



Network Transmission Small Format Pluggables Transceiver Modules

Overview

GE's SFP Transceiver Modules are now IFS. The IFS family of Small Form Factor Pluggable (SFP) Transceiver Modules are designed for high performance integrated duplex data transmission over optical fiber. These SFP transceiver modules are compliant with the industry's SFP Multi-source Agreement (MSA) standard.

The IFS SFP Transceiver Modules offer the ability to enable the SFP ports on any IFS Ethernet equipment that have a built-in SFP Mini-GBIC interface. These modules are hot-swappable without any interruption of the host equipment operation. These SFP modules are available for 100Base-FX or 1000Base-SX/LX transmission over single mode or multi-mode optical fiber.

Standard Features

Design

- Plug-and-play capability for easy installation
- Hot-swappable
- Low power dissipation

Optical Performance

- Data rate 100Mbps to 1.25Gbps (varies by module)
- Single mode or multi-mode fiber (varies by module)
- LC duplex receptacle

Standards Compliance

- Mini-GBIC Interface compliant
- Multi-source Agreement (MSA) compliant
- Class 1 laser safety standard IEC 60825 compliant

Warranty

- 3-year warranty

Mini-GBIC SFP Transceiver Modules



Specifications

Absolute Maximum Ratings					
Parameter		Symbol	Min.	Max.	Unit
Storage Temperature		T _s	-40	+85	°C
Supply Voltage		V _{CC} T V _{CC} R	-0.5	4.0	V
Storage Relative Humidity		RH	5	95	%
Data Rate GigE Ethernet	SFP1000SX-220 SFP1000LX-10km	DR	-	1.25	Gbps
Data Rate Fast Ethernet	SFP100FX1310-TSC-2Km SFP100FX1310-TSC-20Km	DR	-	125	Mbps

Recommended Operating Conditions						
Parameter		Symbol	Min.	Type	Max.	Unit
Case Operating Temperature		T _c	0	—	70	°C
Supply Voltage		V _{CC}	3.1	3.3	3.5	V
Supply Current	SFP1000SX-220	I _{TX} + I _{RX}	-	160	300	mA
	SFP1000LX-10km		-	180	300	
	SFP100FX1310-TSC-2Km		-	150	300	
	SFP100FX1310-TSC-20Km		-	150	300	

Transmitter Electro-Optical Interface (over Case Operating Temperature)						
Parameter		Symbol	Min.	Type	Max.	Unit
Transmitter Differential Input Voltage		TD +/-	400		2400	mV
Optical Output Power	SFP1000SX-220	Po	-9.5		-4	dBm
	SFP1000LX-10km		-9.5	-	-3	
	SFP100FX1310-TSC-2Km		-20	-	-14	
	SFP100FX1310-TSC-20Km		-15	-	-8	
Optical Extinction Ratio	SFP1000SX-220	ER	9	-	-	dB
	SFP1000LX-10km		9	-	-	
	SFP100FX1310-TSC-2Km		10	-	-	
	SFP100FX1310-TSC-20Km		8.2	-	-	
Center Wavelength	SFP1000SX-220	λc	830	850	860	nm
	SFP1000LX-10km		1285	1310	1343	
	SFP100FX1310-TSC-2Km		1270	-	1380	
	SFP100FX1310-TSC-20Km		1261	-	1360	
Spectral Width (RMS)	SFP1000SX-220	Δλ	-	-	0.85	nm
	SFP1000LX-10km		-	-	2.8	
	SFP100FX1310-TSC-2Km		-	-	7.7	
	SFP100FX1310-TSC-20Km		-	-	4	
Optical Rise/Fall Time	SFP1000SX-220	tr / tr	-	-	260	ns
	SFP1000LX-10km		-	-	260	
	SFP100FX1310-TSC-2Km		0.6	-	3.0	
	SFP100FX1310-TSC-20Km		-	-	2	
Total Jitter	SFP1000SX-220	TJ	-	-	227	ps
	SFP1000LX-10km		-	-	227	
Random Jitter	SFP1000SX-220	RJ			0.76	ns
	SFP1000LX-10km				0.76	

Transmitter Electro-Optical Interface (over Case Operating Temperature)					
Parameter	Symbol	Min.	Type	Max.	Unit
Transmitter Differential Input Voltage		TD +/-	400	2400	mV
Tx_Fault - High	V _{Fault_H}	2	-	V _{CC}	V
Tx_Fault - Low	SFP1000SX-220				
	SFP1000LX-10km	V _{Fault_L}	V _{ee}	-	V _{ee} +0.8
	SFP100FX1310-TSC-2Km		V _{ee}	-	V _{ee} +0.5
	SFP100FX1310-TSC-20Km		V _{ee}	-	V _{ee} +0.8
Tx_Disable - High	V _{Disable_H}	2	-	V _{CC}	V
Tx_Disable - Low	V _{Disable_L}	V _{ee}	-	V _{ee} +0.8	V
Receiver Differential Output Voltage		RD +/-	400	2000	mV
Receiver Overload (Maximum)	SFP1000SX-220		-3	-	
	SFP1000LX-10km	P _{INMAX}	-3	-	
	SFP100FX1310-TSC-2Km		-8	-	
	SFP100FX1310-TSC-20Km		-5	-	
Receiver Sensitivity (Minimum)	SFP1000SX-220		-	-	-17
	SFP1000LX-10km	P _{INMIN}	-	-	-20
	SFP100FX1310-TSC-2Km		-	-	-32
	SFP100FX1310-TSC-20Km		-	-	-34
Operating Center Wavelength	SFP1000SX-220		770	-	860
	SFP1000LX-10km	λ _C	1260	-	1620
	SFP100FX1310-TSC-2Km		1270	-	1380
	SFP100FX1310-TSC-20Km		1260	-	1620
Receiver Loss of Signal - TTL Low (Assert)	SFP1000SX-220		-	-	-17.5
	SFP1000LX-10km	P _{RX_LOS D}	-	-	-22
	SFP100FX1310-TSC-2Km		-	-	-32
	SFP100FX1310-TSC-20Km		-	-	-34
Receiver Loss of Signal - TTL High (De-assert)	SFP1000SX-220		-35	-	-
	SFP1000LX-10km	P _{RX_LOS A}	-35	-	-
	SFP100FX1310-TSC-2Km		-45	-	-
	SFP100FX1310-TSC-20Km		-45	-	-
Receiver Loss of Signal Hysteresis	SFP1000SX-220		0.5	-	-
	SFP1000LX-10km	P _{RX_LOS H}	0.5	-	-
	SFP100FX1310-TSC-2Km		1.5	-	-
	SFP100FX1310-TSC-20Km		1	-	-

Environmental Specifications	
Operating	
Temperature	0~70°C
Relative Humidity	5%~95% (non-condensing)
Storage	
Temperature	-40~85°C
Relative Humidity	5%~95% (non-condensing)

Electrical Specification	
Input Voltage: 3.3V DC	
AS/NZS CISPR 22 : 2006	

Reliability	
MTBF > 50,000 hrs @ 25°C	

Note: Vcc=3.1 V to 3.5 V to 3.5 V, TBAB=0P P°C to 70P P°C

North America
T 888-437-3287
F 503-691-7566
E sales@ifs.com

Asia
T 852-2907-8108
F 852-2142-5063

Australia and New Zealand
T 613-9239-1200
F 613-9239-1299

Europe
T 44-113-238-1668
F 44-113-253-8121

Latin America
T 561-998-6100
F 561-994-6572

interlogix.com
utcfireandsecurity.com

Specifications subject to
change without notice.

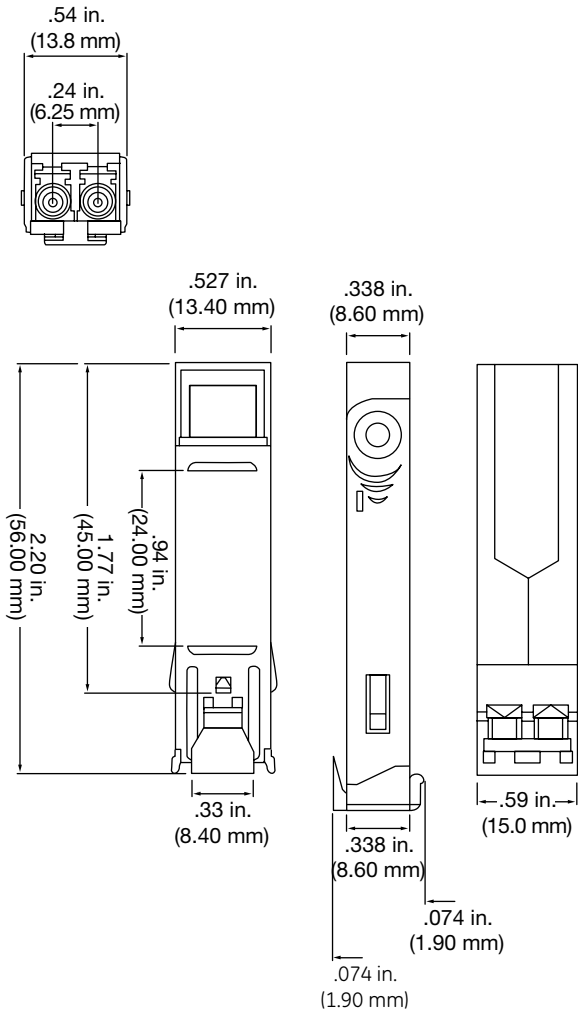
© 2011 Interlogix, A UTC Fire & Security Company.
All rights reserved.

GE and the GE monogram are trademarks of the
General Electric Company and are under license
to UTC Fire & Security, 9 Farm Springs Road,
Farmington, CT 06034-4065

Ordering Information

Gigabit SFP Modules	
SFP1000SX-220	1000 Base-SX SFP Module - (multi-mode) 220m
SFP1000LX-10km	1000 Base-LX SFP Module - (single mode) 10km
Fast SFP Modules	
SFP100FX1310-TSC-2km	100 Base-FX SFP Module - (multi-mode) 2km
SFP100FX1310-TSC-20km	100 Base-FX SFP Module - (single mode) 20km

Dimensional Diagrams



Security Products by GE are now part of the UTC Fire & Security family



UTC Fire & Security
A United Technologies Company