

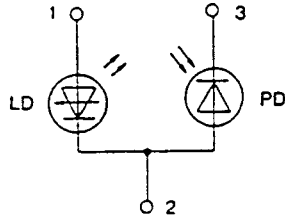
# TOSHIBA SEMICONDUCTOR TECHNICAL DATA

## TOSHIBA LASER DIODE TOLD9441MC InGaAlP LD

Units in : mm

- Lasing Wavelength :  $\lambda_p = 650 \text{ nm (typ.)}$
- Optical Output Power :  $P_o = 5 \text{ mW}$
- Operation Case Temperature :  $T_c = -10 \sim 70^\circ\text{C}$

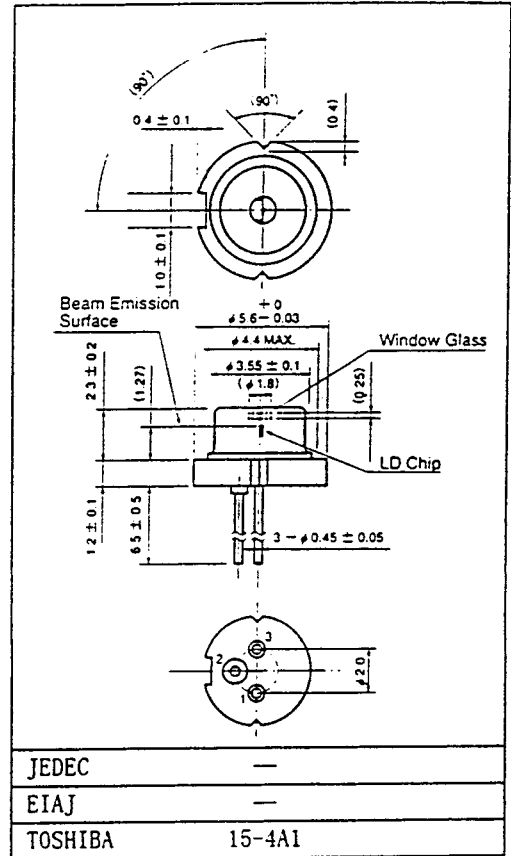
### PIN CONNECTION



1. LASER DIODE ANODE
2. LASER DIODE CATHODE  
PHOTODIODE ANODE
3. PHOTODIODE CATHODE

### Maximum Ratings ( $T_c = 25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Optical Output Power (CW)	$P_o$	7	mW
LD Reverse Voltage	$V_R (LD)$	2	V
PD Reverse Voltage	$V_R (PD)$	30	V
Operation Case Temperature	$T_c$	-10 ~ 70	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-40 ~ 85	$^\circ\text{C}$



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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Threshold Current	$I_{th}$	CW Operation	—	40	70	mA
Operation Current	$I_{op}$	$P_o = 5 \text{ mW}$	—	50	80	mA
Operation Voltage	$V_{op}$	$P_o = 5 \text{ mW}$	—	2.2	3.0	V
Lasing Wavelength	$\lambda_p$	$P_o = 5 \text{ mW}$	640	650	660	nm
Beam Divergence	$\theta_{\parallel}$	$P_o = 5 \text{ mW}$	5	8	12	$^\circ$
	$\theta_{\perp}$	$P_o = 5 \text{ mW}$	24	28	35	$^\circ$
Astigmatism	AS	$P_o = 5 \text{ mW}$	—	10	—	$\mu\text{m}$
Monitor Current	$I_m$	$P_o = 5 \text{ mW}$	0.07	0.25	0.5	mA
PD Dark Current	$I_D (PD)$	$V_R = 5 \text{ V}$	—	—	100	nA
PD Total Capacitance	$C_T (PD)$	$V_R = 5 \text{ V}, f = 1 \text{ MHz}$	—	—	20	pF

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