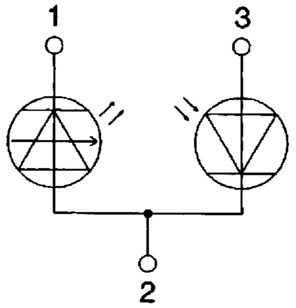
VLD Technical Data

TOLD9321(F)

- Standard index guided type MQW InGaAlP VLD
- Package flange: ø9mm
- Applications include:
  Bar code scanners, measurement systems, alignment systems, etc.

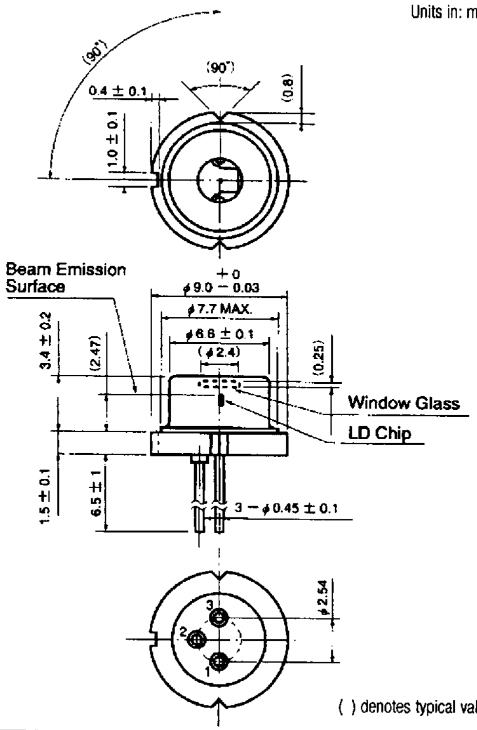
Pin Connection



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

case and pin no. 2 are in common

Units in: mm



( ) denotes typical value

JEDEG	—
EIAJ	—
TOSHIBA	15 — 7B3

Maximum ratings (Tc=25°C)

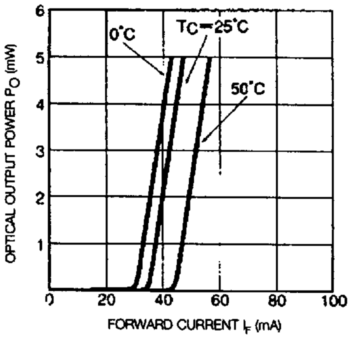
Characteristic	Symbol	Rating	Unit
Optical Output Power(CW)	P_O	5	mW
LD Reverse Voltage	$V_{R(LD)}$	2	V
PD Reverse Voltage	$V_{R(PD)}$	30	V
Operation Case Temperature	T_C	-10~50	°C
Storage Temperature	T_{stg}	-40~85	°C

Optical-electrical characteristics (Tc=25°C)

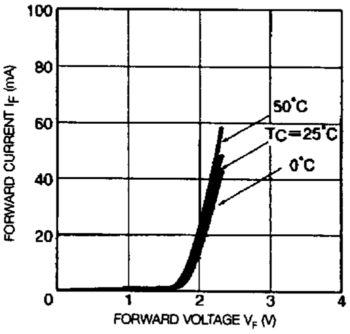
Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Threshold Current	I_{th}	CW operation	—	35	60	mA
Operation Current	I_{op}	Po=5mW	—	50	75	mA
Operation Voltage	V_{op}	Po=5mW	—	2.3	2.8	V
Lasing Wavelength	λ_P	Po=5mW	650	660	670	nm
Beam Divergence	$\theta_{\parallel}$	Po=5mW	4	7.5	11	°
	$\theta_{\perp}$	Po=5mW	23	29	35	°
Monitor Current	I_m	Po=5mW	0.30	1.1	1.9	mA
PD Dark Current	$I_{D(PD)}$	V_R=5V	—	—	100	nA
PD Total Capacitance	$C_{T(PD)}$	V_R=5V, f=1MHz	—	—	20	pF

Examples of Typical Characteristics

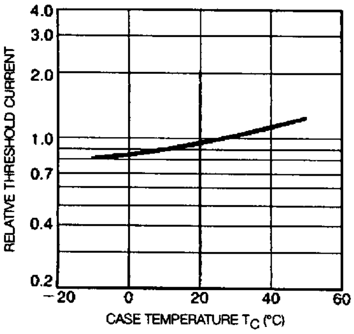
Optical Output Power vs. Forward Current



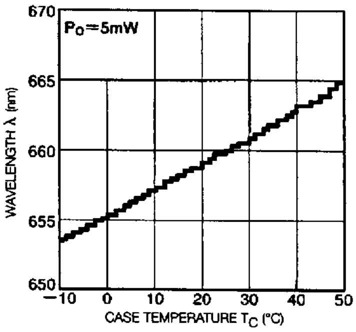
Forward Current vs. Forward Voltage



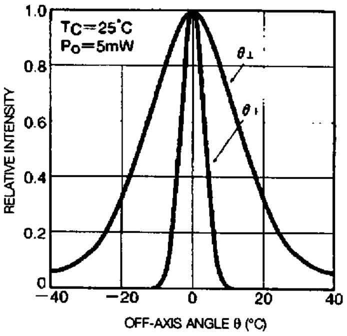
Case Temperature Dependence of Threshold Current



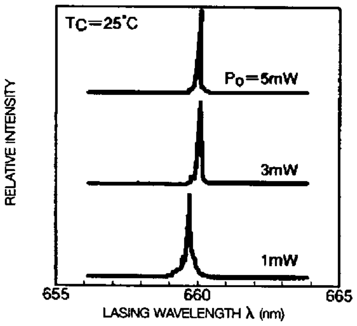
Case Temperature Dependence of Lasing Wavelength



Far-field Patterns



Lasing Spectrum



Monitor current vs. Optical Output Power