



## Laser Diode ZBD-LD-465-5200M-F141

ZBD-LD-465-5200M-F141 is a multimode laser diode with 5.2W CW output power at 465nm. Its beam pattern is linear with  $14^\circ \times 1^\circ$  ( $\theta_{//} \cdot \theta_{\perp}$ ). It is housed in a 9 mm float-mounted TO canister. The laser diode is suitable for optoelectronic applications.

### ■ Absolute Maximum Ratings

Item	Symbol	Absolute Maximum Rating	Unit
Forward Current( $T_c=25^\circ\text{C}$ )	$I_f$	3.5	A
Revers Current( $T_c=25^\circ\text{C}$ )	$I_r(\text{LD})$	85	mA
Storage Temperature	$T_{\text{stg}}$	-40~85	$^\circ\text{C}$
Operating Case Temperature	$T_c$	0~75	$^\circ\text{C}$

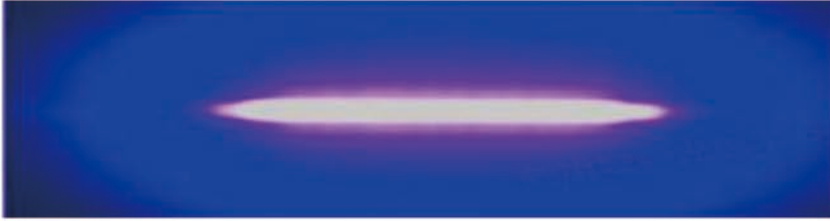
### ■ Initial Electrical/Optical Characteristics ( $T_c=25^\circ\text{C}$ )

Parameter		Symbol	Test Condition	Min	Typ	Max	Unit
Optical Output Power		$P_o$	$I_f = 3.0\text{A}$	4.6	(5.2)	-	W
Dominant Wavelength		$\lambda_d$	$I_f = 3.0\text{A}$	459	(465)	471	nm
Threshold Current		$I_{\text{th}}$	CW	250	-	570	mA
Operating Voltage		$V_{\text{op}}$	$I_f = 3.0\text{A}$	3.5	-	5	V
Beam Divergence*	Parallel	$\theta_{//}$	$I_f = 3.0\text{A}$	5	(14)	25	$^\circ$
	Perpendicular	$\theta_{\perp}$	$I_f = 3.0\text{A}$	0.8	(1)	1.2	$^\circ$

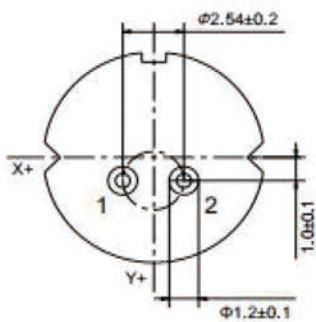
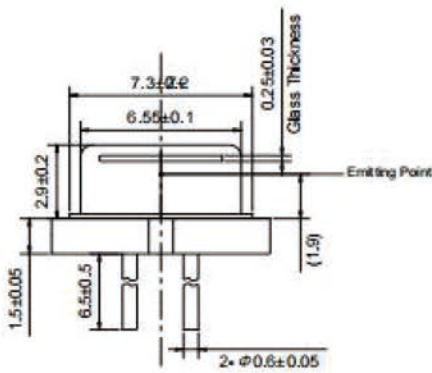
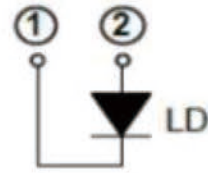
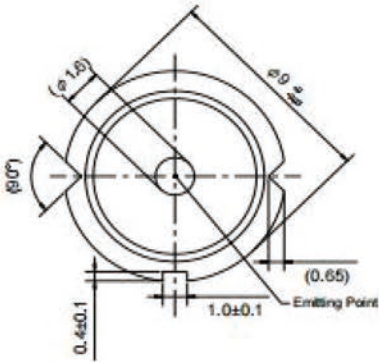
\* Full angle at  $1/e^2$  from peak intensity



■ Beam Pattern



■ Outline Dimension (Unit: mm)



Unit: mm



## ■ Cautions

1. Laser light can damage the human eye and skin. Do not expose the eye and skin to any laser light directly or through optical lenses. Focused laser beam through optical instruments will increase the chance of eye hazard.
2. The laser needs a stable driver to avoid surges. The instantaneous reverse current and reverse voltage should not exceed the absolute maximum ratings, otherwise it will damage the laser diode.
3. Semiconductor lasers are sensitive to temperature, working at high temperatures will reduce the photoelectric conversion efficiency and accelerate the aging of laser diode. It should be used under adequate heat dissipation or cooling conditions.
4. The laser should be used at the rated current and rated power, the output power is too high will accelerate the aging of laser diode.
5. Semiconductor lasers are electrostatic sensitive devices, anti-static measures should be taken during storage and transportation.
6. Lasers should be stored or work in a dry, ventilated environment to prevent damage to the laser from condensation.
7. The light emitting surface (cavity surface) is the key parts of the laser diode, any handling to damage the cavity surface should be strictly prohibited. It should be ensured that the laser diode is not contaminated, and damaged in mechanical.

