Specification

Small Form Factor Pluggable

Dual Receiver (Non-MSA)

LC Receptacle – SFP+

12 Gigabit SDI 2R



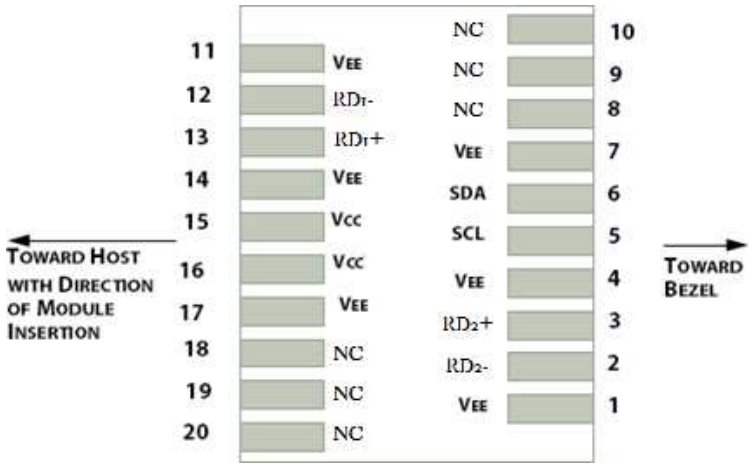
T I N – A 1 E O 1 – F 1 5

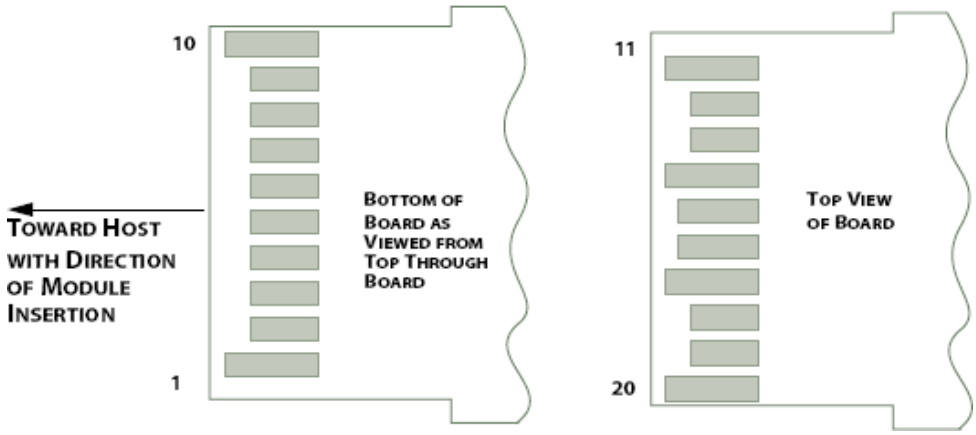
Model Name	Voltage	Category	Device type	Interface	Temperature	Distace	Latch Color
TIN-A1EO1-F15	3.3V	Non MSA	InGaAs PIN	AC -AC / TTL	0°C ~ 70°C	10km	Blue

Features

- Data Rate up to 12 Gbps
- Re-Clock built-in
- SMPTE ST-2082, ST2081, 424M, 292M, 259M compliant
- Support video pathological patterns for 12G-SDI, 6G-SDI, 3G-SDI and HD-SDI, SD-SDI
- LC receptacle
- Hot Pluggable
- All-metal housing for superior EMI shielding performance
- Operating case temperature range: Commercial Temperature 0°C~ 70°C

Pin Definition and Descriptions





PIN	Logic	Symbol	Name / Description	Note
1		Vee	Module Ground	1
2	CML-O	RD2-	Receiver Inverted Data Output	
3	CML-O	RD2+	Receiver Data Output	
4		Vee	Module Ground	1
5	LVTTL-I	SCL	2-Wire Serial Interface Clock	
6	LVTTL-I/O	SDA	2-Wire Serial Interface Data Line	
7		Vee	Module Ground	1
8		NC		
9		NC		
10		NC		
11		Vee	Module Ground	1
12	CML-O	RD1-	Receiver Inverted Data Output	
13	CML-O	RD1+	Receiver Data Output	
14		Vee	Module Ground	1
15		Vcc	Module 3.3 V Supply	
16		Vcc	Module 3.3 V Supply	
17		Vee	Module Ground	1
18		NC		
19		NC		
20		NC		

Note:

1. **Module ground pins are isolated from the module case and chassis ground within the module.**

Absolute Maximum Ratings

Parameters	Symbol	Min.	Max.	Unit
Power Supply Voltage	V_{CC}	0	3.6	V
Storage Temperature	Ts	-40	85	℃
Relative Humidity	RH	5	95	%
Optical Receiver Power (Damage)	Pmax		1.5	dBm

Recommended Operating Environment

Parameters	Symbol	Min.	Typical	Max	Unit
Power Supply Voltage	VCC	3.135	3.3	3.465	V
Operating Case Temperature	Top	0		70	℃
Power Supply Current	Icc			600	mA
Power Consumption				2	W
Data rate			11.88		Gbps

Optical Characteristics

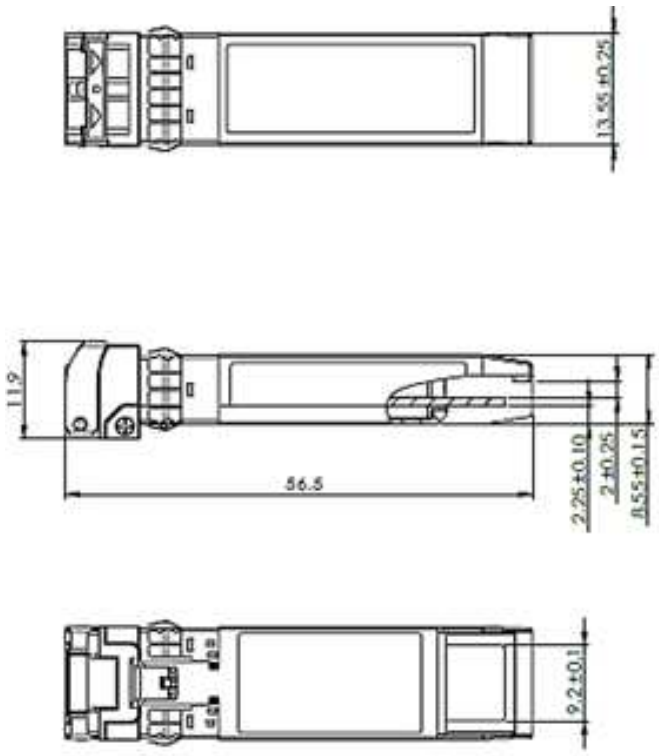
Receiver						
Parameter	**Symbol**	**Min.**	**Typ.**	**Max**	**Unit**	**Notes**
Sensitivity@11.88Gbps				-11.0	dBm	1
Sensitivity@6Gbps				-12.0	dBm	1
Sensitivity@2.97Gbps				-12.0	dBm	1
Sensitivity@1.485Gbps				-12.0	dBm	1
Receiver Overload	Pmax	-2			dBm	
LOS Assert	LOS_A	-30			dBm	
LOS De-asserted	LOS_D			-12.0	dBm	
LOS Hysteresis	Hys	0.5	2		dB	
Wavelength of Operation	λ	1260		1620	nm	

1 . Measured with pathological pattern; BER < 10^{-12}

Electrical Characteristics

Parameter	Symbol	Min.	Typical	Max	Unit	Notes
High-Speed Signal Interface Specification						
Output Data Rate			11.88		Gbps	
Differential Output Impedance	Rout		100		Ω	
Low-Speed Signal Interface Specification						
Output High Voltage		2.6			V	
Output Low Voltage				0.5	V	

Mechanical (mm) : ± 0.5mm



ESD

Normal ESD precautions are required during the handling of this module. This transceiver is shipped in ESD protective packaging. It should be removed from the packaging and handled only in an ESD protected environment.

Contact Information

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Revision History

Date	Version	Description
07/17/2018	1.0	Initial release.
01/22/2019	2.0	1. Cover page update. 2. Electrical Characteristics update.
02/25/2019	2.1	1. Footer style change. 2. Contact information has been added on the last page.
08/02/2019	2.2	Picture correction. Typo correction.