



## LTB3475 2488/1244 Mb/s P2MP OLT Burst Mode 2x10 SFF G-PON 20 km DFB / APD Transceiver

The LTB3475 is a low cost point to multi point (P2MP) Fiber to the Home, Business or Curb (FTTx) G-PON OLT transceiver. It is designed for 2488.32 Mb/s downstream / 1244.16 Mb/s upstream duplex data links that employ high-speed burst mode TDM receivers/transmitters. It is based on the G.984.2 specifications for bidirectional communications over a single fiber and incorporates a high performance 1310 nm Burst Mode APD/TIA receiver and 1490 nm CW mode DFB transmitter. It is intended to serve up to 32 subscribers over distances of up to 20 km. The Receiver Loss of Signal (Rx\_LOS), Transmit Disable (Tx\_DIS), Transmit Fault (Tx\_FAULT) and the Page A0 (HEX) I<sup>2</sup>C diagnostic interface (equivalent to SFP MSA specification) monitor and control functions are LVTTTL compatible. The Receiver Reset (Rx\_RESET) control function is LVTTTL compatible. The industry standard 2x10 small form factor (SFF) package incorporates a pigtail fiber with SC/APC or SC/UPC optical connector. It is fabricated with a rugged die cast metal housing and cage assembly. Commercial (0°C to +70°C and industrial (-40°C to +85°C) temperature ranges are available.



### Applications

- Access Networks
- Fiber to the Home, Curb, Office (FTTx)
- Point to Multi Point Service (P2MP)
  - Up to 20 km Reach (32:1 Split)
  - IUT-T G.984.2 Class B OLT

### Features

- Dual Wavelength Bidirectional Transceiver
- 2488.32 Mb/s Downstream
- 1244.16 Mb/s Upstream
- BER < 10<sup>-10</sup>, 1244 Mb/s, PRBS 2<sup>23</sup>-1
- 1310 nm APD/TIA Burst Mode Receiver

- 1490 nm CW Mode DFB Laser
- ITU-G.984.2 Compliant
- Single 3.3 Volt DC supply
- Low Power Consumption
- 2x10 SFF Package Outline
- Single Fiber, Full Duplex Operation
- Fiber Pigtail with Optional Optical Connector
- Temperature Options:
  - C = 0 to +70°C
  - H = -40°C to 85°C
- Tx DATA
  - LVPECL Differential Data Interface
  - Internally AC Coupled and Terminated
- Rx DATA
  - LVPECL Differential Data Interface
  - Internally DC Coupled
- LVTTTL Monitor and Control Interfaces
  - Rx Loss of Signal
  - Rx RESET
  - Tx Disable
  - Tx Fault
  - I<sup>2</sup>C Serial Data (Page A0 HEX)
  - I<sup>2</sup>C Serial Clock

| Recommended Operating Conditions           |                   |       |         |       |       |
|--|-------------------|-------|---------|-------|-------|
| Parameter                                  | Symbol            | Min   | Typ     | Max   | Units |
| Ambient Operating Temperature - Industrial | T <sub>amb</sub>  | -40   | +25     | +85   | °C    |
| Ambient Operating Temperature - Commercial | T <sub>amb</sub>  | 0     | +25     | +70   | °C    |
| DC Supply Voltage                          | V <sub>CC</sub>   | 3.135 | 3.3     | 3.465 | Volts |
| Module Supply Current                      | I <sub>IN</sub>   | -     | 200     | 250   | mA    |
| Module Power Dissipation                   | P <sub>D</sub>    | -     | 660     | 850   | mW    |
| Downstream Signaling Speed +/- 100 ppm     | S <sub>down</sub> | -     | 2488.32 | -     | Mb/s  |
| Upstream Signaling Speed +/- 100 ppm       | S <sub>up</sub>   | -     | 1244.16 | -     | Mb/s  |
| Useful Reach (32:1 Split)                  | D                 | -     | 20      | -     | km    |

| Ordering Information |                |                       |                    |                        |
|----------------------|----------------|-----------------------|--------------------|------------------------|
| Part Number          | Package Option |                       | Temperature Option |                        |
| LTB3475 AC           | A              | Pigtail, no connector | C                  | Commercial Temperature |
| LTB3475 AH           | A              | Pigtail, no connector | H                  | Industrial Temperature |
| LTB3475 BC           | B              | Pigtail, SC/APC       | C                  | Commercial Temperature |
| LTB3475 BH           | B              | Pigtail, SC/APC       | H                  | Industrial Temperature |
| LTB3475 CC           | C              | Pigtail, SC/PC        | C                  | Commercial Temperature |
| LTB3475 CH           | C              | Pigtail, SC/PC        | H                  | Industrial Temperature |