



Fiber Optic Modules for Digital Data-Link Systems



RAYTRON CO., LTD.

HEAD OFFICE & FACTORY (KOREA)

104-6, Moonji-Dong, Yusung-Gu, Daejeon, KOREA
TEL : +82-42-863-2840 FAX : +82-42-861-0843

FACTORY (CHINA)

6/F, BlockA, Huafeng GongYeYuan, Bao'an72, Shenzhen,
CHINA
TEL : +86-755-2744-7373 FAX : +86-755-2744-7235

Fiber Optic for Digital Data-Link Systems.

1. Description

The RFT.. series are Fiber Optic Transmitting modules for data link interface and Digital Audio Equipment, integrate LED and Driver IC with constant current output.

2. Applications

- Digital optical Data-Link.
- AV equipment
(DVD Player, Audio, CD player, STB, etc)
- Home appliances (PC, Notebook, etc)
- Sound card.

3. Features

- Wide operating supply voltage between 2.7V to 5.5V.
- High speed transmission of high quality audio signal such as DVD players and AV amplifiers.
Signal transmission speed : 18.0Mbps Max. (NRZ Signal)
- Directly connectable to modulation IC for digital audio equipment.
- TTL compatible interface.

4. Absolute maximum ratings

(Ta = 25°C)

Parameter	Symbol	Ratings	Unit
Supply Voltage	V _{CC}	-0.5 to +7.0	V
Output Current	V _{IN}	-0.5 to V _{CC} +0.5	V
Max. Loss	V _{OUT}	125	mW
Operating Temperature	T _{opr}	-20 to +70	°C
Storage Temperature	T _{stg}	-30 to +80	°C
Soldering Temperature ※1	T _{sd}	260 , 5sec	°C

※1. t<5 s, 2.0mm from package

5. Reliability Test Items

Parameter	Test Conditions	Remark
High Temperature	Ta=+60, Vcc=5.0V t=500h	※1, ※2
Low Temperature	Ta=-20, Vcc=5.0V t=500h	※1, ※2
High Temp./ High Humidity	Ta=+60°C 90%RH, Vcc=5.0V t=500h	※1, ※2
Heat Cycle	Ta=-30°C(0.5h) to +80°C(0.5h) 20 cycle	※2, ※3
Soldering Heat	In case of solder bath method, Ta=260±10°C, 5s, 2times. Thickness : 2.0mm In case of solder bath method, Ta=350°C, 3s, 1times. Soldering at the place more than 7mm away from the Center a lens	
Soldering Ability	Soldering at the place more than 3mm away from the Foot of the terminal. Used as resin flux.	
Fall Test	Height=75cm, 3 times	

※ 1. Supply voltage of load test is 5V.

※ 2. Electro-optical characteristics shall be satisfied after leaving 2 hours in the normal condition.

※ 3. Heat cycle test shall repeat above condition 20 times under no load.

6. Electro-optical Characteristics
(V_{CC}=5.0V, T_a = 25°C)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Peak Emission Wavelength	λ_P	V _{CC} =4.75~5.25 V	630	-	690	nm
Optical Power Output Coupling with Fiber ※1	P _C	Ref. to Fig.1	-21	-17	-14	dBm
Transmission Speed ※2	T	NRZ signal	DC		18	Mbps
Dissipation Current	I _{CC}	Ref. to Fig.1	-	6	10	mA
High Level Input Voltage	V _{IH}	Ref. to Fig.1	2.0	-	-	V
Low Level Input Voltage	V _{IL}	Ref. to Fig.1	-	-	0.8	V
Low to High Propagation Delay Time	t _{pLH}	Ref. to Fig.2	-	-	100	ns
High to Low Propagation Delay Time	t _{pHL}	Ref. to Fig.2	-	-	100	ns
Pulse Width Distortion	Δtw	Ref. to Fig.1,2	-10	-	10	ns
Jitter	Δtj	Ref. to Fig.2	-	-	10	ns
Transmission Distance ※3		Using POF	-	-	20	m

※ 1. Measure with a standard optical fiber, Peak value.

※ 2. LED is on when input signal is high level, it is high level, it is off when low level.

The duty factor must be kept 25 to 75%.

※ 3. Polymer Optical Fiber

7. Package for Fiber Optic Modules.
