condition	Min	Typ.	Max	Unit	
Optical Output Power	P <sub>o</sub>	I <sub>f</sub> = 3.0A	-	(5.0)	-	W	
Dominant Wavelength	λ <sub>d</sub>	I <sub>f</sub> = 3.0A	448	(455)	462	nm	
Threshold Current	I <sub>th</sub>	CW	220	-	420	mA	
Slope Efficiency	η	CW	-	(1.8)	-	W/A	
Operating Voltage	V <sub>op</sub>	I <sub>f</sub> = 3.0A	3.6	-	4.8	V	
Beam Divergence*	Parallel	θ <sub>//</sub>	I <sub>f</sub> = 3.0A	5	(14)	25	°
	Perpendicular	θ <sub>⊥</sub>	I <sub>f</sub> = 3.0A	0.8	(1)	1.2	°

( ) are reference figures.

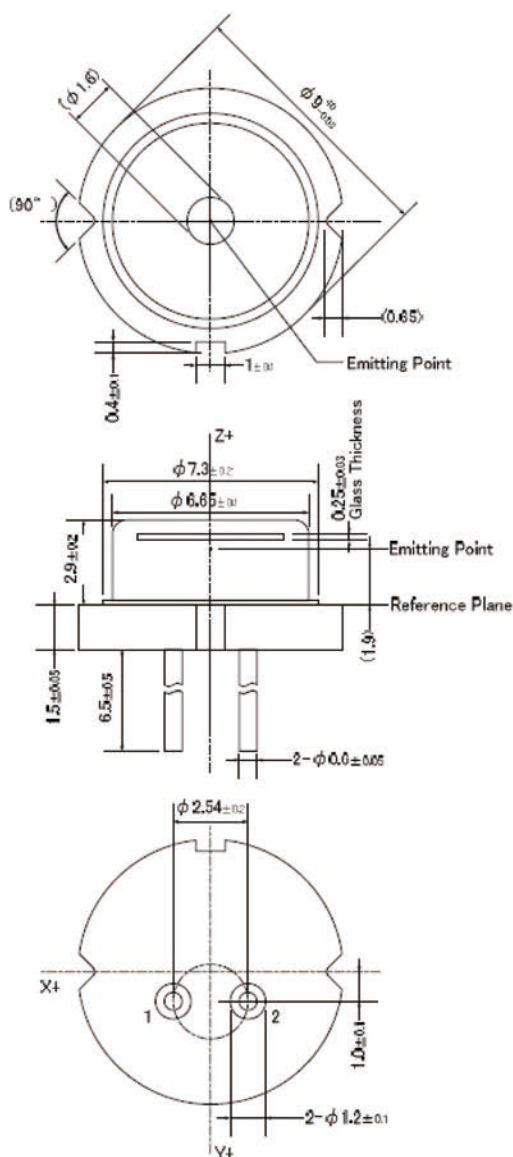
\* Full angle at 1/e<sup>2</sup> from peak intensity



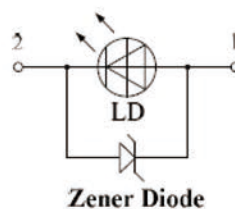
## ■ Beam Pattern



## ■ Outline Dimension



## Connection



1. LD Anode  
2. LD Cathode

Figures in ( ) are reference purpose only.

Parts	Materials
Stem	Cu + Fe + Ni plating + Au plating
Lead	Ni-Fe-Co alloys + Ni plating + Au plating
Cap	Ni-Fe alloys + Ni plating
Glass	Borosilicate glass
Chip	Gallium nitride
Sub mount	Silicon carbide
Zener Diode	Silicon