

# 10 GB/s 10Km SFP+ 1310 nm Transceivers



The RTX228-401 10Gigabit 1310nm DFB Transceiver is designed to transmit and receive serial optical data links up from 8.5 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
- 0°C to 70°C operating temperature range
- Single +3.3V±5% power supply
- Digital Monitoring SFF-8472 compliant

## Applications

- 10GBASE-LR/LW 10G Ethernet
- 10GFC
- 8GFC

## 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
<b>Transmitter</b>						
Nominal Wavelength	$\lambda$	nm	1260	1310	1360	
Side Mode Suppression Ratio	SMSR	dB	30			
Optical Modulation Amplitude	POMA	dBm	-5.4			
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	
Output optical eye	Complies with IEEE802.3ae eye masks with filter					
<b>Receiver</b>						
Center Wavelength	$\lambda$	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  $2^{31}-1$  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.