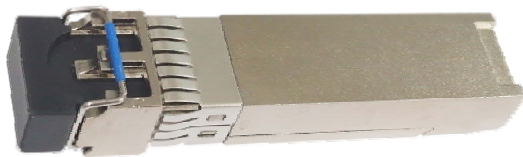


10 GB/s 10Km SFP+ 1310 nm Transceivers



The RTX228-402 10Gigabit 1310nm DFB Transceiver is designed to transmit and receive serial optical data links up from 2.1 Gb/s to 10.52 Gb/s data rate over 10km singlemode fiber. The Transceiver is compliant with SFF-8432, 10GFC, FC-PI-4, IEEE802.3ae and applicable portions of SFF-8431. Digital diagnostics functions are available via a 2-wire serial interface, as specified in SFF-8472.

Features

- Link lengths at 10G 10Km with DFB 1310nm
- LC duplex connector
- Low power consumption <1.0W
- -40°C to 85°C operating temperature range
- Single +3.3V±5% power supply
- Digital Monitoring SFF-8472 compliant

Applications

- 10GBASE-LR/LW 10G Ethernet
- 8G/10GFC
- CPRI rates 2.4576 Gb/s, 4.9152Gb/s, 6.144Gb/s, 9.8304 Gb/s

Standards

- IEEE 802.3ae
- SFF-8431 Rev 3.0
- SFF-8472 Rev 10.2
- 10GFC Rev 4.0
- FC-PI-4 Rev 7.0

Specifications

(tested under recommended operating conditions, unless otherwise noted)

Parameter	Symbol	Unit	Min	Typ	Max	Note
Transmitter						
Nominal Wavelength	λ	nm	1260	1310	1360	
Side Mode Suppression Ratio	SMSR	dB	30			
Optical Modulation Amplitude	POMA	dBm	-5.2			
Optical Output Power	P _{av}	dBm	-8.2		0.5	
Extinction Ratio	ER	dB	3.5			
Transmitter and Dispersion Penalty	TDP	dB			3.2	
Average launch power of OFF transmitter	P _{OFF}	dBm			-35	
Relative Intensity Noise	R _{IN}	dB/Hz			-128	
Optical Return Loss Tolerance	ORLT	dB			12	
Receiver						
Center Wavelength	λ	nm	1260		1610	
Average Receiver Power	P _{AVG}	dBm	-14.4		+0.5	1
Receiver Sensitivity (OMA)	R _{SENSE1}	dBm			-12.6	1
Stressed Receiver Sensitivity (OMA)	R _{SENSE2}	dBm			-10.3	2
Receiver Reflectance	R _{REFL}	dB			-12	
Assert LOS	LOS _A	dBm	-30			
De-Assert LOS	LOS _D	dBm			-17	
LOS Hysteresis		dB	0.5			

Note 1: Sensitivity for 10G PRBS 2³¹-1 and BER better than or equal to 10E-12

Note 2: The stressed sensitivity value in the table are for system level BER measurements which include the effects of CDR circuit.

10 GB/s 10Km SFP+ 1310 nm Transceivers

Ordering Information

Part No.	Specifications									Application
	Package	Data rate(Gb/s)	Laser	Optical Power (dBm)	Detector	Sensitivity (OMA) dBm	Top	Reach (km)	Other	
RTXM228-402	SFP+	2.1 ~10.52	1310nm DFB	-8.2 ~+0.5	PIN	< -12.6	-40~85°C	10km	DDM	10GBASE-LR/LW 8G/10GFC

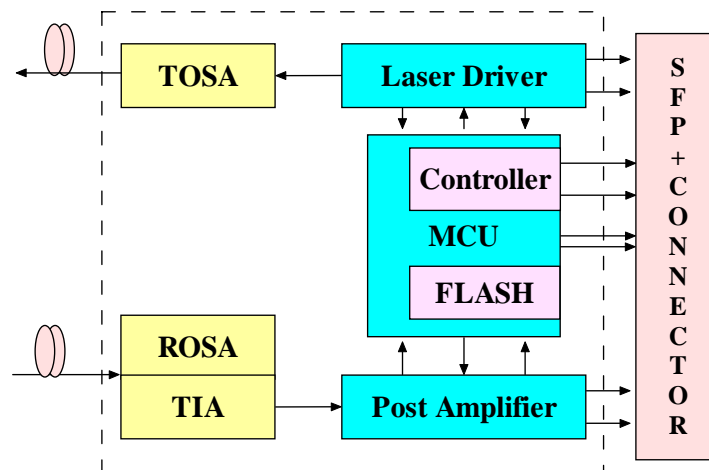
Absolute Maximum Ratings

Parameter	Symbol	Unit	Min	Max
Storage Temperature Range	Ts	°C	-40	85
Relative Humidity	RH	%	0	95
Supply Voltage	V _{CC}	V	-0.3	4.0

Recommended Operating Conditions

Parameter	Symbol	Unit	Min	Typ	Max
Operating Case Temperature Range	Tc	°C	-40		85
Power Supply Voltage	V _{CC}	V	3.14	3.3	3.46
Bit Rate	BR	Gb/s	2.1		10.52
Bit Error Ratio	BER				10 ⁻¹²
Max Supported Link Length	L	km			10

Principle diagram



Electric Ports Definition

Parameter	Symbol	Unit	Min	Typ	Max	Note
Supply Voltage	V _{CC}	V	3.14	3.3	3.46	
Supply Current	I _{CC}	mA			285	