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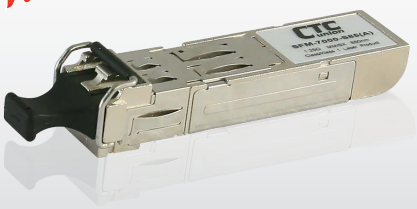

SFS-1080-TDW5

SFP+ Tunable Fiber Transceiver

The SFS-1080-TDW5 Tunable SFP+ module is a high performance tunable pluggable transceiver for use in the C-band window covering 1529 nm to 1568 nm. The module supports data rates from 0.614 Gb/s to 11.3 Gb/s and is provided in an SFP+, MSA compliant package.
The optical transmitter utilizes the Tunable ILMZ chip to provide a high performance, low cost 10 Gb/s transceiver. Wavelength and frequency tuning modes are supported. Channel tuning is supported on the ITU-T 50 GHz grid across full C-band with ±2.5 GHz stability. The tunable SFP+ transceiver is an important transceiver module for next generation enterprise, metro and regional optical network equipment continuing the replacement of fixed-wavelength modules and of non-pluggable ports. This form factor allows network equipment manufacturers to reduce the size and power consumption for 10G connections while supporting the network operators rapidly increasing capacity needs driven by data-heavy network applications.

Features

- Support data rate 0.614 to 11.3Gbps
- 1550 nm ITU-T C-band 50 GHz spacing Tunable DWDM SFP+ Transceiver Temperature-Stabilized DWDM EML Transmitter
- Negative chirp transmitter with ILMZ (Integrated Laser Mach Zehnder) TOSA
- APD receiver with limiting amplifier
- Low power consumption: <1.8 W at 70°C
- Positive power supply lines: 3.3 V
- Hot-Pluggable SFP+ Footprint
- Compliant with SFF-8431 MSA
- Compliant with SFF-8432 MSA
- Operating Case Temperature
- Standard: 0°C to 70°C

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	Ts	-40	+85	℃
Supply Voltage	Vcc	-0.5	3.6	V
ESD SFI pins	ESD1		1	kV
ESD except for SFI pins	ESD2		2	kV
Operating Relative Humidity			95	%

*Exceeding any one of these values may destroy the device immediately.

Performance Specifications – Electrical

Parameter		Symbol	Min.	Typ.	Max	Unit	Notes
Transmitter							
CML Inputs (Differential)		Vin	250		1000	mVpp	AC coupled input*(note3)
Input Impedance (Differential)		Zin	85	100	115	ohm	Rin > 100 kohm @
TX_Dis	Disable		2		Vcc+0.3	V	
	Enable		0		0.8		
TX_FAULT	Fault		2.4		Vcc+0.3	V	
	Normal		0		0.4		
Receiver							
CML Outputs (Differential)		Vout	350		850	mVpp	AC coupled output*(note3)
Output Impedance (Differential)		Zout	85	100	115	ohm	
RX_LOS	LOS		2.4		Vcc+0.3	V	
	Normal		0		0.4	V	
MOD_DEF (0:2)		VoH	2.5			V	With Serial ID
		VoL	0		0.5	V	

Parameter	Symbol		Min.	Typical	Max.	Unit
Operating Case Temperature	Tc	Standard	0		+70	℃
Power Supply Voltage	Vcc		3.13	3.3	3.46	V
Power Supply Current	Icc				550	mA
Date Rate	SFS-1080-TDW5		0.614		11.3	Gbps

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Performance Specifications – Optical

Parameter	Symbol	Min.	Typical	Max.	Unit
Data Rate		0.614		11.3	Gbps
Transmitter					
Center Wavelength Spacing			50		GHz
			0.3	0.5	nm
Side Mode Suppression Ratio	SMSR	30			dB
Average Output Power(BOL)	Pout	-1		+3	dBm
Average Launch Power (Tx: OFF)	Poff			-35	dBm
Extinction Ratio EOLP-1696-TDW-23XXN	ER	9			dB
Eye diagram compliance			GR-253, ITU-T G.691		
Pout@TX Disable Asserted	Pout			-45	dBm
Mask margin		10			%
Tuning speed (From one channel to another channel)				10	Sec
Receiver					
Input operating wavelength		1525		1575	nm
Receiver Sensitivity (B2B)	Pmin			-24	dBm
Receiver Overload	Pmax	-7			dBm
Receiver Reflectance	RL			-27	dB
LOS De-Assert	LOSD			-25	dBm
LOS Assert	LOSA	-42		-26	dBm
LOS Hysteresis		0.5		4.0	dB

Ordering Information

Part No.	Data Rate	Laser	Power budget	CDR	Temp.	Default Wavelength ITU ch.
SFS-1080-TDW5	0.614 to 11.3Gbps	ILMZ	23dB	No	0~ 70°C	ch.20