



SFP10G-BX45-100-I

10GBASE-ZR, BiDi, SFP+, SMF TRANSCEIVER
TX 1490nm / RX 1550nm, 100km REACH, DUPLEX LC CONNECTOR

Features

- Supports up to 10.7Gbps bit rates
- Hot-pluggable SFP+ footprint
- 1490nm Cooled EML laser and APD photodiode
- Up to 100km for SMF transmission
- Compliant with SFP+ MSA and SFF-8472 with duplex LC receptacle
- Compatible with RoHS
- Single +3.3V power supply
- Real-time Digital Diagnostic Monitoring
- Operating case temperature:
Standard: 0 to +70°C
Industrial : -40 to +85°C

Applications

- 10Gbps optical systems
- 10GBASE-ZR at 10.3125Gbps
- 10GBASE-ZW at 9.953Gbps
- LTE systems
- Other optical links

Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Supply Voltage	Vcc	-0.5	4.5	V
Storage Temperature	Ts	-40	85	°C
Operating Humidity	-	5	85	%

Recommended Operating Environment					
Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating Case Temperature	Tc	0		70	°C
Power Supply Voltage	Vcc	3.135	3.30	3.465	V
Power Supply Current	Icc			450	mA
Data Rate		1.0	10.3	10.7	Gbps

Optical and Electrical Characteristics						
Parameter	Symbol	Minimum	Typical	Maximum	Unit	Notes
Transmitter						
Center Wavelength	λ_c	1480	1490	1500	nm	
Spectral Width (-20dB)	$\Delta\lambda$			1	nm	
Side-Mode Suppression Ratio	SMSR	30	-		dB	
Average Output Power	Pout	0		4	dBm	1
Extinction Ratio	ER	6			dB	
Data Input Swing Differential	VIN	180		850	mV	2
Input Differential Impedance	ZIN	90	100	110	Ω	
TX Disable	Disable	2.0		Vcc	V	
	Enable	0		0.8	V	
TX Fault	Fault	2.0		Vcc	V	
	Normal	0		0.8	V	
Receiver						
Centre Wavelength	λ_c	1540	1550	1560	nm	
Receiver Sensitivity				-22	dBm	3
Receiver Overload		-6			dBm	3
LOS De-Assert	LOSD			-23	dBm	
LOS Assert	LOSA	-35			dBm	
LOS Hysteresis		0.5			dB	
Data Output Swing Differential	Vout	300		900	mV	4
LOS	High	2.0		Vcc	V	
	Low			0.8	V	

Notes:

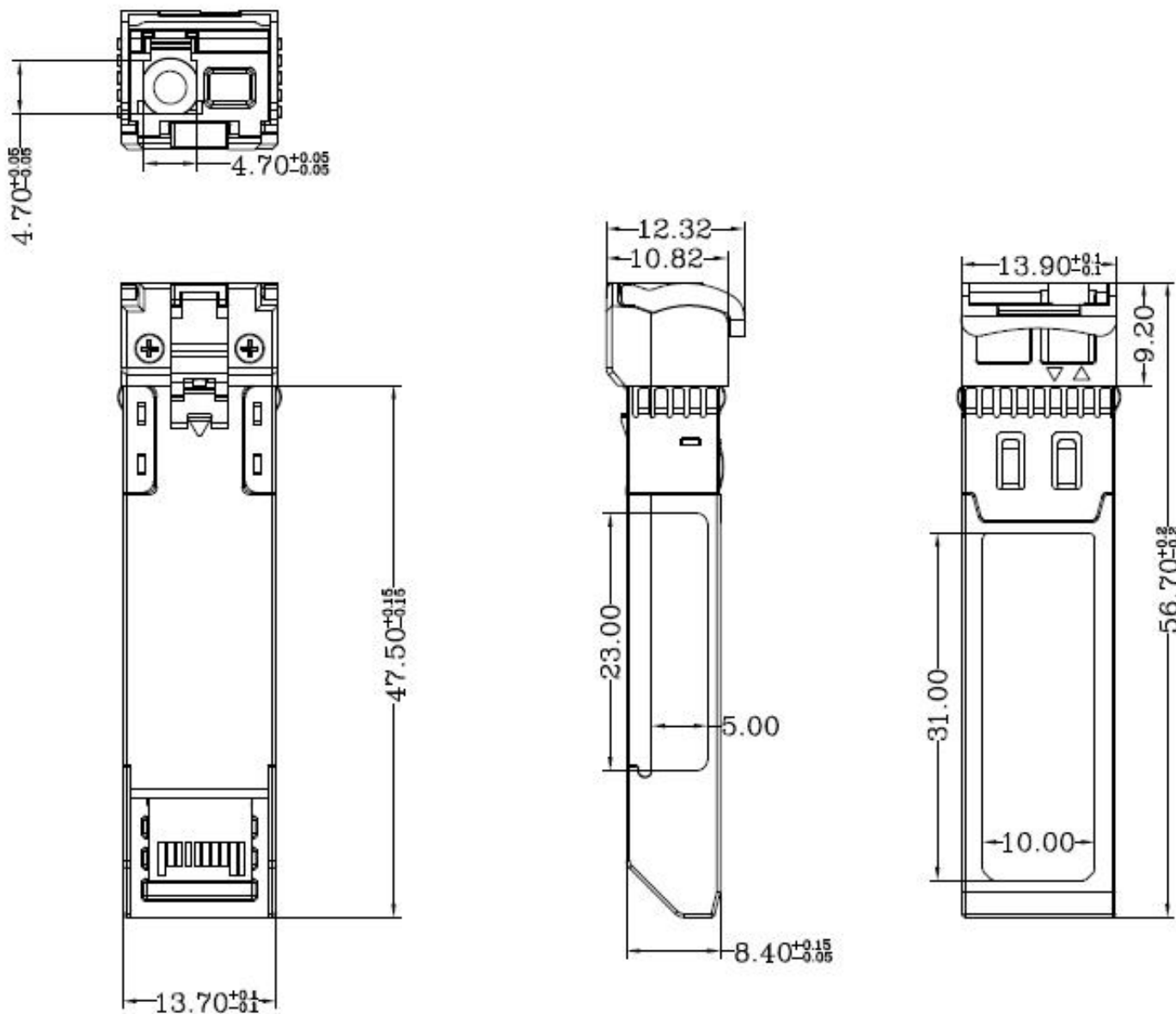
1. The optical power is launched into SMF.
2. PECL input, internally AC-coupled and terminated.
3. Measured with a PRBS $2^{31}-1$ test pattern @10312Mbps, BER $\leq 1 \times 10^{-12}$.
4. Internally AC-coupled.

Timing and Electrical					
Parameter	Symbol	Minimum	Typical	Maximum	Unit
Tx Disable Negate Time	t_on			1	ms
Tx Disable Assert Time	t_off			10	μ s
Time To Initialize, including Reset of Tx Fault	t_init			300	ms
Tx Fault Assert Time	t_fault			100	μ s
Tx Disable To Reset	t_reset	10			μ s
LOS Assert Time	t_loss_on			100	μ s
LOS De-assert Time	t_loss_off			100	μ s

Timing and Electrical

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Serial ID Clock Rate	F_SERIAL_CLOCK		100	400	KHz
MOD_DEF (0:2)-High	VH	2		Vcc	V
MOD_DEF (0:2)-Low	VL			0.8	V

Mechanical Diagram



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.

Ordering Information

OEM	Part Number	OEM	Part Number
MSA	AN-SFP10G-BXU-100-I		

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