

1310nm FP Laser Diode TO

Part No:TOLD 31 F – 0102DF

1 Description

This component is a FP laser diode designed for high-speed data communication up to 2.5Gbps with monitor pd in it. It is packaged with a TO-56 header and a 1.5mm ball lens cap.

2 Application

- Telecommunication
- Data communication



3 Feature

- 1310nm typical emission wavelength.
- Low threshold current, low operation current.
- High Power, wide temperature range(-40°C ~ 85°C).
- High speed up to 2.5Gbps.
- High performance and reliability.
- InGaAs monitor PIN-PD

4 Absolute Operation Environment

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	Tst	-40	125	°C
Operating Temperature	Top	-40	85	°C
Optical Output Power	Po	-	20	mW
Forward Current (LD)	If	-	150	mA
Reverse Voltage (LD)	Vr	-	2	V
ESD susceptibility	VESD	500	-	V

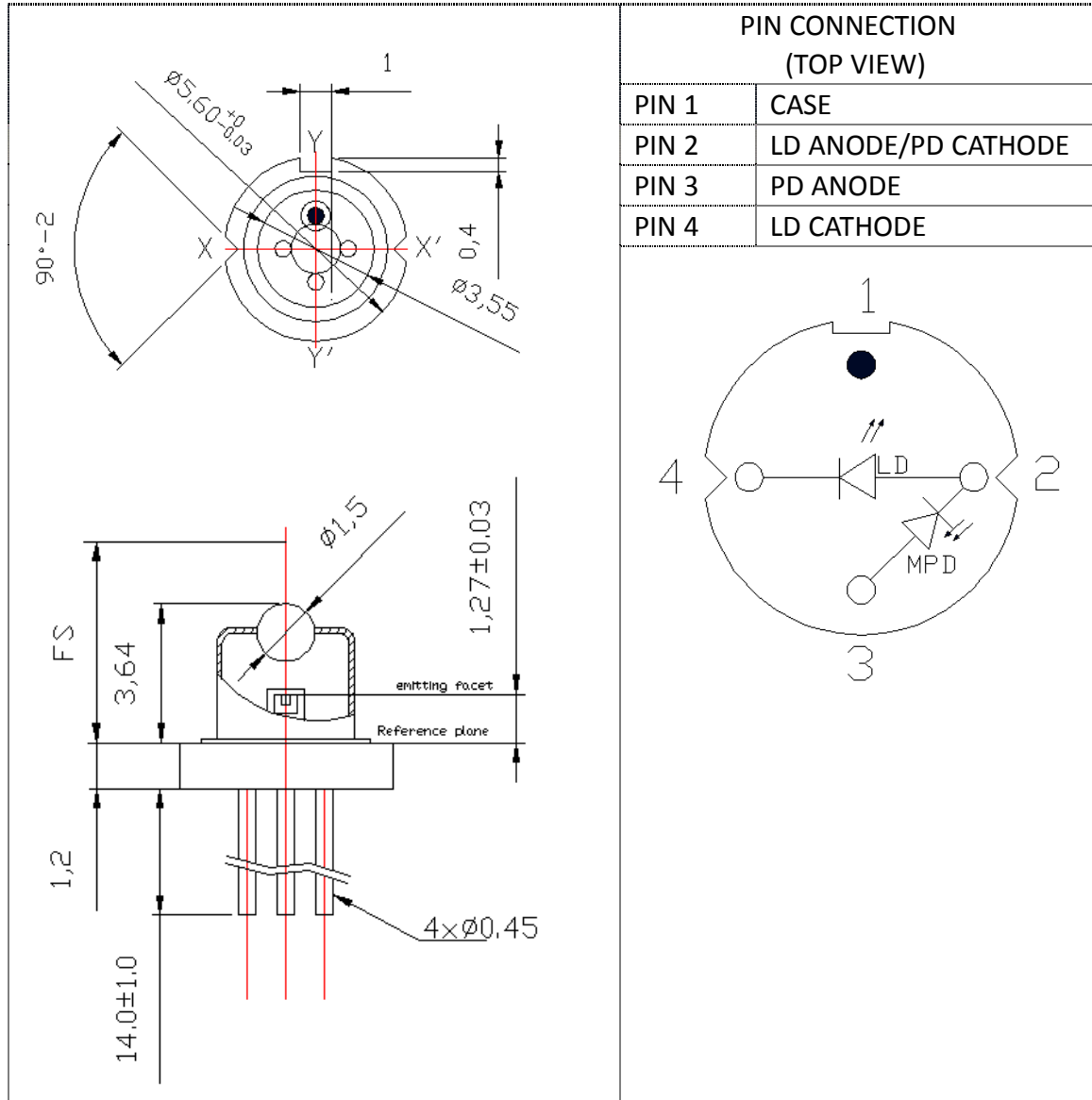
5 Electro-Optical Characteristics (T = 25°C, unless noted otherwise)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Threshold Current	Ith	CW, T=25°C	-	9	11	mA
		CW, T=85°C	-	18	23	mA
Operating Voltage	Iop	CW, Iop=Ith+20mA	-	1.15	1.5	V
Optical Output Power	Po	CW, Iop=Ith+20mA	7	8	-	mW
Slope Efficiency	η_s	CW, T=25°C	0.35	0.4	-	W/A
Center Wavelength	λ	CW, Iop=Ith+20mA	1290	1310	1330	nm
Spectral Width	$\Delta \lambda$	CW, Iop=Ith+20mA	-	-	3.0	nm
Rise/Fall Time	tr/tf	From 10% to 90%	-	200	240	ps

Focus	f_s	CW	6.1	6.3	6.5	mm
Monitor Current	I_{PD}	CW, $I_{op} = I_{th} + 20mA$	100	-	1000	μA
Dark Current	I_d	CW, $V_r = -5V$			100	nA

6 Outline Specification

All dimensions are $\pm 0.1mm$ unless otherwise specified. (unit: mm)



7 Warning

7.1 Treatment of the laser light

Semiconductor laser radiates laser light during operation. Laser light is very dangerous when shot directly into human eyes. Don't look at laser light directly, or through optics



AVOID BEAM



ESD prevention

such as a lens. The laser light should be observed using the IR-viewer, or other appropriate instruments.

7.2 Static Electric Safety Cautions:

The optoelectronic devices are sensitive to static electricity (ESD, electro-static discharge). The product can be broken by ESD. When handling this product, please observe the following countermeasures against Static Electricity and Surge:

- 1) Ground all equipments, machinery jigs, and tools in the process line with earth wires;
 - 2) Workers should always use earth bands;
 - 3) Humidity in working environment should be controlled to be 40 percent RH or higher
 - 4) Use conductive materials for this product's container, etc;
 - 5) Ground the mat on the workbench and keeping it in order by scheduled checking
- It is extremely important to prevent surge, eliminate it rapidly, and prevent it from spreading.

8 Part No Assigned

TOLD 31 F – XXXX D F

(1) (2) (3) (4) (5)(6)

Series No	Description
(1)TOLD	FIXED: LASER DIODE IN TO PACKAGE
(2)CW CODE	31: 1310nm 55: 1550nm,
(3)CHIP TYPE	F: FP CHIP D: DFB CHIP V:VCSEL
(4)LD CHIP CODE	FOR INTERNAL USED ONLY
(5)PIN CONNECTION TYPE	D: TYPE D
(6)TEMP RANGE CODE	A 0°C ~+70°C
	B -20°C ~+70°C
	C 0°C ~+85°C
	D -5°C ~+85°C
	E -20°C ~+85°C
	F -40°C ~+85°C

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