

SFP10G-LR20

10GBASE, SFP+, LR20, SMF TRANSCEIVER
1310nm, 20km REACH, DUPLEX LC CONNECTOR

Features:

- Up to 11.1Gbps Data Links
- Up to 20km transmission on SMF
- DFB Laser and PIN receiver
- Metal enclosure, for lower EMI
- 2-wire interface with integrated Digital Diagnostic monitoring
- Specifications compliant with SFF 8472
- Compliant with SFP+ MSA with LC connector
- Single 3.3V power supply
- Power dissipation < 1.2 W
- Case operating temperature range:
 - Commercial: 0°C to +70°C
 - Industrial: -40°C to +85°C



Applications:

- 10GBASE-LR/LW & 10G Ethernet

Standard:

- Compliant to SFF-8431
- Compliant to SFF 8472
- RoHS Compliant

1. Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Storage Temperature	Ts	-40	-	85	°C	
Relative Humidity	RH	5	-	95	%	
Power Supply Voltage	VCC	-0.3	-	4	V	

2. Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Case Operating Temperature	Tcase	0	-	70	°C	Commercial
		-40	-	85	°C	Industrial
Power Supply Voltage	VCC	3.14	3.3	3.47	V	
Power Supply Current	ICC	-		360	mA	

SFP10G-LR20

10GBASE, SFP+, LR20, SMF TRANSCEIVER
1310nm, 20km REACH, DUPLEX LC CONNECTOR

Data Rate	BR		10.3125		Gbps	
Transmission Distance	TD		-	20	km	
Coupled fiber	Single mode fiber					9/125um SMF

3. Optical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Note
Transmitter						
Output Opt. Power	POUT	-5.0		0	dBm	1
Optical Wavelength	λ	1260	1310	1355	nm	
Spectral Width (-20dB)	σ			1	nm	
Optical Extinction Ratio	ER	3.5			dB	
Output Eye Mask	Compliant with IEEE 802.3ae					
Receiver						
Rx Sensitivity	RSENS			-15	dBm	2
Input Saturation Power (Overload)	Psat	0.5			dBm	
Wavelength Range	λ					
C	1270		1610	nm		
LOS De -Assert	LOSD			-17	dBm	
LOS Assert	LOSA	-30			dBm	
LOS Hysteresis		0.5	1.0		dB	

Notes:

1. Class 1 Laser Safety per FDA/CDRH and IEC-825-1 regulations.
2. Measured with a PRBS 2³¹ -1 test pattern, @10.3125Gb/s, BER<10⁻¹²

4. Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Note
Supply Voltage	Vcc	3.14	3.3	3.46	V	
Supply Current	Icc			360	mA	
Transmitter						
Input differential impedance	Rin		100		Ω	1
Single ended data input swing	Vin,pp	180		700	mV	
Transmit Disable Voltage	VD	Vcc-1.3		Vcc	V	
Transmit Enable Voltage	VEN	Vee		Vee+ 0.8	V	2

SFP10G-LR20

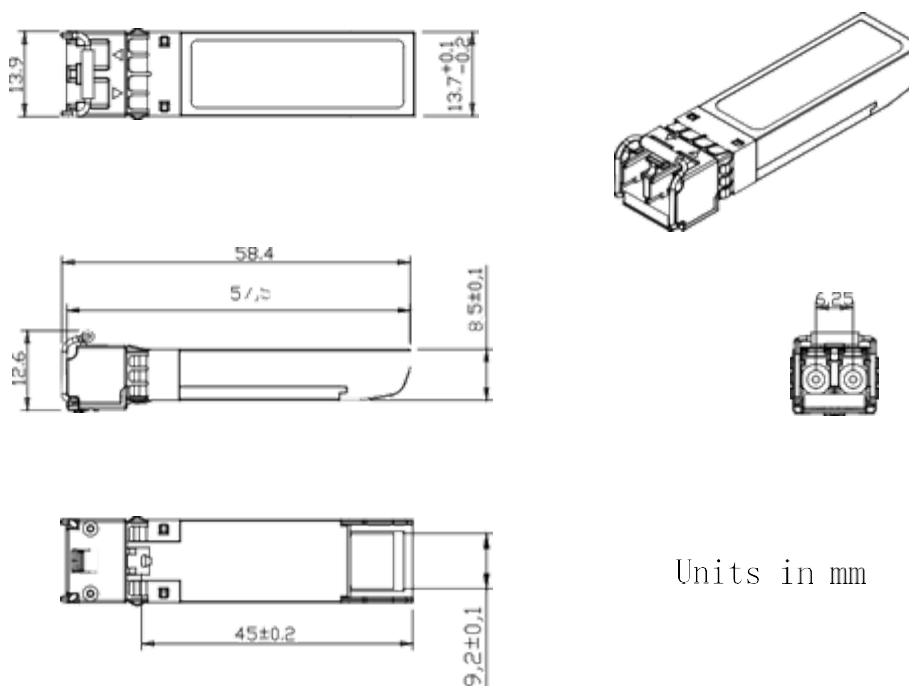
10GBASE, SFP+, LR20, SMF TRANSCEIVER
1310nm, 20km REACH, DUPLEX LC CONNECTOR

Receiver						
Differential data output swing	Vout,pp	300		850	mV	3
LOS Fault	VLOS fault	Vcc-1.3		VccHOST	V	4
LOS Normal	VLOS norm	Vee		Vee+0.8	V	4

Notes:

1. Connected directly to TX data input pins. AC coupled thereafter.
2. Or open circuit.
3. Into 100 ohms differential termination.
4. Loss Of Signal is LVTTTL. Logic 0 indicates normal operation; logic 1 indicates no signal detected.

5. Mechanical Diagram



Units in mm

Note: External physical characteristics are subject to variation. This may include, but is not limited to, external case designs, pull tab colors and/or shapes, removal latch styles or colors, and label sizes and placement. These variations do not affect the function or characteristics of the transceivers.

SFP10G-LR20

10GBASE, SFP+, LR20, SMF TRANSCEIVER

1310nm, 20km REACH, DUPLEX LC CONNECTOR

6. Ordering Information

OEM	Part Number	OEM	Part Number
Adtran	1442420G1-L	Juniper	EX-SFP-10GE-LR20-L
Alcatel	3HE09327AA-20KM-L	Juniper	SFP-10GE-LR-20-L
Arista	SFP-10G-LR20-ARISTA-L	MSA	L-SFP10G-LR20-I
Brocade	10G-SFPP-LR20-L	MSA	L-SFP10G-LR20
Calix	100-01903-L	MSA	LN-SFP10G-LR20-I
Cisco	SFP-10G-LR20-I-L	OnePort	OP-SFP10G-LR20
Cisco	SFP-10G-LR20-L	Samsung	SLS-BB1150EHEX-L
JSDSU	JSH-62L1DD1-15-L	Zhone	MXK-10GE-SFP+-20KM-1310-L