RDT3F*-**N-R**-SLC

1310nm low power FP Pluggable Laser Diode Module

1. Description

RDT3F*-**N-R**-SLC serial products are designed for high speed, high performance data communication and telecommunication applications. It is integrated with 1310nm InGaAsP/InP MQW-FP laser diode and LC/PC connector. The FP laser diode has included monitoring PD and ball lens cap. The products are designed from 155M to 2.5G bps in optical communication systems.

2. Features

2.1 Coaxial Pluggable package with LC
2.2 Data rate from 155M to 2.5Gbps
2.3 1310nm typical emission wavelength
2.4 Excellent performance and reliability

3. Applications

3.1 Telecom Systems
3.2 Datacom Systems

4. Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit	Comments
Operating Temperature	T_{op}	0	70	℃	RDT3F*-**N-R*C-SLC
		-40	85	℃	RDT3F*-**N-R*T-SLC
Storage Temperature	T_{stg}	-40	85	℃	RDT3F*-**N-R*C-SLC
		-40	100	℃	RDT3F*-**N-R*T-SLC
Storage and Operating Humidity	-	5	85	%	
LD Forward Current	I_{LD}	-	120	mA	
LD Reverse Voltage	V_{RL}	-	2	V	
PD Forward Current	I_{FD}	-	2	mA	
PD Reverse Voltage	V_{RD}	-	15	V	
Lead Soldering Temperature/Time	T_{sld}/t	-	260/10	℃/s	Temperature/Time
ESD Threshold	ESD	-	300	V	HBM

5. Optical and Electrical Characteristics(Tc=25±3℃, unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Output Power	Pf	<1*>			mW	CW, Iop=Ith+20mA
Threshold Current	I_{th}	-	9	15	mA	CW
Forward Voltage	V_f	-	-	1.5	V	CW, Iop=Ith+20mA
Center Wavelength	λ	1290	1310	1330	nm	CW, Iop=Ith+20mA
Spectrum Width	Δλ	-	-	3.0	nm	CW, Iop=Ith+20mA
Tracking Error (Note 1)	TE	-1.0	-	1.0	dB	T_c=0~70℃
		-1.5	-	1.5	dB	T_c=-40~85℃
Monitor Current	I_m	100	-	1000	uA	CW, Iop=Ith+20mA, V_R=1V
Monitor Dark Current	I_D	-	-	0.2	uA	V_R=10V
Data Rate	Br	<2*>			Gbps	CW, Iop=Ith+20mA, λ=1310nm

Note1：Im hold(@Ith+20mA, 25℃), TE = 10log(P_{Tc} / P_{25}), T_c=0~70℃ or -40~85℃, APC

<1*> RDT3F*-XYN-R**-SLC

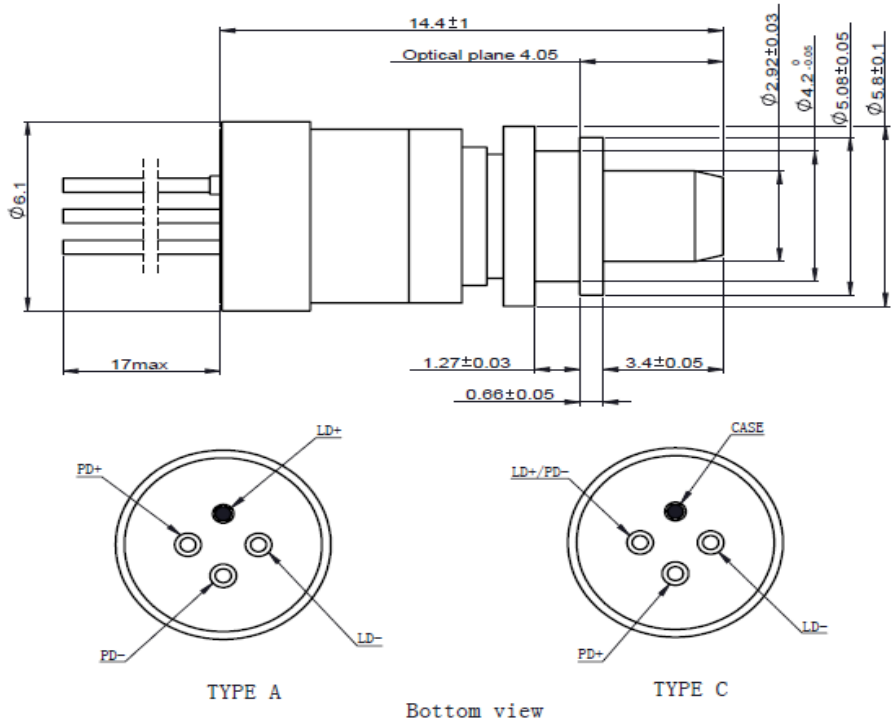
XY	Power range	XY	Power range
01	100uw~500uw	05	500uw~1000uw
02	200uw~800uw	06	600uw~1200uw
03	300uw~800uw	07	700uw~1500uw
04	400uw~1000uw	08	800uw~1500uw

<2*> RDT3F*-**N-RZ*-SLC

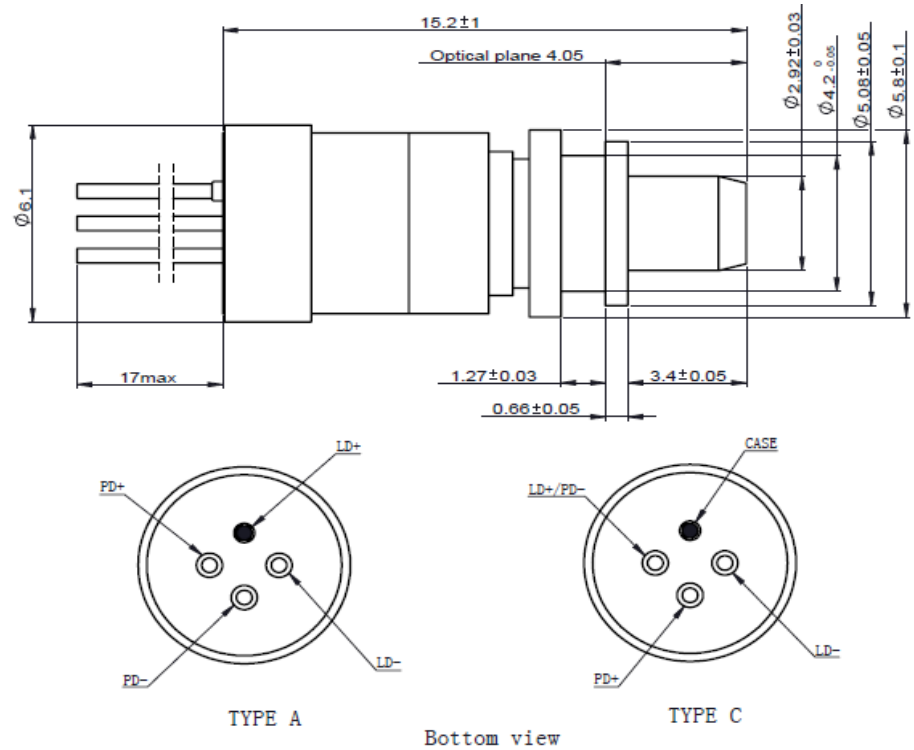
Z	Data rate
3	155M
4	622M
5	1.25G
6	2.5G

6. Package Information ＆Pin Definitions

（1）Φ1.5mm ball lens package



（2）Φ2.0mm ball lens package



6. Ordering Information

RDT 3 F * — ** N— R * *— S LC

- Connector type：LC/PC
- Application：used in SFP&SFF
- Temperature range：C：Commercial-grade temperature
  T：Industrial-grade temperature
- Data rate：3：155M　4：622M　5：1.25G　6：2.5G
- Package type：Coaxial pluggable
- without isolator
- Output power：
  01：0.1mW~0.5mW　　02：0.2mW~0.8mW
  03：0.3mW~0.8mW　　05：0.5mW~1.0mW
  06：0.6mW~1.2mW　　08：0.8mW~1.5mW
- LD PIN assignment：
  A：4 PIN，Case、LD^-、PD^+、LD^+/PD^-
  C：4 PIN，LD^+(Case)、LD^-、PD^-、PD^+
- LD type：MQW-FP
- Wavelength：1310nm
- Components type：Laser diode module
- Digital communication

8. Warning

8.1 Radiation emitted by laser devices can be dangerous to the eyes. Avoid eye or skin exposure to direct or scattered radiation.

8.2 The modules should be handled in the same manner as ordinary semiconductor devices to prevent the electro-static damages. For safekeeping and carrying, the modules should be packaged with ESD proof material. To assemble the modules on PCB, the workbench, the soldering iron and the human body should be grounded.

8.3 Please pay special attention to the atmosphere condition because the dew on the module may cause some electronic damages.

8.4 Under such a strong vibration environment as in automobile, the performance and reliability are not guaranteed.