

Pulsed Laser Diode

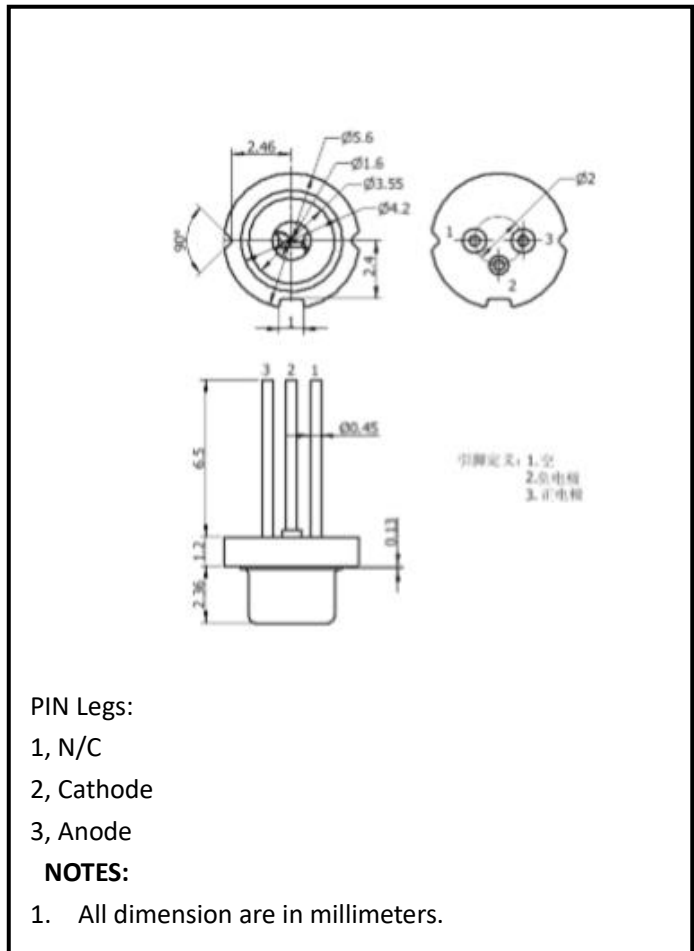


Description

OTRON PLD series are applied for laser range finders For golfers, hunters, civil engineers , lidar etc. distance Measurement.

Features

- * Optical peak power up to 150W
- * Laser wavelength 905nm
- * 4 stack PLD



Absolute Maximum Ratings (Ta=25°C unless otherwise stated)

Item	Symbol	Values	Unit
Peak output power	P _D	- 90	W
Forward current	I _F	- 38	A
Pulse width (FWHM)	t _p	- 100	ns
Duty cycle	dc	- 0.1	%
Reverse voltage	V _R	- 2.5	V
Operating temperature	T _{opr.}	-40~+85	°C
Storage temperature	T _{stg.}	-40~+105	°C
Soldering temperature*1	T _{sol.}	260	°C

*1: 3mm from case for 10sec

Information in this technical datasheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission.

Specifications are subject change without notice.

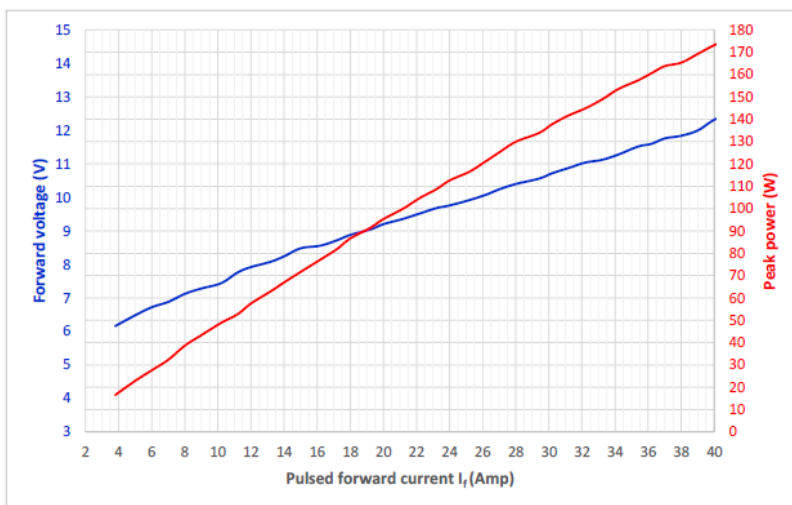


ELECTRO-OPTICAL CHARACTERISTICS (Ta=25°C)

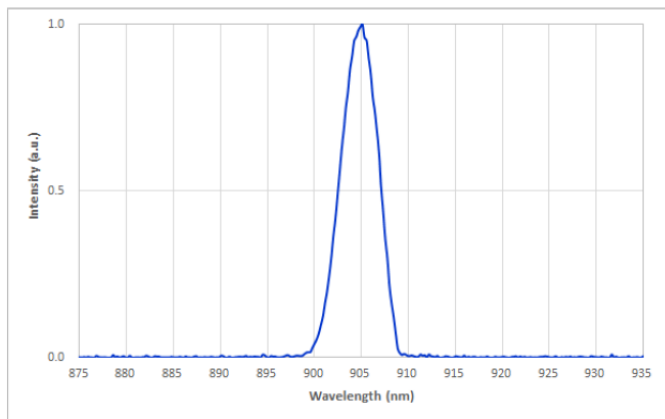
Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Peak output power	P _o		140	150	-	W
Peak wavelength	λ _p		895	905	915	nm
Operation mode			-	QCW	-	
Pulse width	t		-	200	-	ns
Pulse repetition frequency	f			5		KHz
Duty cycle	D			0.1		%
Aperture size	W*h			360*14		um ²
Cavity length	L			750		um
Chip width	W			500		um
Chip height	H			150		um
Threshold current	I _{th}			1.0		A
Forward current	I _f			31		A
Forward voltage	V _f			10.9		V
Slope efficiency	$\eta_d = P_o / (I_{op} - I_{th})$			4.70		W/A
Total conversion efficiency	$\eta = P_o / (I_{op} \times V_{op})$			41		%
Spectral width	Δλ			7		nm
Slow axis divergence	θ			13		°
Fast axis divergence	θ _⊥			30		°
Temperature coefficient of wavelength	Δλ/ΔT			0.28		nm/C
Polarization				TE		

Forward current Vs. Peak power(Ta=25°C)

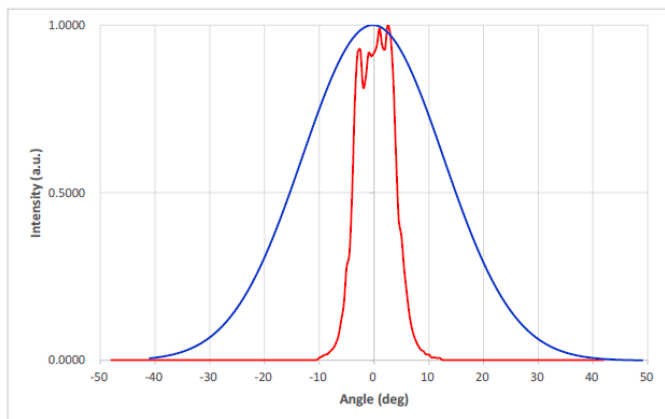
Forward voltage Vs. Peak power(Ta=25°C)



Relative spectral Emission($T_a=25^\circ\text{C}$, $P_w=200\text{ns}$, $f=5\text{kHz}$)



Far Field Pattern Characteristics



Near Field Pattern (NFP) ($T_a=25^\circ\text{C}$, $P_w=200\text{ns}$, $f=5\text{kHz}$)



Products which incorporate these devices have to follow the safety precautions given in IEC 60825-1 “Safety of laser products

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