

10Gb/s 70Km CWDM SFP+ Transceivers

RTXM228-39X

The CWDM-rated cooled EML laser based 10Gigabit SFP+ Transceiver is designed to transmit and receive serial optical data over single mode optical fiber with 70Km.

They are compliant with SFF-8431,SFF-8432, 10GFC Rev 4.0, and 10GBASE-ZR/ZW. The transmitter converts serial CML electrical data into serial optical data compliant with the IEEE 802.3ae standard. The receiver converts serial optical data into serial CML electrical data. Digital diagnostics functions are available via a 2-wire serial interface, as specified in SFF-8472.

Specifications

(Tc=-5 to 70 and Vcc= 3.14 to 3.46V)

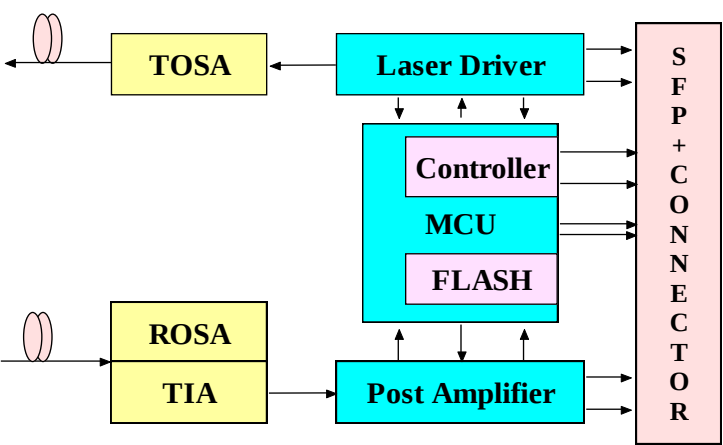
Parameter	Symbol	Unit	
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Ordering Information

Block diagram



Absolute Maximum Ratings

Parameter	Symbol	Unit	Min	Max
			%	

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Pin function definitions

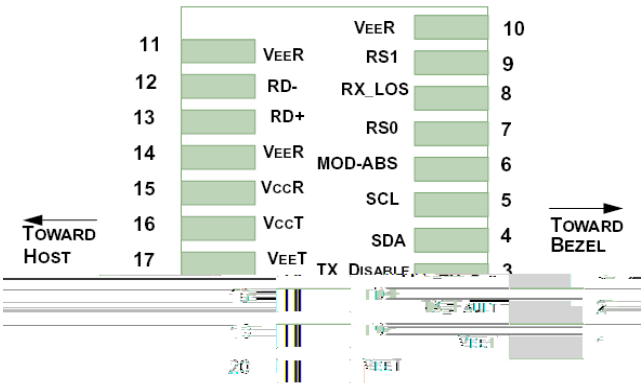


Figure 2.Pin function definitions

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)	This pin is open collector compatible, and should be pulled up before t_fault)
3	TX Disable	Transmitter Disable In (LVTTL)	

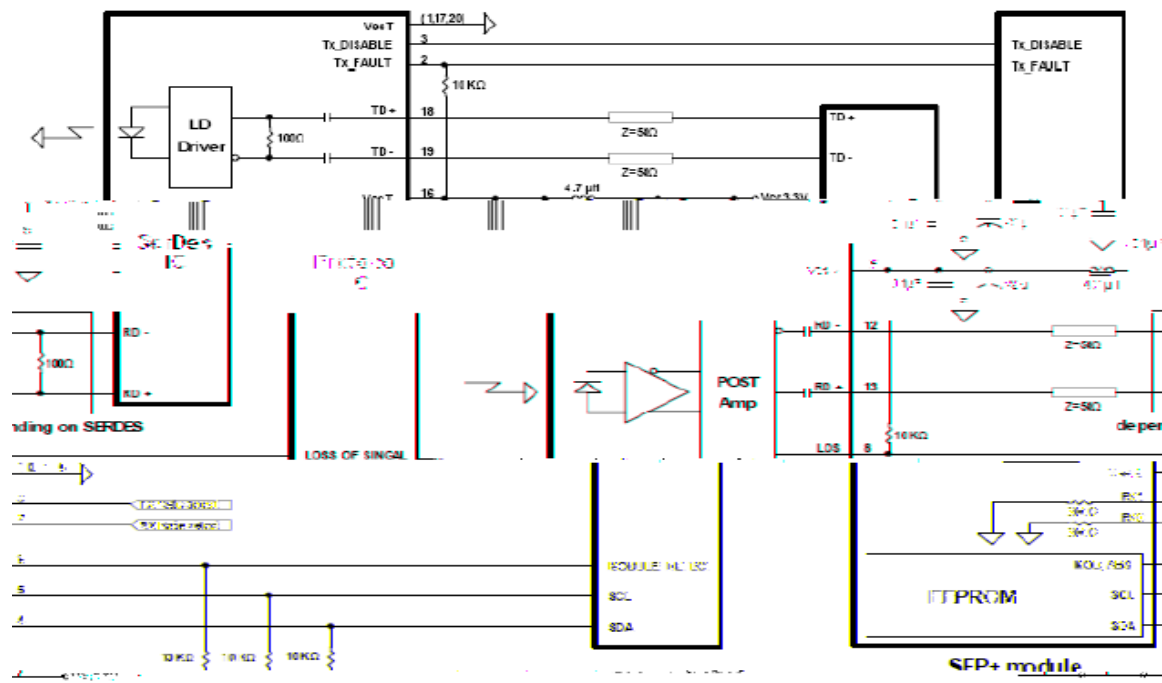
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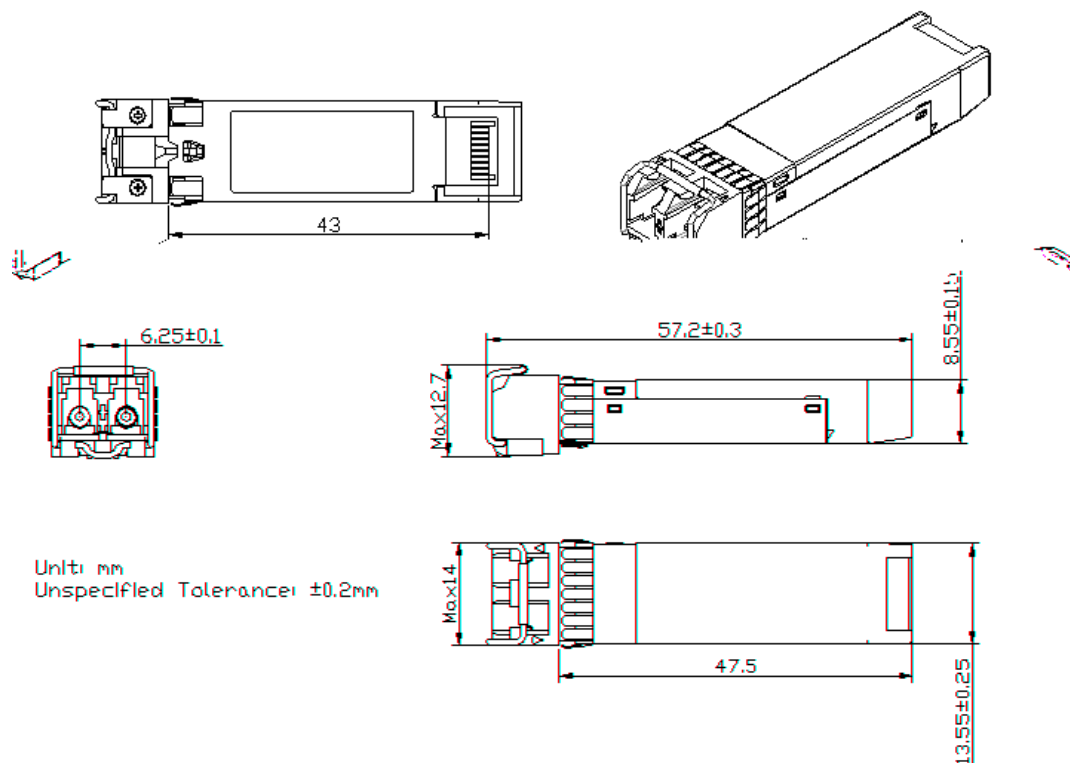
			)
			resistor.
4	SDA		Serial ID with SFF 8472 Diagnostics
5	SCL	Module Definition Identifiers	Module Definition pins should be pulled up to Host Vcc
6	MOD-ABS		)
7	RS0	Receiver Rate Select (LVTTL)	,) -down to ground. A
9	RS1	Transmitter Rate Select (LVTTL)	signal on either of these pins will not affect module performance.
8	LOS	Loss of Signal Out (OC)	Sufficient optical signal for potential BER < 1x10 ⁻¹²) Insufficient optical signal for potential BER < 1x10 ⁻¹² This pin is open collector compatible, and should be pulled)
10,11,14	VeeR	Receiver Signal Ground	These pins should be connected to signal ground on the host board.
12	RD-	Receiver Negative DATA Out (CML)	) .) resistor.
13	RD+	Receiver Positive DATA Out (CML)	Light .) resistor.
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)	ATA inputs are internally AC coupled and terminated with a differential))
19	TD-	Transmitter Negative DATA In (CML)	) internally AC coupled and terminated with a differential))

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Typical Application Circuit



Package Outline



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Regulatory Compliance

Feature	Test Method	Performance
Electrostatic Discharge (ESD) to the Electrical Pins	MIL-STD-883C Method 3015.7	Class 1 (> 1500 Volts)
Electrostatic Discharge (ESD) to the Duplex LC Receptacle	Variation of IEC 61000-4-2	Typically, no damage occurs with 15 kV when the duplex LC connector receptacle is contacted by a Human Body Model probe.
Electrostatic Interference (EMI)	CISPR22 ITE Class B EN55022 Class B FCC Class B	Compliant with standards
Immunity	IEC61000-4-3 Class 2 EN55024	Typically show no measurable effect from a 3V/m field swept from 80 to 1000MHz applied to the transceiver without a chassis enclosure.
RoHS Compliance		Less than 1000 ppm of cadmium, lead, mercury, hexavalent chromium, polybrominated biphenyls, and polybrominated biphenyl ethers.

Product Code	Center Wavelength(nm)
RTXM228-391	1471
RTXM228-392	1491
RTXM228-393	1511
RTXM228-394	1531
RTXM228-395	1551
RTXM228-396	1571
RTXM228-397	1591
RTXM228-398	1611