

10Gbps XFP Optical Transceiver RTX226-6XX



The RTX226-6XX is a hot pluggable 10Gbps small-form-factor transceiver module integrated with the high performance cooled DWDM EML transmitter and high sensitivity APD receiver. It is compliant to INF-8077i XFP Multi-source Agreement(MSA). The module is a multirate optical transceiver, intended to support Telecom and Datacom applications.

Features

- Data rate from 9.95 Gbps to 11.3Gbps
- DWDM EML TOSA and APD ROSA
- Industry-standard, protocol-independent, XFI interface
- Transmission distance up to 80km
- LC duplex receptacle package
- Hot pluggable
- Built in digital diagnostic functions
- Operating case temperature range:-5°C~70°C
- RoHS compliant

Applications

- SONET OC-192&SDH STM 64
- 10Gigabit Ethernet
- 10Gigabit Fiber Channel

Standards

- XFP MSA (INF-8077i)
- IEEE802.3ae
- ITU-T G.691

Specifications

(Tested under recommended operating conditions, unless otherwise noted)

Parameter		Symbol	Unit	Value		
				Min	Typ	Max
Optical Transmitter Characteristics						
Data Rate		-	Gbps	9.95	-	11.3
Optical Power		P ₀	dBm	0	-	4
Center Wavelength Range		c	nm	1528.77		1563.05
Center Wavelength Spacing			GHz		100	
Wavelength Tolerance			pm	-50		+50
Extinction Ratio		ER	dB	9	-	-
Spectral Width (-20dB)			nm	-	-	0.4
SMSR		-	dB	30	-	-
Relative Intensity Noise		RIN	dB/H _z	-	-	-128
Eye Diagram		Compliant with ITU-T G.691				
Dispersion Penalty ^{1 2}		-	dB	-	-	2
Optical Receiver Characteristics						
Data Rate		-	Gbps	9.95	-	11.3
Center Wavelength Range		c	nm	1260	-	1620
Receiver Sensitivity ²		S	dBm	-	-	-24
Overload Input Optical Power		-	dBm	-7	-	-
Receiver Reflectance		-	dB	-	-	-30
LOS	Optical Dessert	-	dBm	-	-	-27
	Optical Assert	-		-37	-	-
LOS Hysteresis		-	dB	0.5	-	6
Note1: 80KmSMF,9.95Gbps						
Note2:Ber<10 ⁻¹² ,2 ³¹ -1 PRBS NRZ,DWDM,ER=9dB						

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Ordering Information

Absolute Maximum Ratings

Parameter	Symbol	Unit	Min	Max
Supply Voltage 1	V _{CC3}	V	-0.5	4.0
Supply Voltage 2	V _{CC5}	V	-0.5	6.0
Storage Temperature	T _s	°C	-40	85
Operating Case Temperature	T _c	°C	-5	70
Relative Humidity (Non condensation)	-	%	5	90

Recommended Operating Conditions

Parameter	Symbol	Unit	Min	Typ	Max
Operating Case Temperature	T _c	°C	-5	-	70
Supply Voltage 1	V _{CC3}	V	3.13	3.3	3.47
Supply Current 1	I _{CC3}	mA	-	-	750

Supply Voltage 2

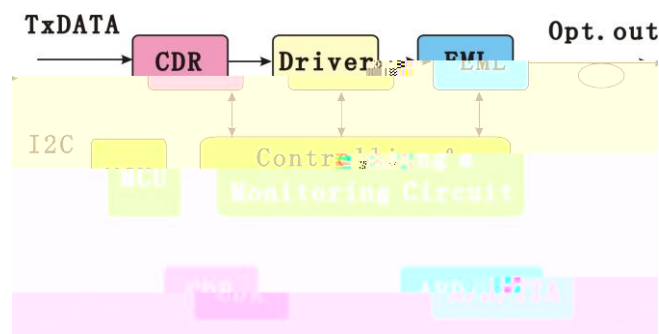


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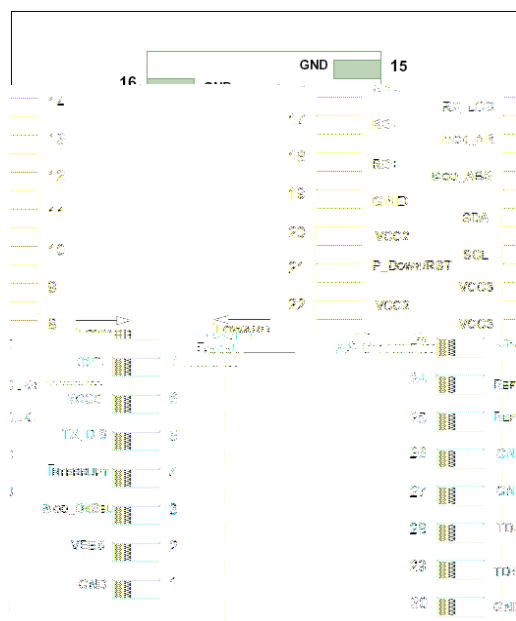
Low Speed Electrical Interface

Parameter	Symbol	Unit	Min	Max	Note
XFP Tx_Dis,P_Down/RST	V _{IH}	V	2.0	V _{cc3} +0.3	
	V _{IL}	V	-0.3	0.8	
XFP Interrupt,Mod_NR,Rx_Los	V _{OH}	V	V _{dd3} -0.5	V _{dd3} +0.3	1
	V _{OL}	V	0.0	0.4	
XFP SCL and SDA Input	V _{IH}	V	V _{dd3} *0.7	V _{dd3} +0.5	1
	V _{IL}	V	-0.3	V _{dd3} *0.3	
XFP SCL and SDA Output	V _{OH}	V	V _{dd3} -0.5	V _{dd3} +0.3	
	V _{OL}	V	0.0	0.4	
Leakage Current	I _L		-10	10	
I ² C Clock Rate		KHz		400	
Note1: V _{dd3} is host +3.3V power supply.					

Block Diagram



Pin Description



Pin	Logic	Symbol	Name/Description	Note
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1		GND	Module Ground	1
262.905897	EMC q	EE51 8.04 Tf1 00	Options 53.24.66 Wn S b p p y (E 0 0 4 6) J i n T Q 18835 31.2533 54.66 Tm0 g () J T J n - U 8 7 0 0	qq75.384 664.78 48.9
3	LVTTL-I	Mod_DeSel	Module De-select; When held low allows module to respond to 2-wire serial interface	

4 LVTTL-O



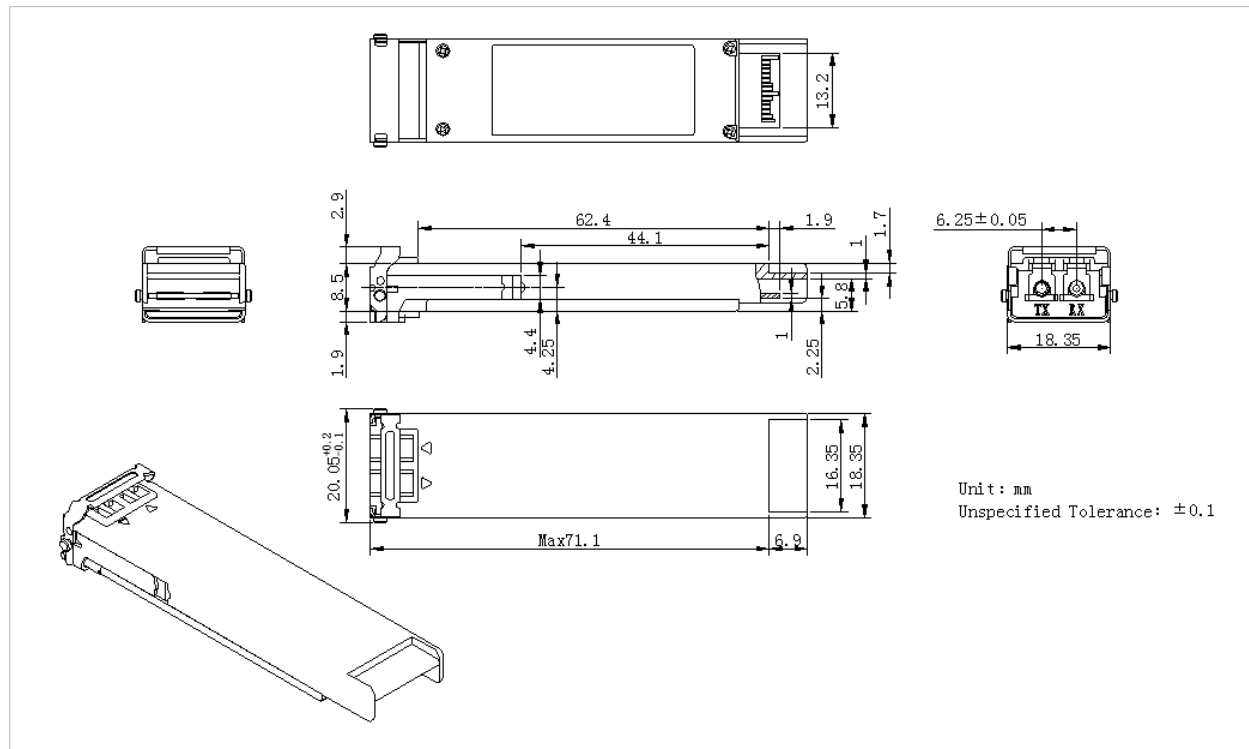
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Digital Diagnostic Functions

As defined by



Package Outline



Regulatory Compliance

Feature	Test Method	Performance
Laser Eye Safety	FDA 21 CFR 1040.10 and 1040.11 IEC 60825-1: 1994+ A11: 1996+ A2: 2001 IEC 60825-2: 2004 + A1: 2006 EN 60825-1:1994+A1:2002+A2:2001 EN 60825-2: 2004	Compliant with Class 1 laser product
Electrostatic Discharge (ESD) to the Electrical Pins	MIL-STD-883E Method 3015.7 Human Body Model	Class 1 (>1.5kV)
Electrostatic Discharge (ESD) Immunity	IEC 61000-4-2: 2001	Class 2 (>4.0kV)
Electromagnetic Interference (EMI)	FCC Part 15 Subpart J Class B CISPR22:1997+A1:2000+A2:2002, Class B EN55022:1998+A1:2000+A2:2003, Class B	Compliant with standards

Product Code	Frequency(THz)	Center Wavelength(nm)
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RTXM226-618	191.8	1563.05
RTXM226-619	191.9	1562.23
RTXM226-620	192.0	1561.42
RTXM226-621	192.1	1560.61
RTXM226-622	192.2	1559.79
RTXM226-623	192.3	1558.98
RTXM226-624	192.4	



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RTXM226-660	196.0	1529.55
RTXM226-661	196.1	1528.77

