



## RDT3DE-04S-R8C-FLC

### 10G 1310nm DFB Pluggable Laser Diode Module

#### 1. Description

RDT3DE-04S-R8C-FLC product is designed for high speed, high performance data communication and telecommunication applications. It is integrated with 1310nm AlGaInAs MQW-DFB laser diode, optical isolator and LC/PC connector. The DFB laser diode has included InGaAs monitoring PD and ball lens cap. The product is designed for 10G 10km transmission in SFP+/XFP transceiver.

#### 2. Features

- 2.1 Coaxial Pluggable package with LC
- 2.2 Data rate up to 10Gbps
- 2.3 1310nm typical emission wavelength
- 2.4 Built-in optical isolator
- 2.5 Commercial-grade applications
- 2.6 Excellent performance and reliability

#### 3. Applications

- 3.1 10G BASE-LR/LW(IEEE802.3ae)
- 3.2 10G Fiber Channel
- 3.3 SONET OC-192

#### 4. Absolute Maximum Ratings

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

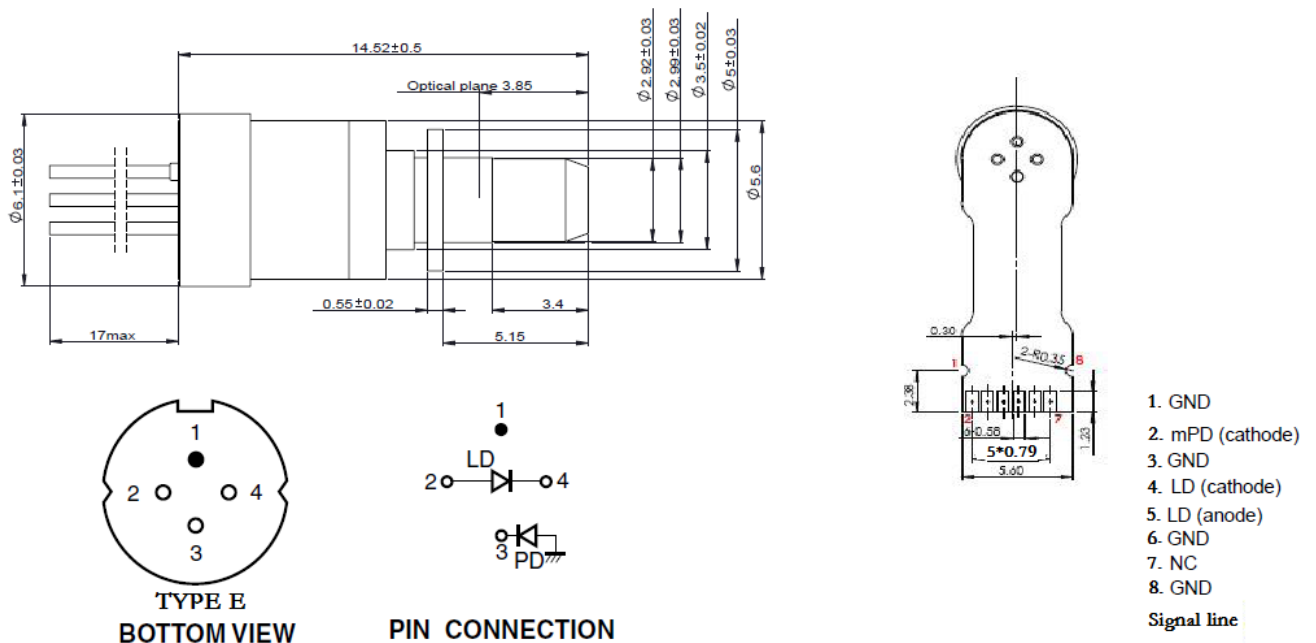


## 5. Optical and Electrical Characteristics(Tc=25±3 °C, unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Output Power	Pf	0.4	-	0.8	mW	CW, Iop=Ith+20mA
Threshold Current	I <sub>th</sub>	-	8	15	mA	CW
Forward Voltage	V <sub>f</sub>	-	-	2.0	V	CW, Iop=Ith+20mA
Center Wavelength	λ	1290	1310	1330	nm	CW, Iop=Ith+20mA
Spectrum Width	Δλ	-	-	1.0	nm	CW, Iop=Ith+20mA
Side-mode Suppression Ratio	SMSR	30	-	-	dB	CW, Iop=Ith+20mA
Tracking Error (Note 1)	TE	-1.0	-	1.0	dB	T <sub>c</sub> =0~70 °C
Monitor Current	I <sub>m</sub>	50	-	1000	uA	CW, Iop=Ith+20mA, V <sub>R</sub> =1.5V
Monitor Dark Current	I <sub>D</sub>	-	-	10	uA	V <sub>R</sub> =3.3V
Data Rate	Br	10	-	-	Gbps	CW, Iop=Ith+20mA, λ=1310nm

Note1: I<sub>m</sub> hold(@Ith+20mA, 25 °C), TE = 10log(P<sub>Tc</sub> / P<sub>25</sub>), T<sub>c</sub>=0~70 °C, AP

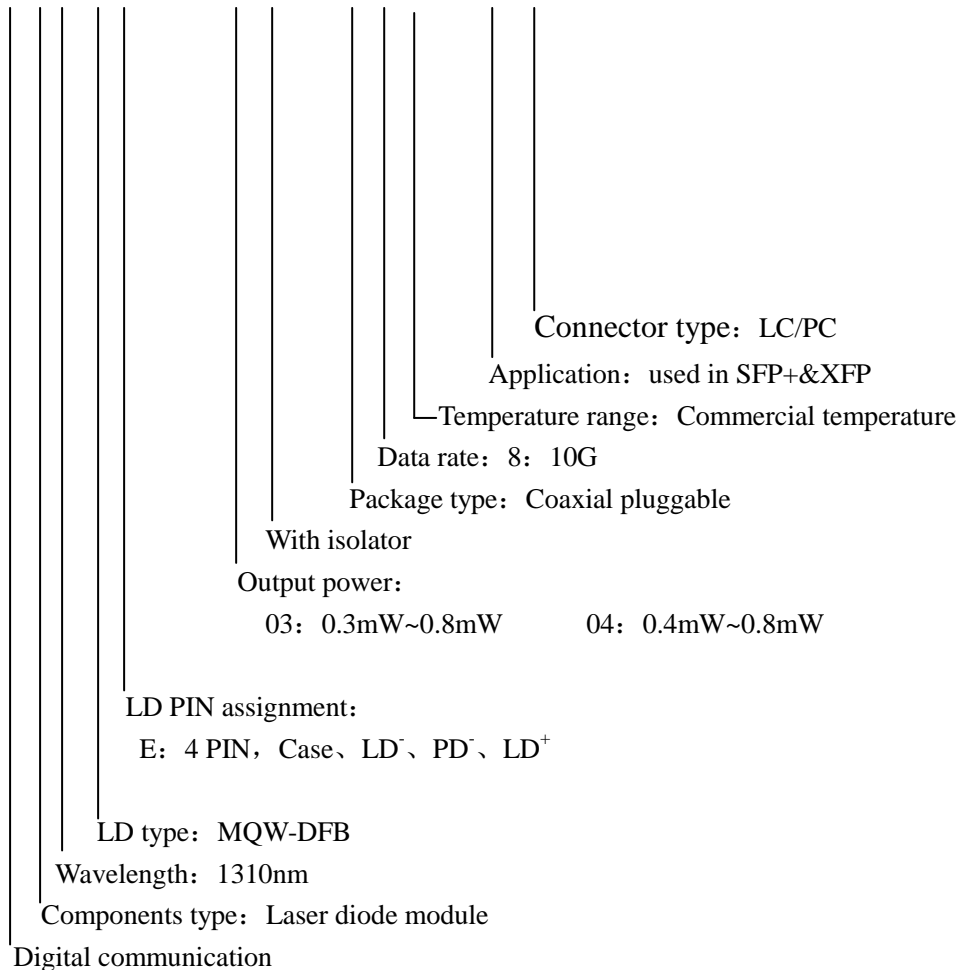
## 6. Package Information & Pin Definitions





## 7. Ordering Information

RDT 3 D E — 04 S — R 8 C — F LC



## 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 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 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.