



Fibre Optic Active

SFP+ 40GB Singlemode SM 20km

Product Description

Briticom® Small Form-Factor Pluggable (SFP) Fibre Optic Transceivers are used to interface networking devices to fibre or copper networking cables in Telecom and data applications.

Features & Benefits

- Hot pluggable QSFP28 MSA form factor
- Compliant to IEEE 802.3ba 100GBASE-LR4
- Up to 10km reach for G.652 SMF
- Single +3.3V power supply
- Operating case temperature: 0~70oC
- Transmitter: cooled 4x25Gb/s LAN WDM EML TOSA (1295.56, 1300.05, 1304.58, 1309.14nm)
- Receiver: 4x25Gb/s PIN ROSA
- 4x28G Electrical Serial Interface (CEI-28G-VSR)
- Maximum power consumption 4.0W
- Duplex LC receptacle
- RoHS-6 complian

Applications & Standards

- 100GBASE-LR4 Ethernet Links
- Infiniband QDR and DDR interconnects
- Client-side 100G Telecom connections



Recommended Operating Conditions

PARAMETER	SYMB	MIN	TYP.	MAX	UNIT
Operating Case Temperature	Top	0	-	70	°
Power Supply Voltage	Vcc	3.1	3.3	3.46	V
Data Rate, each lane	-	-	25.7812	-	Gb/
Control Input Voltage High	-	2	-	Vcc	V
Control Input Voltage Low	-	0	-	0.8	V
Link Distance with G.652	D	0.00	-	10	km

To Order

To place an order, use the contact details below.



Optical Characteristics

PARAMETER	SYMBOL	MIN	TYP.	MAX	UNIT	NOTE
Lane Wavelength	L0	1294	1295.5	1296.5	nm	
	L1	1299	1300.0	1301.0	nm	
	L2	1303	1304.5	1305.6	nm	
	L3	1308	1309.1	1310.1	nm	
Transmitter						
Side Mode Suppression Ratio	SMS	30			dB	
Total Average Launch Power	P _T			10.5	dBm	
Average Launch Power, each lane	P _{AVG}	-4.3		4.5	dBm	
OMA, each lane	P _{OMA}	-1.3		4.5	dBm	1
Difference in Launch Power between any two	P _{TX, DIFF}			5	dB	
Launch Power in OMA minus Transmitter and Dispersion Penalty (TDP), each lane		-2.3			dBm	
TDP, each lane	TDP			2.2	dB	
Extinction Ratio	ER	4			dB	
RIN _{OMA}	RIN			-130	dB	
Optical Return Loss Tolerance	TOL			20	dB	
Transmitter Reflectance	R _T			-12	dB	
Eye Mask {X1, X2, X3, Y1, Y2}		{0.25, 0.4, 0.45, 0.25, 0.28}			dB	2
Average Launch Power OFF Transmitter, each	P _{off}			-30	dBm	
Receiver						
Damage Threshold, each lane	TH _d	5.5			dBm	3
Total Average Receive Power				-10.5	dBm	
Average Receive Power, each		-10.6		4.5	dBm	
Receive Power (OMA), each lane				4.5	dBm	
Receiver Sensitivity (OMA), each lane	SEN			-8.6	dBm	
Stressed Receiver Sensitivity (OMA), each lane				-6.8	dBm	4
Receiver Reflectance	R _R			-26	dB	
Difference in Receive Power between any two	P _{RX, DIFF}			5.5	dB	
LOS Assert	LOSA		-18		dBm	
LOS Deassert	LOSD		-15		dBm	
LOS Hysteresis	LOSH	0.5			dB	
Receiver Electrical 3 dB upper Cutoff Frequency	F _c			31	GHz	
Conditions of Stress Receiver Sensitivity Test						
Vertical Eye Closure Penalty, each lane			1.8		dB	
Stressed Eye J2 Jitter, each			0.3		UI	
Stressed Eye J9 Jitter, each lane			0.47		UI	

Notes

- Even if the TDP < 1 dB, the OMA min must exceed the minimum value specified here.
- See Figure 4 below.
- The receiver shall be able to tolerate, without damage, continuous exposure to a modulated optical input signal having this power level on one lane. The receiver does not have to operate correctly at this input power.
- Measured with conformance test signal at receiver input for BER = 1x10⁻¹².
- Vertical eye closure penalty and stressed eye jitter are test conditions for measuring stressed receiver sensitivity. They are not characteristics of the receiver.

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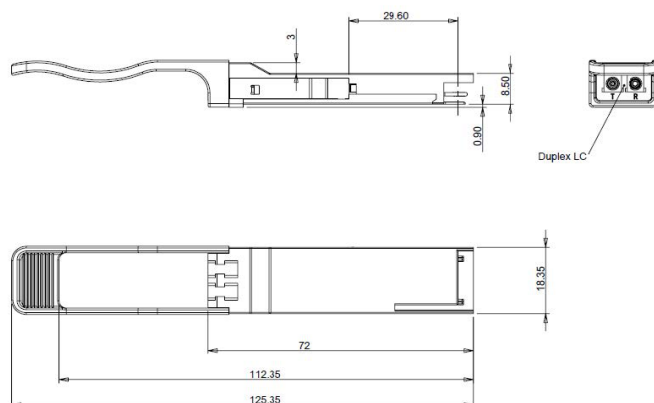
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Electrical Characteristics

PARAMETER	SYMBOL	MIN	TYP.	MAX	UNIT	NOTE
Power Consumption				4.0	W	
Supply Current	Icc			1.2	A	
Transceiver Power On				2000	ms	1
Transmitter (each lane)						
Single-ended Input Voltage Tolerance (Note 2)		-0.3		4.0	V	Referred to TP1 signal
AC Common Mode Input Voltage		15			mV	RMS
Differential Input Voltage Swing		50			mVp	LOSA Threshold
Differential Input Voltage Swing	Vin, pp	190		700	mVp	
Differential Input	Zin	90	100	110	Oh	
Receiver (each lane)						
Single-ended Output Voltage				4.0	V	Referred to signal
AC Common Mode Output Voltage				7.5	MV	RMS
Differential Output Voltage Swing	Vout, pp	300		850	mVp	
Differential Output	Zout	90	100	110	Oh	

Outline Dimensions



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Ordering Information

Use combinations of **bold** letters and numbers to create part numbers for ordering.

Product		Type		Coding Type*	
SFP	SFP	RJ	RJ45	CIS	Cisco
XFP	XFP	SM	Single-mode	HP	HP
QSFP	QSFP	MM	Multimode	JP	Juniper
SFP+	SFP+	BIDI	Bi-Directional	EX	Extreme
		WDM	WDM		Leave empty if no coding
		DDMI	DDMI		
		DWDM	DWDM		
		CWDM	CWDM		
⬆		⬆		⬆	
SFP+	G4X	SM	20	CIS	
⬇		⬇			
100M	ET	100m	100		
1GB	G1	500m	500		
2GB	G2	2km	2		
5GB	G5	10km	10		
6GB	G6	20km	20		
10GB	GX	40km	40		
20GB	G2X	80km	80		
40GB	G4X	120km	120		
100GB	GXX				
Speed		Distance			

*Leave column blank if no coding

Example Part Number	
Description	Part Number
SFP+ 40GB Singlemode 20km Cisco	SFPPG4XSM20CIS

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