Features

- Dual Wavelength Bidirectional Transceiver
- 2488Mb/s Downstream
- 1244Mb/s Upstream
- BER<10-10, 1244Mb/s, PRBS 223-1
- 1310 nm APD/TIA Burst Mode Receiver
- 1490 nm CW Mode DFB Laser with Isolator
- ITU-T G.984.2 Complaint
- Single 3.3V DC supply
- Low Power Consumption
- 2x10 SFP Package Outline
- Single Fiber, Full Duplex Operation
- SC Optical Receptacle
- Case Operating Temperature Ranges:
  Commercial: 0 to +70°C
  Industrial: -40 to +85°C
- Data and Control interfaces
  Tx_Data LVPECL/AC Coupled
  Rx_Data LVPECL/DC Coupled
  Tx_DIS LVTTL

  Tx_FAULT LVTTL
  BSD LVTTL
  Rx_Reset LVTTL
  Rx_Trigger LVTTL
- RoHS compliant

Applications

- Access Networks
- Fiber to the Home, Curb, Office (FTTx)
- Point to Multi Point Service (P2MP)
- ITU-T G.984.2
- FSAN Class B+

1. Absolute Maximum Ratings

Exceeding the absolute maximum ratings may cause irreversible damage to the device. The device is not intended to be operated under the condition of simultaneous absolute maximum ratings, a condition which may cause irreversible damage to the device.

Parameter	Symbol	Min	Max	Units	Notes
Storage Ambient Temperature	Tstg	-40	+85	°C	
Relative Humidity - Storage	RHS	0	95	%	
Relative Humidity - Operating	RHO	0	85	%	
Module Supply Voltage	VCC	0	3.6	V	

Absolute Maximum Ratings: Control Function Logic Levels					
Transmit DISABLE Logic HIGH State	Tx_DIS	0	VCC+0.5	V	1
Transmit FAULT Logic HIGH State	Tx_FAULT	0	VCC+0.5	V	2
BSD Logic HIGH State	BSD	0	VCC+0.5	V	3
Receiver RESET Logic HIGH State	Rx_RESET	0	VCC+0.5	V	4
I2C Serial Data Logic HIGH State	SDA	-	VCC+0.5	V	3
I2C Serial Clock HIGH State	SCL	-	VCC+0.5	V	3

Notes:

1. LVTTL (Tx is OFF / DISABLED)
2. LVTTL (Laser is OFF / FAULT)
3. LVTTL
4. LVTTL (Receiver is being RESET)

2. Recommended Operating Conditions

Parameter		Symbol	Min	Typ	Max	Units
Case Operating Temperature	Commercial	Tcase	0	+25	+70	ºC
	Industrial		-40	+25	+85	ºC
Module Supply Voltage		VCC	3.135	3.3	3.465	V
Module Supply Current		IIN	-	-	500	mA
Downstream Signaling Speed +/- 100 ppm		Sdown	-	2488	-	Mb/s
Upstream Signaling Speed +/- 100 ppm		Sup	-	1244	-	Mb/s

3. Transmitter Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Units	Conditions / Notes
Tx_Data Differential Input Voltage	VIH-VIL	300	-	1900	mV	LVPECL Tx_DATA Electrical Signal
Tx_DIS = HIGH (Transmitter OFF / DISABLED)	VIH	2.2	-	VCC+0.3	V	LVTTL (Control INPUT)
Tx_DIS = LOW (Transmitter ON / ENABLED)	VIL	0	-	0.8	V	LVTTL (Control INPUT)

Tx_FAULT = HIGH (Laser OFF / FAULT)	VOH	2.4	-	VCC+0.3	V	LVTTL (Monitor OUTPUT)
Tx_FAULT = LOW (Laser ON / NORMAL)	VOL	0	-	0.4	V	LVTTL (Monitor OUTPUT)

4. Receiver Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Units	Notes
Rx_Data Differential Output Voltage	VIH-VIL	600	-	1600	mV	1
BSD (Burst Signal Detect) = HIGH	VOH	2.0	-	VCC+0.3	V	2
BSD (Burst Signal Detect) = LOW	VOL	0	-	0.8	V	2
Rx_RESET = HIGH (Receiver RESET)	VIH	2.2	-	VCC+0.3	V	3
Rx_RESET = LOW (Receiver ON/NORMAL)	VIL	0	-	0.8	V	3
I2C Serial Logic						
I2C Serial Data	SDA	HIGH	LVTTL	0.7*VCC	VCC+0.3	V
	SDA	LOW	LVTTL	0	0.8	V
I2C Serial Clock	SCL	HIGH	LVTTL	0.7*VCC	VCC+0.3	V
	SCL	LOW	LVTTL	0	0.8	V

Notes:

1. LVPECL Rx_DATA Electrical Signal
2. LVPECL Rx_DATA Electrical Signal
3. LVTTL
4. LVTTL (Control Input)

5. Transmitter Optical Characteristics

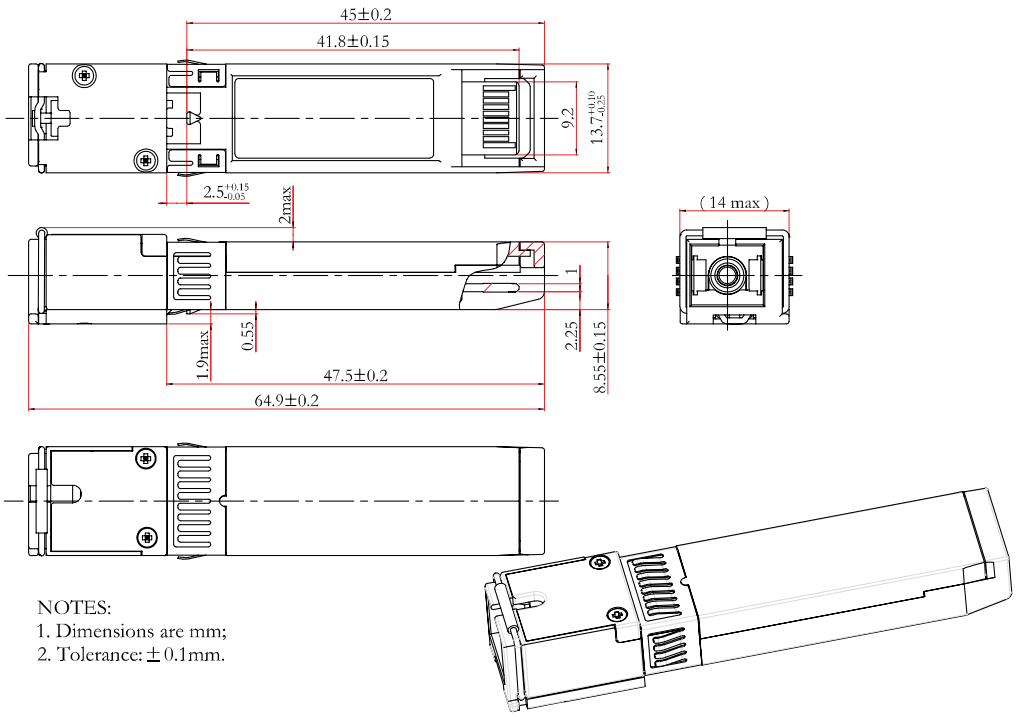
Parameter	Symbol	Min	Typ	Max	Units	Notes
Transmitter Type	1490 nm DFB Laser with Isolator					1
Downstream Signaling Speed	Sdown	-	2488	-	Mb/s	
Average Output Power (9/125µm SMF)	POUT	1.5	-	5.0	dBm	
Optical Output with Tx OFF	POFF	-	-	-40	dBm	
Optical Rise and Fall Time	Tr / tf	-	-	180	ps	2
Tx Wavelength	λ	1480	1490	1500	nm	
Spectral Line Width @ -20 dB	Δλ	-	-	1.0	nm	
Side Mode Suppression Ratio	SMSR	30	-	-	dB	
Extinction Ratio	ER	8.2	-	-	dB	
Output Eye	Compliant with G.984.2					3

Receiver Optical Characteristics						
Receiver Type	1310 nm APD/TIA Burst Mode					
Optical Signal Indicator		Burst Packet Detect				
Signaling Speed	Sup	-	1244	-	Mb/s	
Wavelength	λ	1280	1310	1360	nm	
Rx Optical Power (Rx Sensitivity)	PIN	-	-	-28	dBm	4
Rx Optical Power (Saturated Input)	PIN(SAT)	-8	-	-	dBm	4
Maximum Input Optical Power	PIN(MAX)	-	-	2	dBm	5

Notes:

1. CW Mode
2. 20% to 80%
3. Data Rate = 2488Mb/s
4. BER<10-10, 1244Mb/s, PRBS 223-1
5. Damage Threshold

6. 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.

7. Ordering Information

OEM	Part Number	OEM	Part Number
Adtran	1442530G1-A	MSA Generic	AN-GPON-B43
Adtran	1442530G1-C1	Alcatel	3FE53441AC-A
Alcatel	3FE53441BA-A	Calix	100-01783-A
Calix	100-01836-A	Calix	100-02582-A
Calix	100-01782-A	Calix	100-05148-A
Calix	100-01784-A	FTTX	GP-U3432-20DE-2-A
Calix	GPONOLTSFPB-CLX	FTTX	GP-T1223-20D-A
Calix	GPONOLTSFPBH-CLX	Zhone	MXK-GPON-SFP-B+-RSSI-A
FTTX	GP-U3432-20DA-1-A	MSA OnePort	OP-GPON-B43
Huawei	OSG002001-A	MSA Champion ONE	GPONONUSFPB-H

8. Contact Information

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