Approved Networks
A brand of legrand

GPON-C43

2488/1244 Mb/s, SFP, GPON C+, SMF TRANSCEIVER
Tx1490nm / Rx131 nm, 60km REACH, SC CONNECTOR

Features:

- Dual Wavelength Bidirectional Transceiver
- 2488Mb/s Downstream
- 1244Mb/s Upstream
- BER<10^{-10}, 1244Mb/s, PRBS 2^{23}-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 SFF Package Outline
- Single Fiber, Full Duplex Operation
- SC Optical Receptacle
- Industrial Case Operating Temperature Range: -40 to +85°C
- Data and Control interfaces
  - -Tx_Data - LVPECL/AC Coupled
  - -Rx_Data - LVPECL/DC Coupled
  - -Tx_DIS - LVTTL
  - -Tx_FAULT - LVTTL
  - -Rx_Reset - LVTTL
  - -BSD - LVTTL
- RoHS6

Applications:

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

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 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	

Optical and Electrical Signal 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	4
Receiver RESET Logic HIGH State	Rx_RESET	0	VCC+0.5	V	3
I2C Serial Data Logic HIGH State	SDA	-	VCC+0.5	V	4
I2C Serial Clock HIGH State	SCL	-	VCC+0.5	V	4

Notes:

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

2. Recommended Operating Conditions

Parameter	Symbol	Min	Typ	Max	Units
Case Operating Temperature	Tcase	-40	25	+85	°C
Module Supply Voltage	VCC	3.135	3.3	3.465	V
Module Supply Current	IIN	-	350	500	mA
Downstream Signaling Speed +/- 100 ppm	Sdown	-	2488	-	Mb/s
Upstream Signaling Speed +/- 100 ppm	Sup	-	1244	-	Mb/s

3. Electrical Specifications

Parameter	Symbol	Min	Typ	Max	Units	Notes
Transmitter						
Tx_Data Differential Input Voltage	VIH-VIL	200	-	1600	mV	1
Tx_DIS = HIGH (Transmitter OFF / DISABLED)	VIH	2.2	-	VCC+0.3	V	2
Tx_DIS = LOW (Transmitter ON / ENABLED)	VIL	0	-	0.8	V	2
Tx_FAULT = HIGH (Laser OFF / FAULT)	VOH	2.4	-	VCC+0.3	V	3
Tx_FAULT = LOW (Laser ON / NORMAL)	VOL	0	-	0.4	V	3

Receiver						
Rx_Data Differential Output Voltage	VIH-VIL	200	-	1600	mV	1
BSD (Burst Signal Detect) = HIGH	VOH	2.0	-	VCC+0.3	V	4
BSD (Burst Signal Detect) = LOW	VOL	0	-	0.8	V	4
Rx_RESET = HIGH (Receiver RESET)	VIH	2.2	-	VCC+0.3	V	2
Rx_RESET = LOW (Receiver ON / NORMAL)	VIL	0	-	0.8	V	2
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 Tx_DATA Electrical Signal
2. LVTTL (Control INPUT)
3. LVTTL (Monitor OUTPUT)
4. LVTTL

4. Optical Specifications

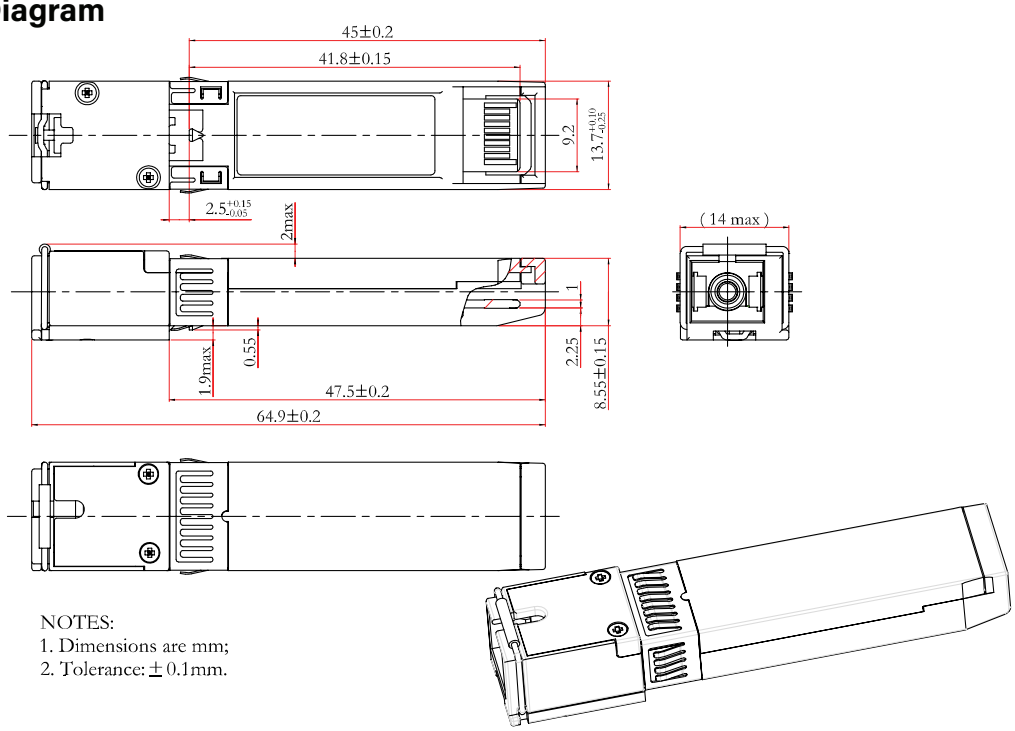
Parameter	Symbol	Min	Typ	Max	Units	Notes
Transmitter						
Transmitter Type	1490 nm DFB Laser with Isolator					1
Downstream Signaling Speed	STx		2488		Mb/s	
Average Launch Power (9/125 µ SMF)	POUT	3.0	-	7.0	dBm	
Average Launch Power with Tx OFF	POFF	-	-	-40	dBm	
Optical Rise and Fall Time	tr / tf	-	-	180	ps	2
Optical Center 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						
Receiver Type	1310 nm APD/TIA Burst Mode					
Optical Signal Indicator		Burst Packet Detect				
Upstream Signaling Speed	SRx		1244		Mb/s	
Optical Center Wavelength	λ	1280	1310	1360	nm	
Receiver Sensitivity	PIN	-	-	-30	dBm	4
Receiver Optical Overload	Pin(SAT)	-12	-	-	dBm	4
Maximum Input Optical Power	Pin(MAX)	-	-	2	dBm	5
Receiver Reflectance	RFL	-	-	-20	dB	

Notes:

1. CW Mode
2. 20% to 80%
3. Data Rate = 2488 Mb/s
4. BER<10^{-10}, 1244 Mb/s, PRBS 2^{23}-1
5. Damage Threshold

5. 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.

6. Ordering Information

OEM	Part Number	OEM	Part Number
Adtran	1442530G1-C-A	Calix	100-04434-C1
Calix	100-04434-A	MSA	AN-GPON-C43
Calix	GPONOLTSFPCH-CLX	MSA OnePort	OP-GPON-C43
Calix	GPONOLTSFPC-CLX	Zhone	GPONOLTSFPC-ZHN

7. Contact Information

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