

10Gbps XFP Optical Transceiver RTX226-440

Ordering Information

Absolute Maximum Ratings

| Parameter | Symbol | Unit | Min | Max |
|--------------------------------------|------------------|------|------|-----|
| Supply Voltage 1 | V _{CC3} | V | -0.5 | 4.0 |
| Supply Voltage 2 | V _{CC5} | V | -0.5 | 6.0 |
| Storage Temperature | T _s | °C | -40 | 85 |
| Operating Case Temperature | T _c | °C | -5 | 70 |
| Relative Humidity (Non condensation) | - | % | 5 | 90 |

Recommended Operating Conditions

| Parameter | Symbol | Unit | Min | Typ | Max |
|----------------------------|------------------|------|------|-----|------|
| Operating Case Temperature | T _c | °C | -5 | - | 70 |
| Supply Voltage 1 | V _{CC3} | V | 3.13 | 3.3 | 3.47 |
| Supply Current 1 | I _{CC3} | mA | - | - | 750 |
| Supply Voltage 2 | V _{CC5} | V | 4.75 | 5.0 | 5.25 |
| Supply Current 2 | I _{CC5} | mA | - | - | 500 |
| Power Dissipation | - | W | - | - | 3.5 |

Electrical Characteristics

(Tested under recommended operating conditions, unless otherwise noted)

| Parameter | Symbol | Unit | Min | Typ | Max | Note |
|-------------------------------|--------------------|------|-----|-----|------------------|------|
| Transmitter | | | | | | |
| Input Differential Impedance | R _{in} | Ω | - | 100 | - | |
| Differential Data Input Swing | V _{in,pp} | mV | 120 | - | 1000 | |
| Transmit Disable Voltage | VD | V | 2.0 | - | V _{CC3} | |
| Transmit Enable Voltage | VEN | V | 0 | - | +0.8 | |
| Transmit Disable Assert Time | - | μs | - | - | 10 | |

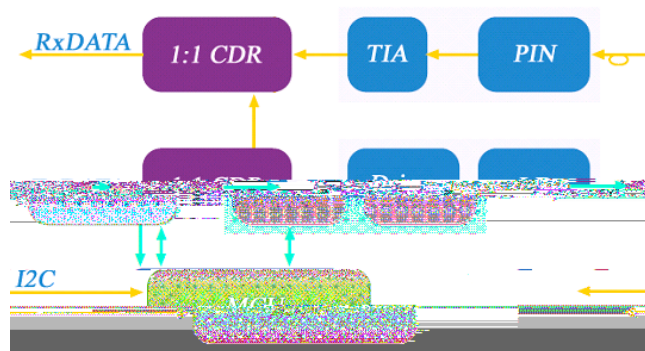
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Low Speed Electrical Interface

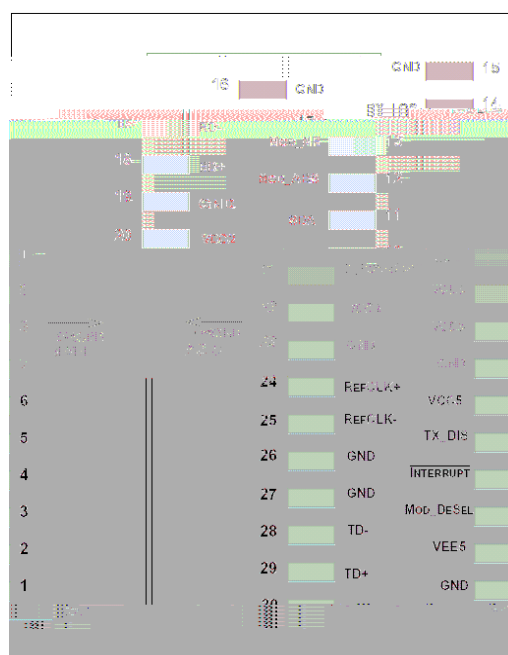
| Parameter | Symbol | Unit | Min | Max | Note |
|-------------------------------|----------|---------|-----------------|-----------------|------|
| XFP Tx_Dis, P_Down/RST | V_{IH} | V | 2.0 | $V_{cc3}+0.3$ | |
| | V_{IL} | V | -0.3 | 0.8 | |
| XFP Interrupt, Mod_NR, Rx_Los | V_{OH} | V | $V_{dd3}-0.5$ | $V_{dd3}+0.3$ | 1 |
| | V_{OL} | V | 0.0 | 0.4 | |
| XFP SCL and SDA Input | V_{IH} | V | $V_{dd3} * 0.7$ | $V_{dd3}+0.5$ | 1 |
| | V_{IL} | V | -0.3 | $V_{dd3} * 0.3$ | |
| XFP SCL and SDA Output | V_{OH} | V | $V_{dd3}-0.5$ | $V_{dd3}+0.3$ | |
| | V_{OL} | V | 0.0 | 0.4 | |
| Leakage Current | I_L | μA | -10 | 10 | |
| I ² C Clock Rate | | KHz | | 400 | |

Note1: V_{dd3} is host +3.3V power supply.

Block Diagram



Pin Description



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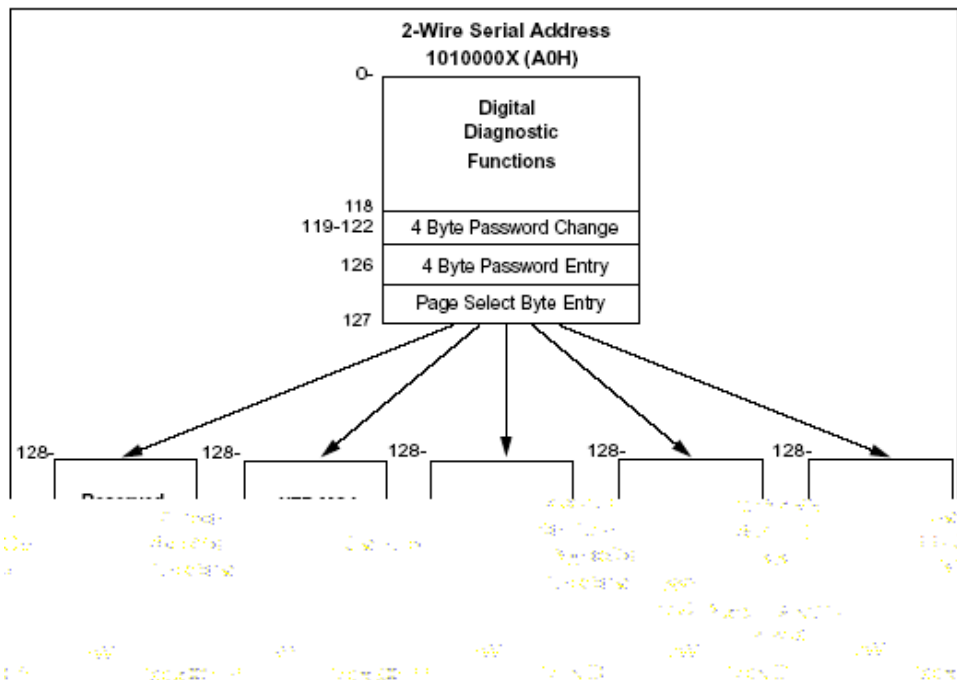
| Pin | Logic | Symbol | Name/Description | Note |
|-----|---------|--------------------|---|------|
| 1 | | GND | Module Ground | 1 |
| 2 | | VEE5 | Optional -5.2V Power Supply (Not Required) | |
| 3 | LVTTL-I | Mod_DeSel | Module De-select; When held low allows module to respond to 2-wire serial interface | |
| 4 | LVTTL-O | ----- Interrupt | ----- Interrupt; Indicates presence of an important condition which can be read over the 2-wire serial interface | 2 |
| 5 | LVTTL-I | TX_DIS | Transmitter Disable; Turns off transmitter laser output | |
| 6 | | VCC5 | +5V Power Supply | |
| 7 | | GND | Module Ground | 1 |
| 8 | | VCC3 | +3.3V Power Supply | |
| 9 | | VCC3 | +3.3V Power Supply | |
| 10 | I/O | SCL | | |

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Digital Diagnostic Functions

As defined by the XFP MSA, digital diagnostic functions are provided via a 2-wire serial interface, which allows real-time access to the following operating parameters:

- Transceiver Temperature
- Tx Bias Current
- Tx Optical Power
- RX Received Optical Power
- Transceiver +3.3V Supply Voltage
- Laser Temperature



Typical Application Circuit for Power Supply

