LITEON

Visible Laser Diodes

LTLD505T

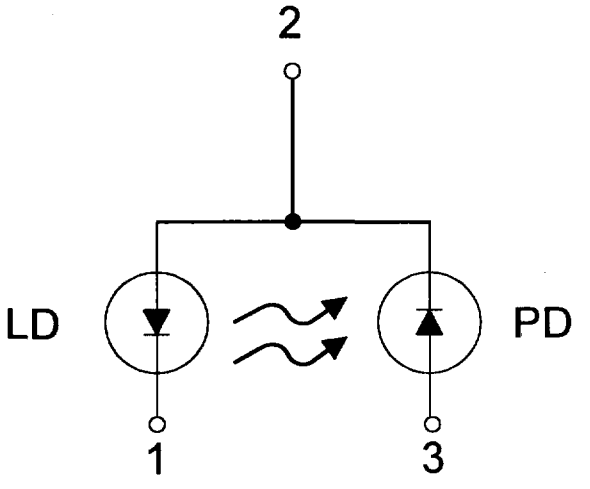
Features

Liton's LTLD505T low-cost AlGaInP laser diode emits highly visible 650 nm output light with low threshold current and high output efficiency. A diffraction-limited single spatial mode beam output allows easy collimation with readily available optics. The active layer is MOCVD grown strained quantum well epitaxial structure. The high output efficiency is achieved by optimized device structure desingn. Both laser facets are coated with multilayer dielectric to assure high performance and reliability. APIN photo-diode is included with each laser for output power monitoring. Lition's LTLD505T is ideal for pointing, alignment,and bar code scanning applications.

Elcctro-optical Characteristic(Tc=25 ℃)

ITEMS	SYMBOL	TEST CONDITION	MIN	TYP.	MAX.	UNIT
Optical Output Power	Po	Kink Free	5	-	-	mW
Threshold Current	I_{th}		-	35	60	mA
Operation Current	I_{op}	Po=5 mW	-	45	70	mA
Operation Voltage	V_{op}	Po=5 mW	-	2.4	2.6	V
Lasing Wavelength	λ_{op}	Po=5 mW	645	650	655	nm
Slope Efficiency	η	3mW ~ 5mW	0.1	0.4	-	mW/mA
Beam Divergence	$\theta_{\perp}$	Po=5 mW,FWHM	-	35	-	deg.
	$\theta_{//}$	Po=5 mW,FWHM	-	8	-	deg.
Monitor Current	I_m	Po=5 mW	0.1	0.55	0.85	mA

Pin Connection:

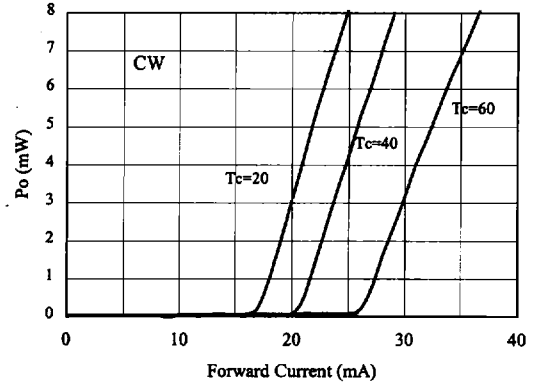


1. Laser diode cathode
2. Laser diode anode and photodiode cathode
3. Photodiode anode

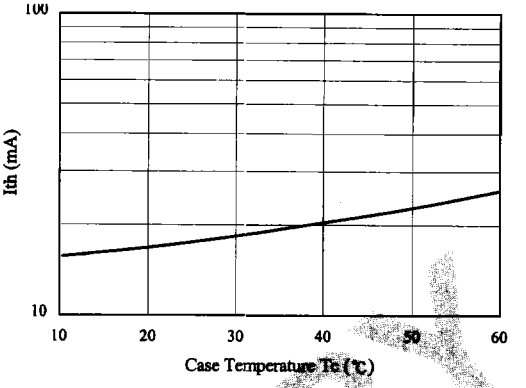
Absolute Maximum Ratings(Tc=25 ℃)

ITEMS	SYMBOL	RATINGS	UNIT
Optical Output Power	Po	6	mW
LD Reverse Voltage	$V_{R(LD)}$	2	V
PD Reverse Voltage	$V_{R(PD)}$	30	V
Operation Case Temperature	Tc	-10 ~ +50	℃

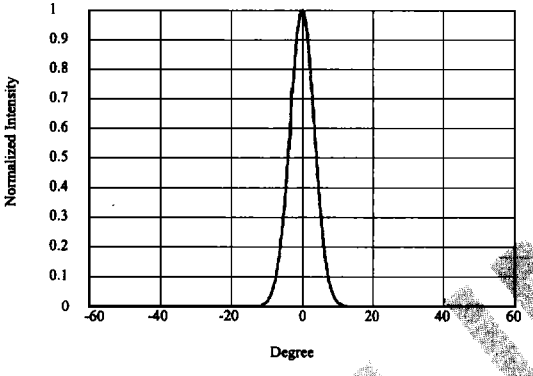
Optical Output Power (Po) vs. Forward Current



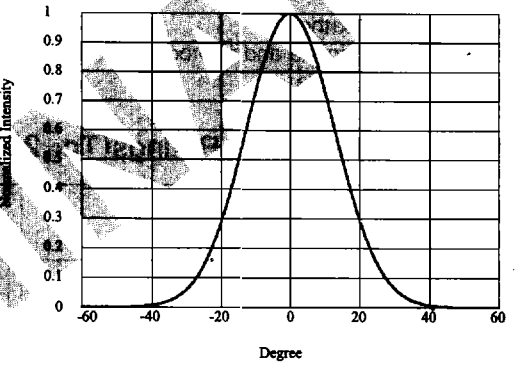
Threshold Current vs. Temperature



Parallel Far Field Pattern



Perpendicular Far Field Pattern



Package Outline:

Units in: mm