



## 25G SFP28 Active Optical Cables

Datatronix SFP28 to SFP28 25G Active Optical Cable assemblies are high performance, cost effective I/O solutions for 25G Ethernet and 25G Fibre Channel applications. It features hot-pluggable SFP+ link finishes and supports 25.78125 Gb/s bit rate with RoHS-6 consistent. They are electrically compliant with SFF-8431. It has low power scattering and has a rigid force tab for enhanced high-density installments. It is fully tested for compatibility with intended equipment.

### Applications

- 25GBASE SR Ethernet
- Data Centres
- InfiniBand transmission

### Features

- Electrical interface compliant to SFF-8431
- 850nm VCSEL laser and PIN photo-detector
- Maximum link length of 70m on OM3 MMF and 100m on OM4 MMF
- Hot Pluggable
- Built-in digital diagnostic functions
- RoHS compliant

## Specifications

### Absolute Maximum Ratings

ELEMENT	VALUE	SYMBOL	MIN	MAX
Storage Temperature	°C	T <sub>S</sub>	-20	85
Relative Humidity	%	RH	0	85
Case Operating Temperature	°C	T <sub>Case</sub>	0	70
Supply Voltage	V	V <sub>CC</sub>	-0.3	3.6

### Recommended Operating Conditions

ELEMENT	VALUE	SYMBOL	MIN	TYPICAL	MAX
Case Operating Temperature	°C	T <sub>Case</sub>	0		70
Supply Voltage	V	V <sub>CC</sub>	3.13	3.3	3.47
Supply Current	mA	I <sub>CC</sub>	0		300
Data Rate	Gbit/s	DR		25.78125	

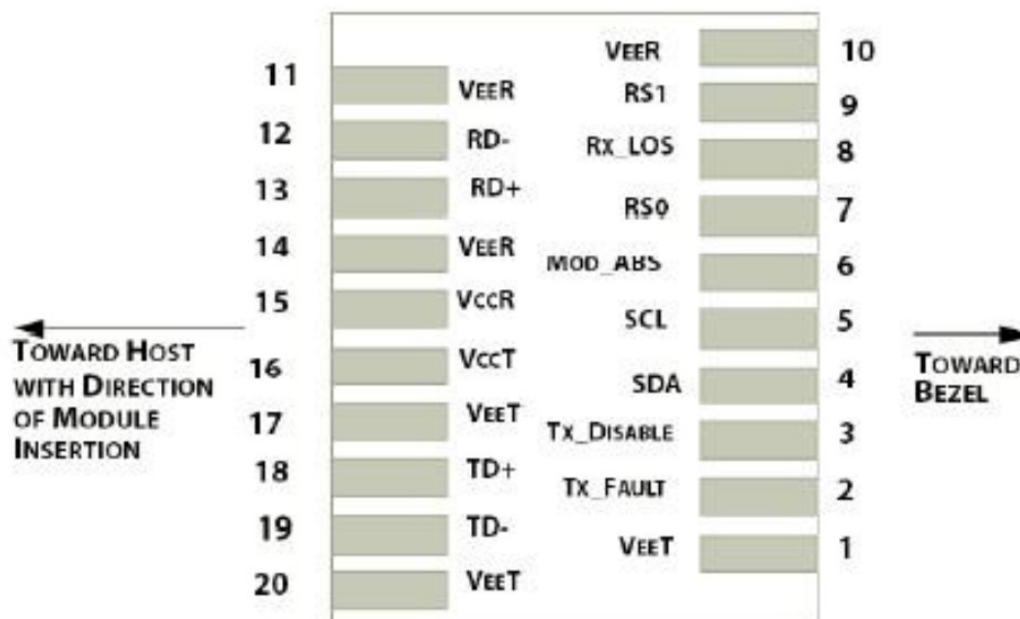
### Transmitter Specification

ELEMENT	VALUE	SYMBOL	MIN	TYPICAL	MAX
Input differential impedance	Ohm	Z <sub>in</sub>	90	100	110
Differential Data Input Swing	mVp-p	V <sub>in</sub>	300		1100
Transmit Enable Voltage	V	V <sub>EN</sub>			0.8
Transmit Disable Voltage	V	V <sub>D</sub>	2.0		
Average launch power	dBm	P <sub>AVG</sub>	-7.5	-1	+2.5
Extinction Ratio	dB	ER	2.0		
Center wavelength	nm	λ <sub>c</sub>	840	850	860

## Receiver Specification

ELEMENT	VALUE	SYMBOL	MIN	TYPICAL	MAX
Center wavelength	nm	$\lambda_c$	840	850	860
Differential Data Output Swing	mVp-p	$V_{out}$	500		800
Bit Error Rate		BER			$10^{-12}$
Receiver Overload	dBm	$P_{inmax}$	2.5		
Output Differential Impedance	Ohm	$Z_{out}$	90	100	110
LOS Fault	V	$V_{OH}$	2.4		
LOS Normal	V	$V_{OL}$			0.4

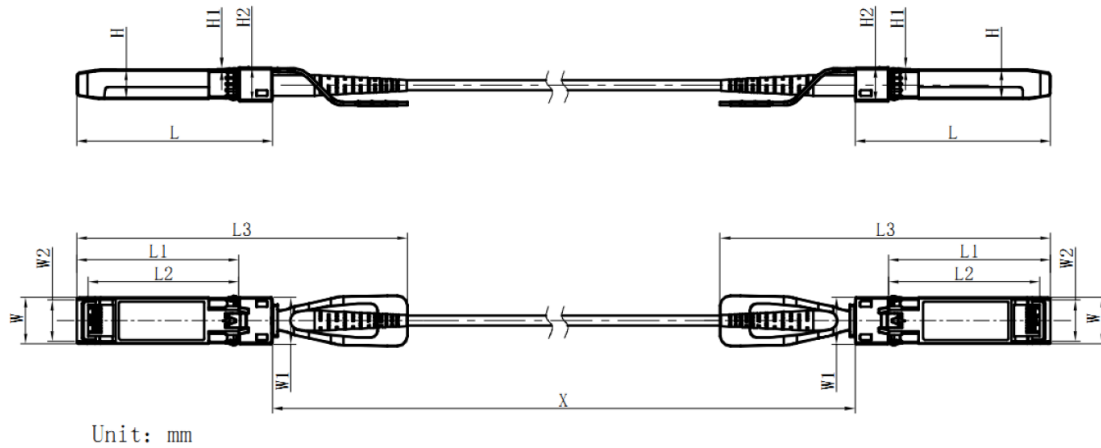
## Pin Descriptions



## Pin Definitions

PIN	SYMBOL	NAME/DESCRIPTION
1	VeeT	Transmitter Signal Ground
2	TX_FAULT	Transmitter Fault (LVTTTL-O) – Not used. Grounded inside the module
3	TX_DISABLE	Transmitter Disable (LVTTTL-I) – High or open disables the transmitter
4	SDA	Two Wire Serial Interface Data Line (LVCMOS – I/O) (same as MOD-DEF2 in INF-8074)
5	SCL	Two Wire Serial Interface Clock Line (LVCMOS – I/O) (same as MOD-DEF1 in INF-8074)
6	MOD_ABS	Module Absent (Output), connected to VeeT or VeeR in the module
7	RS0	Rate Select 0 - Not used, Presents high input impedance.
8	RX_LOS	Receiver Loss of Signal (LVTTTL-O)
9	RS1	Rate Select 1 - Not used, Presents high input impedance.
10	VeeR	Receiver Signal Ground
11	VeeR	Receiver Signal Ground
12	RD-	Receiver Data Out Inverted (CML-O)
13	RD+	Receiver Data Out (CML-O)
14	VeeR	Receiver Signal Ground
15	VccR	Receiver Power + 3.3 V
16	VccT	Transmitter Power + 3.3 V
17	VeeT	Transmitter Signal Ground
18	TD+	Transmitter Data In (CML-I)
19	TD-	Transmitter Data In Inverted (CML-I)
20	VeeT	Transmitter Signal Ground

## Mechanical Specifications



	L	L1	L2	L3	W	W1	W2	H	H1	H2
MAX	57.75	48.0	44.65	102.5	13.75	14.0	12.25	8.65	0.55	10.4
Typical	57.55	47.8	44.45	101.5	13.65	13.9	12.15	8.55	0.5	10.2
MIN	57.35	47.6	44.25	100.5	13.55	13.8	12.05	8.45	0.45	10.0

## Ordering Information

### DESCRIPTION

Datatronix SFP28 to SFP28 25G Active Optical Cable

### PART NUMBER

SFP-AOC-2525-XXX

\*where XXX is cable length in metres