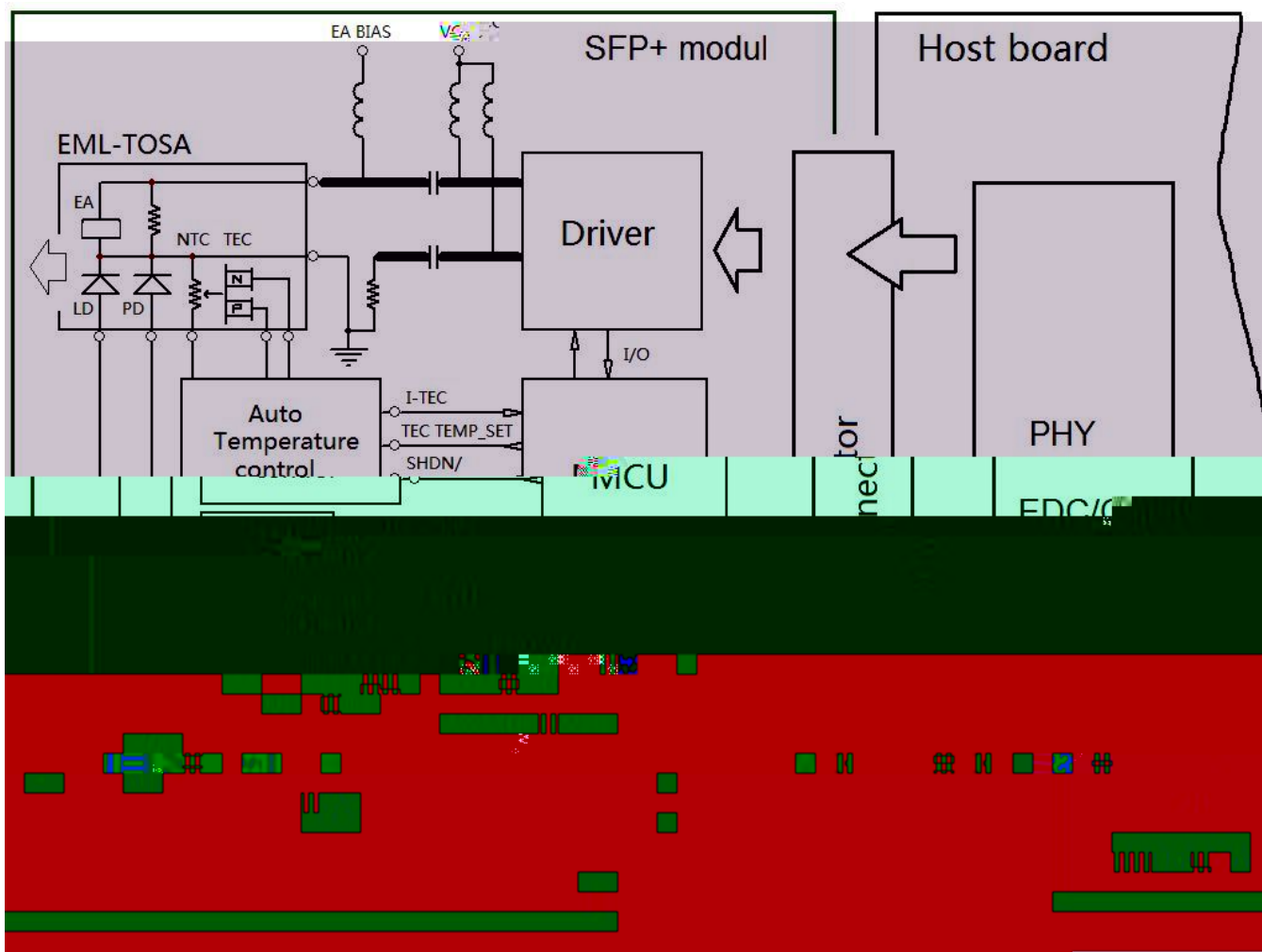


- ◆ Compliant with SFF-8431, SFF-8432 and IEEE802.3ae
- ◆ Supports rate up to 10.3 Gb/s bit rates
- ◆ 1G/2G/4G/ 8G/10G Fiber Channel applications.
- ◆ Cooled EML transmitter and APD receiver
- ◆ link length up to 80k m



supply voltage.



Supply Voltage	Vcc	-0.5	3.8	V
Storage Temperature	Tst	-40	85	°C
Relative Humidity	Rh	0	85	%

Supply Voltage	Vcc	3.13	3.3	3.47	V
Supply current	Icc	-	420	610	mA



Operating Case temperature	Tca	-5	-	70	°C
Module Power Dissipation	Pm	-	1.4	2	W

Center Wavelength	c	1530	-	1565	nm
Spectral Width (-20dB)	20	-	-	0.3	nm
Average Optical Power [2]	Po	0	-	+3	dBm
Side Mode Suppression Ratio	SMSR	30	-	-	dB
Optical Transmit Power (disabled)	PTX_DISABLE	-	-	-30	dBm
Extinction Ratio	ER	9	-	-	dB
Relative Intensity Noise	RIN	-	-	-128	dB/Hz
Optical Return Loss Tolerance	Orl	-	-	21	dB

Input Operating Wavelength		1260	-	1620	nm
Receiver sensitivity(Average) [1]	Rsen	-	-	-24	dBm
Maximum Input Power	RX-overload	-8	-		dBm
Loss of Signal Asserted	Lsa	-34	-	-	dBm
LOS De-Asserted	Lda	-	-	-24	dBm
LOS Hysteresis	Lh	0.5	-	-	dB

[1] Measured with conformance test signal for BER = 10⁻¹². The stressed sensitivity values in the table are for system level BER measurements which include the effects of CDR circuits. It is recommended that at least 0.4 dB additional margin be allocated if component level measurements are made without the effects of CDR circuits.

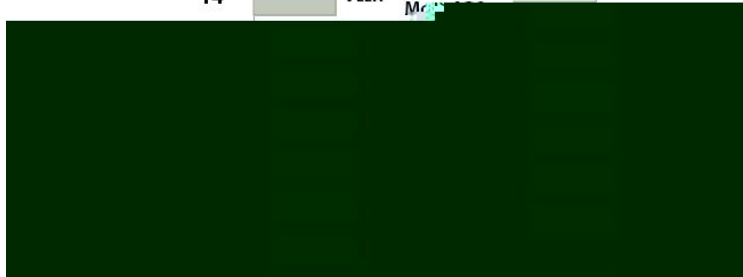
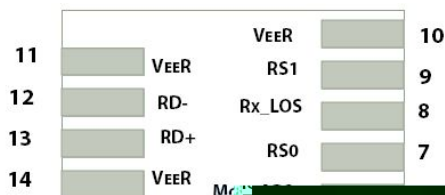
Data Rate	Mra	-	10.3	11.3	Gbps
Input differential impedance	Rim	-	100	-	
Differential data Input	VtxDIFF	120	-	850	mV
Transmit Disable Voltage	VD	2.0	-	Vcc3+0.3	V
Transmit Enable Voltage	Ven	0	-	+0.8	V
Transmit Disable Assert Time	Vn	-	-	100	us

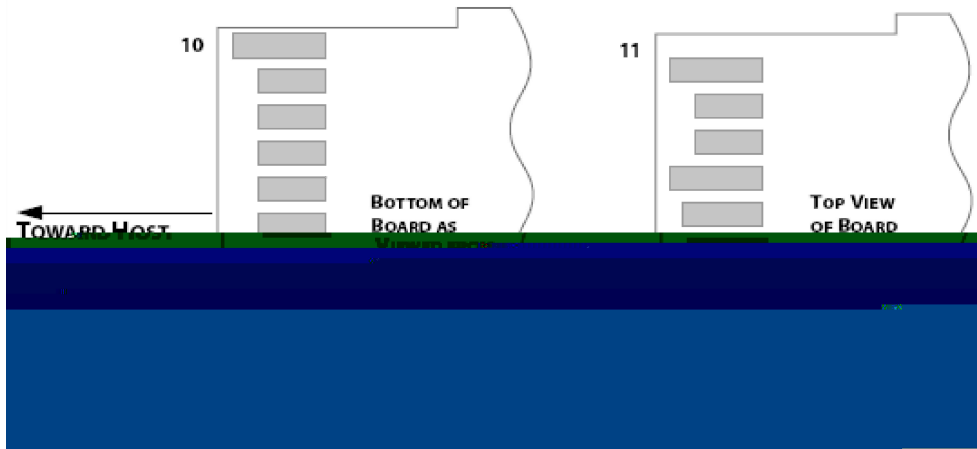
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Data Rate	Mra	-	10.3	11.3	Gbps
Differential Output Swing	Vout P-P	350	-	850	mV
Rise/Fall Time	Tr / Tf	24	-	-	ps
Loss of Signal –Asserted	VOH	2	-	Vcc3+0.3-	V
Loss of Signal –Negated	VOL	0	-	+0.4	V

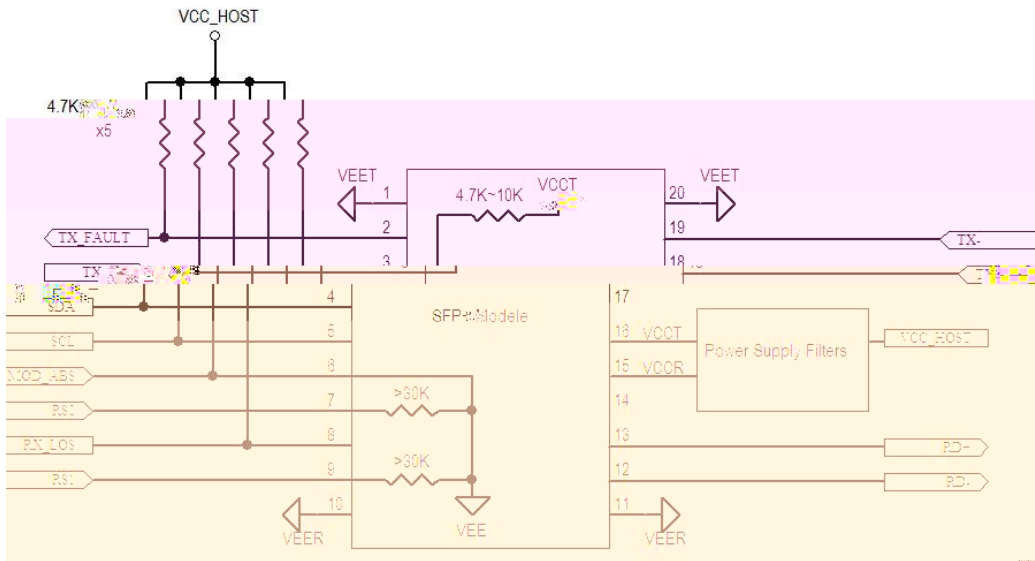
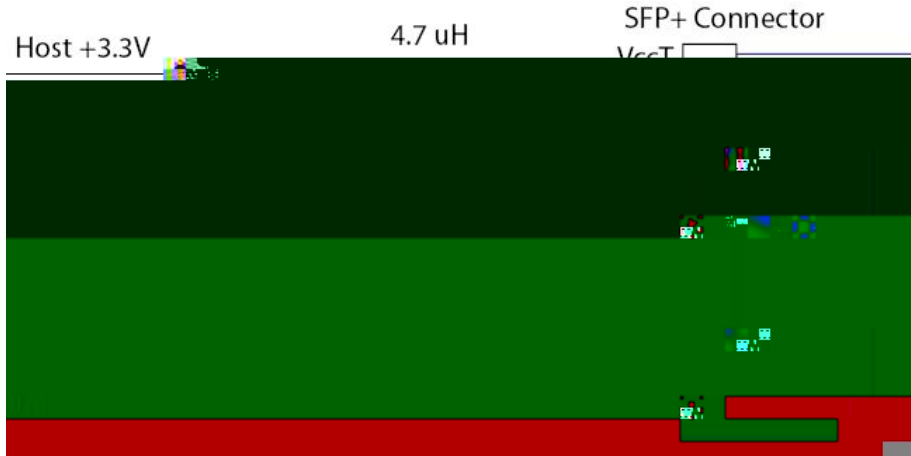
Transceiver Temperature	DMI_Temp	-3	+3	degC	Over operating temp
TX Output optical power	DMI_TX	-3	+3	dB	
RX Input optical power	DMI_RX	-3	+3	dB	-3dBm to -12dBm range
Transceiver Supply voltage	DMI_VCC	-0.08	+0.08	V	Full operating range
Bias current monitor	DMI_Ibias	-10%	10%	mA	
Transceiver Temperature	DMI_Temp	-5	70	degC	
TX Output optical power	DMI_TX	-1	+2	dBm	
RX Input optical power	DMI_RX	-26	-7	dBm	
Transceiver Supply voltage	DMI_VCC	3.0	3.6	V	
Bias current monitor	DMI_Ibias	0	100	mA	

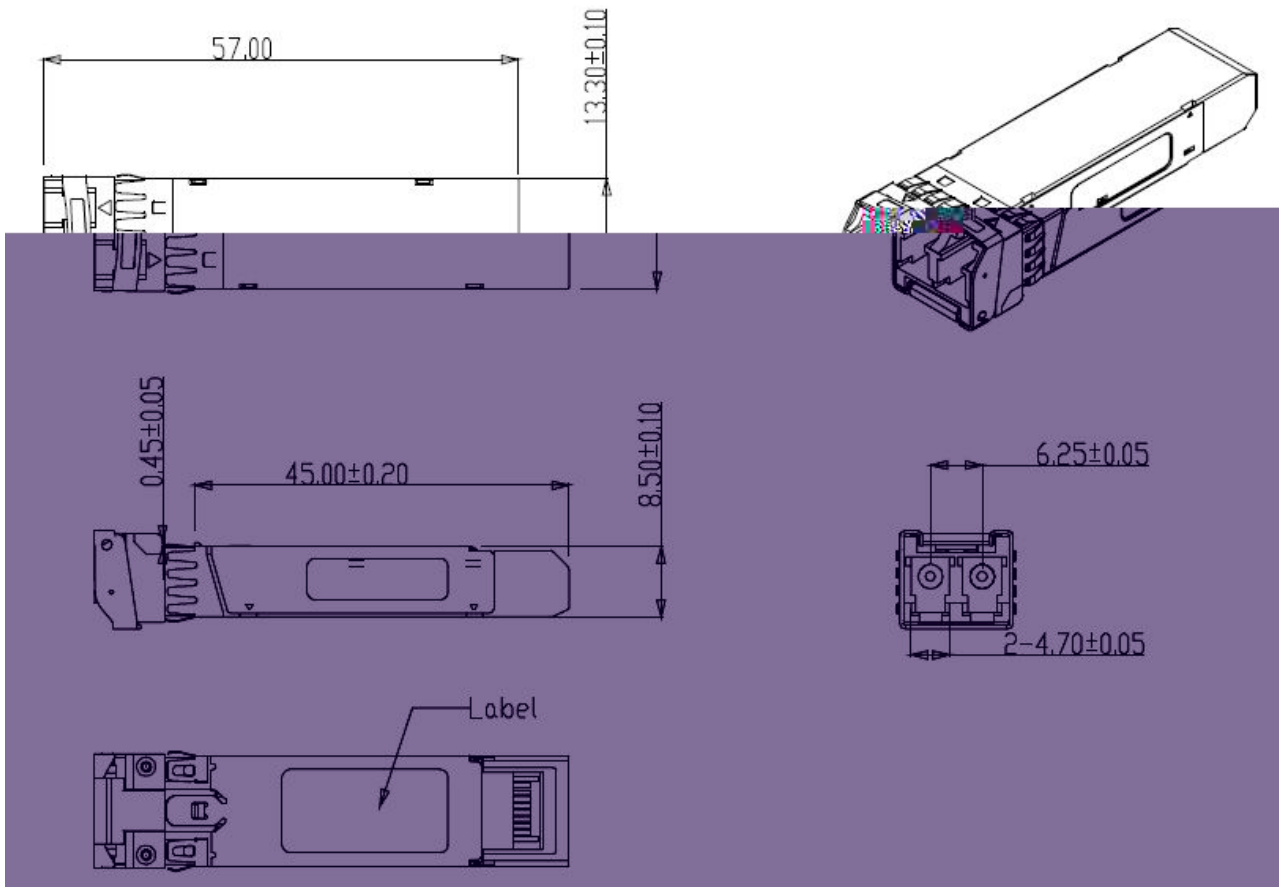






- [1] Module circuit ground is isolated from module chassis ground within the module.
- [2].should be pulled up with 4.7k – 10k ohms on host board to a voltage between 3.15V and 3.6V.
- [3]Tx_Disable is an input contact with a 4.7 k to 10 k pullup to VccT inside the module.
- [4]Mod_ABS is connected to VeeT or VeeR in the SFP+ module. The host may pull this contact up to Vcc_Host with a resistor in the range 4.7 k to 10 k .Mod_ABS is asserted "High" when the SFP+ module is physically absent from a host slot.
- [5] RS0 and RS1 are module inputs and are pulled low to VeeT with > 30 k resistors in the module.





F-tone Networks SFP+ transceiver is designed to be Class I Laser safety compliant and is certified per the following standards:

Laser Safety	FDA	CDRH 21 CFR 1040 and Laser Notice No. 50
Product Safety	UL	UL and CUL EN60950-2:2007
Environmental protection	SGS	RoHS Directive 2002/95/EC
EMC	WALTEK	EN 55022:2006+A1:2007 EN 55024:1998+A1+A2:2003

FTCS-151X-80D	10Gbps, 1550nm SFP+, from 70km to 80km, 0 to +70°C
FTCS-151X-80DI	10Gbps, 1550nm SFP+, from 70km to 80km, -40 to +85°C

1. "Specifications for Enhanced Small Form Factor Pluggable Module SFP+", SFF-8431, Rev 4.1, July 6, 2009.
2. "Improved Pluggable Formfactor", SFF-8432, Rev 4.2, Apr 18, 2007
3. IEEE802.3ae – 2002
4. "Diagnostic Monitoring Interface for Optical Transceivers" SFF-8472, Rev 10.3, Dec 1, 2007

Performance figures, data and any illustrative material provided in this data sheet are typical and must be specifically confirmed in writing by F-tone Networks before they become applicable to any particular order or contract. In accordance with the F-tone Networks policy of continuous improvement specifications may change without notice.

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