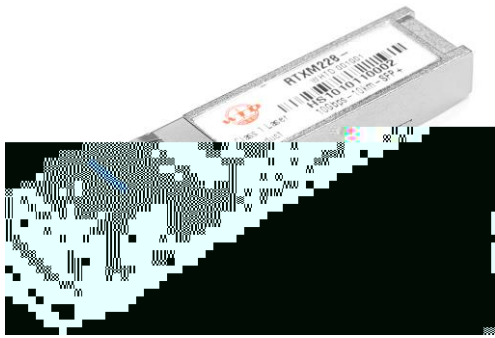


10 GB/s 10Km CWDM SFP+ Transceivers



The RTXM228-5XX 10Gigabit DFB laser with CWDM 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.

Specifications

(tested under recommended operating conditions, unless otherwise noted)

Features

- Link lengths at 10G 10Km
- LC duplex connector
- Low power consumption <1.0W
- 0 to 70 operating temperature range
- Single +3.3V±5% power supply
- Digital Monitoring SFF-8472 compliant
- High sensitivity PIN photodiode and TIA
- Uncooled directly modulated DFB Laser with CWDM wavelengths

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

Parameter	Symbol	Unit	Min	Typ	Max	Note
Transmitter						
Nominal Wavelength		nm	1271,1291,1311,1331, The confirmation of the else wavelength is according to the future study.			CWDM
Wavelength Drift	•	nm	-6.5		+6.5	
Side Mode Suppression Ratio	SMSR	dB	30			
Optical Output Power	P _{av}	dBm	-2.4		+5	1
Extinction Ratio	ER	dB	3.5			
Average launch power of OFF transmitter	P _{OFF}	dBm			-35	
Relative Intensity Noise	RIN	dB/Hz			-128	
Optical Return Loss Tolerance	ORLT	dB			12	
Receiver						
Center Wavelength		nm	1260		1610	
Average Receiver Power	P _{AVG}	dBm	-14.4		+0.5	2
Receiver Sensitivity (OMA)	R _{SENSE1}	dBm			-12.6	2
Stressed Receiver Sensitivity (OMA)	R _{SENSE2}	dBm			-10.3	3
Receiver Reflectance	R _{REFL}	dB			-12	
Assert LOS	LOS _A	dBm	-30			
De-Assert LOS	LOS _D	dBm			-15	
LOS Hysteresis		dB	0.5			

Note 1: Ab a□□ b □

Note 2: Pb f f f □ □ -D□MO P□/□. □ a□ B□ b b □ e □ □
b □ □ -B . /□

Note 3: eb□ b ba□b f f f □ b□□eb□ b□ b□ □ b □
b b□ B□ b b b □ ef e□ ab□eb□□□ □□ A□ f f +
□
□

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Ordering Information

Part No.	Specifications										Application
	Mdb	A	Ib	Optical Power (dBm)	Ab b	Pb f f f		Ob e	L eb		
O / / 5 2	PM	8.5	TA	-2.4 ~ +5	MPK	9 / -8	- 4	.	AA		10GBASE-LR/LW 8G/10GFC

Part NO.	Wavelength(nm)		
	min	type	max
RTXM228-501	1263.5	1271	1278.5
RTXM228-502	1283.5	1291	1298.5
RTXM228-503	1303.5	1311	1318.5
RTXM228-504	1323.5	1331	1338.5

Absolute Maximum Ratings

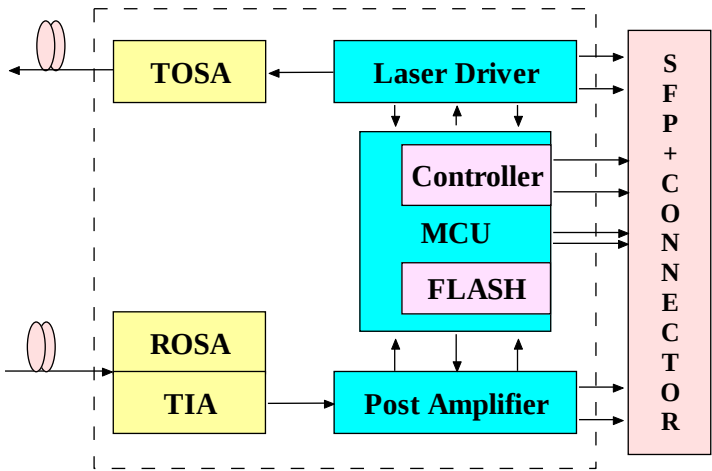
Parameter	Symbol	Unit	Min	Max
P db b b b db			1 -	52
Ob f b f f	OE	"	-	62
P S db	S	S	- 0	1 +

Recommended Operating Conditions

Parameter	Symbol	Unit	Min	Typ	Max
L b f d b b b db			-		4 -
M b P S db	S	S	0 + 1	0 - 0	0 + 3
f b	O	D	5 - 2		. - - 2 /
f B f	BO				. - . /
P ba f b d e	I				. -

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Principle diagram

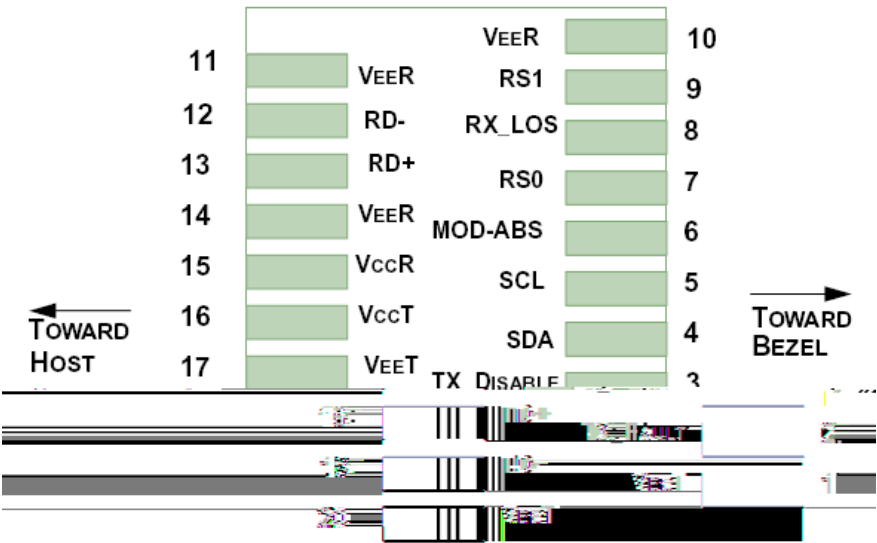


Electric Ports Definition

Parameter	Symbol	Unit	Min	Typ	Max	Note
P _{TX} [dBm]	S _{TX}	dBm	0+1	0+0	0+3	
P _{TX} [dBm]	F _{TX}	>			0--	
Transmitter						
F _{TX} [dBm]	O _{RK}		5-	.--	./-	.
A _{TX} [dBm]	S _{RK}	S	.5-		4--	
f _{TX} [dBm]	S _{APP}	S	/		S _{ELP}	
f _{TX} [dBm]	S _{BK}	S	S _{BB}		S _{BB} (-5)	
f _{TX} [dBm]	S _C	S	/4		S _{ELP}	
f _{TX} [dBm]	S _{CA>}	S	S _{BB}		S _{BB} (-4)	
Receiver						
A _{TX} [dBm]	S _{LA}	S	12-	3--	52-	
L _{TX} [dBm]	O _{PB}		/2			
L _{TX} [dBm]	G _{TI}		/2			
ILP _{TX}	S _{ILPC}	S	/		S _{ELP}	
ILP _{TX}	S _{ILPKO}	S	S _{BB}		S _{BB} (-5)	

10 GB/s 10Km CWDM SFP+ Transceivers

Pin function definitions

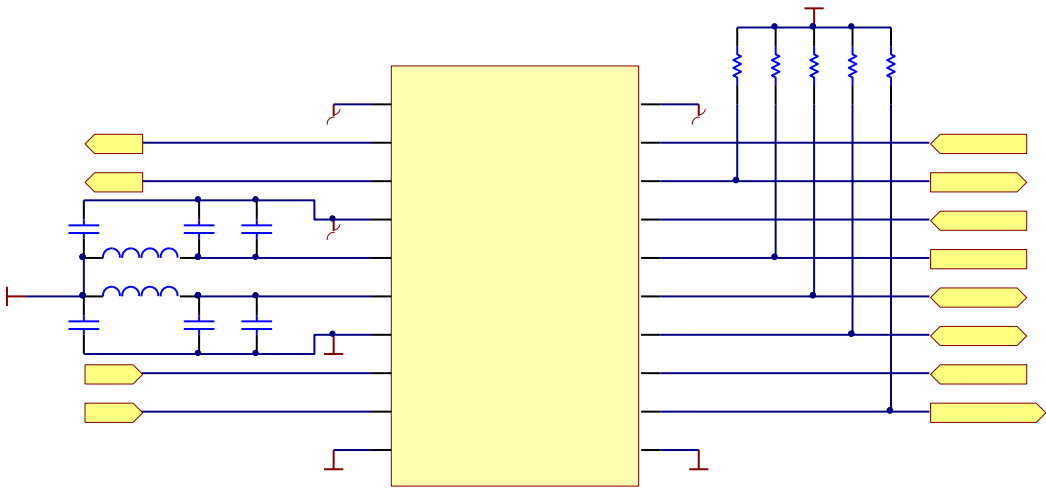


Pin Number	Symbol	Name	Description
1,17,20	VeeT	Transmitter Signal Ground	These pins should be connected to signal ground on the host board.
2	TX Fault	Transmitter Fault Out (OC)	

10 GB/s 10Km CWDM SFP+ Transceivers

15	VccR	Receiver Power Supply	This pin should be connected to a filtered +3.3V power supply on the host board. See Figure 3.Recommended power supply filter
16	VccT	Transmitter Power Supply	This pin should be connected to a filtered +3.3V power supply on the host board. See Figure 3.Recommended power supply filter
18	TD+	Transmitter Positive DATA In (CML)	ter DATA inputs are internally AC coupled and terminated
19	TD-	Transmitter Negative DATA In (CML)	inputs are internally AC coupled and terminated stor.

Typical Application Circuit



Package Outline



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