

PART NUMBER	DESCRIPTION
TR004-MINI	4 Gbps Very Small Form Factor Fiber Optic Transceiver

**DESCRIPTION**

TR004-MINI is a very small form factor (VSFF) fiber optic transceiver specially developed for high data rate communication applications used in rugged environments. This is accomplished using High Reliability Industrial Parts (HRIP). In addition to the common properties offered by existing commercial products, TR004-MINI provides the following unique features which are adapted for high performance utilization:

1. Broad performance range: 50 Mbps to 4.25 Gbps
2. Wide operating temperature range from -40°C to +95°C
3. Conformal coating for moisture resistance
4. Pigtailed fiber and reliable mini-package
5. Withstand shock and vibration in harsh environments
6. Low profile

**FEATURES**

- Fiber optic transceiver operates up to 4.25 GBPS
- 850 nm Oxide VCSEL with integrated lens in the optical head
- Fiber pigtailed with standard FC connector or customer specified connector
- Standard 50/125 μm multimode fiber (1 meter length) or customer specified fiber cable
- GaAs PIN photodetector with transimpedance amplifier integrated in the optical head
- Miniature package with simple 10 pin connector footprint adaptable to custom applications
- Transmitter Disable function
- Receiver Signal Detect monitor with output data squelch
- Single 3.3 V power supply and low nominal power consumption
- All-metal housing for superior EMI performance
- Enhanced enclosure structure for superior shock and vibration performance per RTCA/DO-160
- Parylene type C conformal coating (MIL-I-46058C) for protection against contamination, corrosion, deterioration and physical damage
- Operating temperature range from -40°C to +95°C



**BETTER THAN INDUSTRY STANDARDS**

1. Broad performance range: 50 Mbps to 4.25 Gbps
2. Wide operating temperature range from -40°C to +95°C
3. Conformal coating for moisture resistance
4. Withstands shock and vibration in harsh environments
5. Very small form factor (VSFF) package case for special miniaturized applications
6. Low Profile

**CUSTOMIZABLE OPTIONS**

- Higher Data Rates
- Form Factor, Size, and Interface
- Hermetic
- Pigtail Connector
- Screening and Testing



**ABSOLUTE MINIMUM AND MAXIMUM RATINGS**

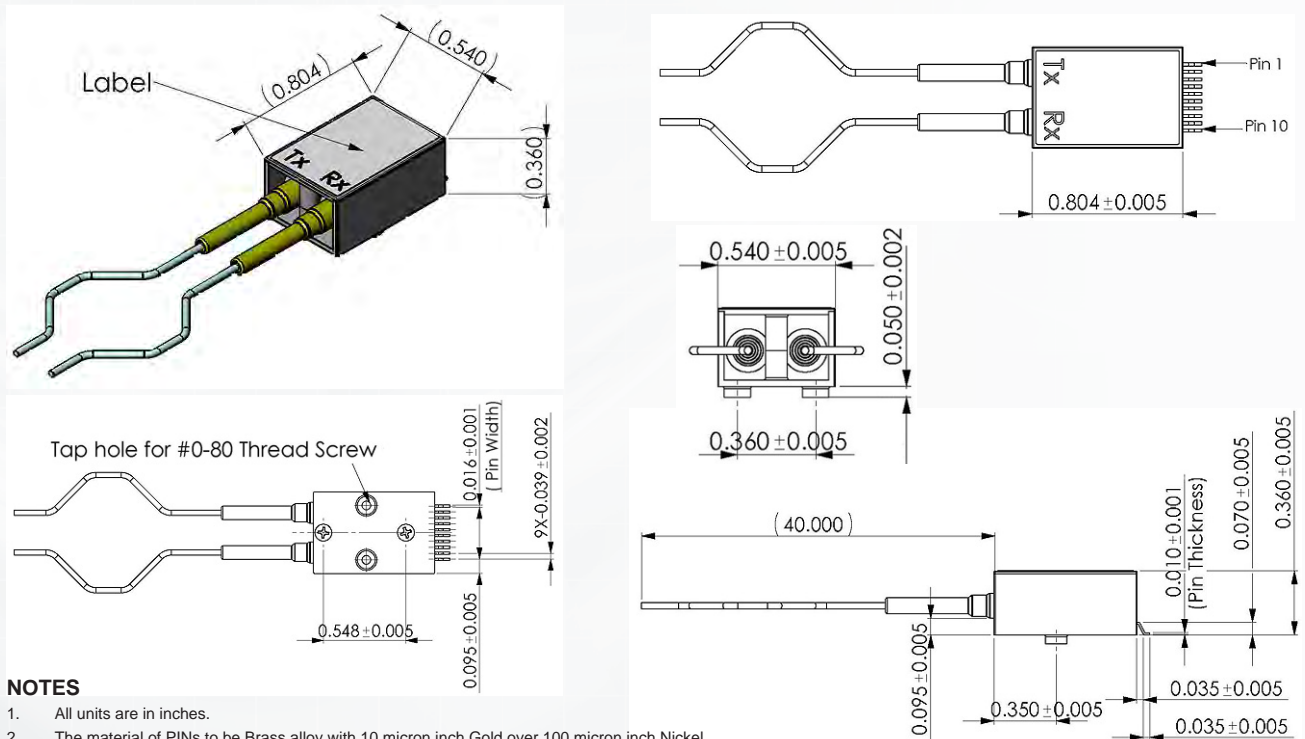
Parameters	Symbol	Min	Max	Units
Supply Voltage	$V_{cc}$	-0.5	4.0	V
Total Module Power Dissipation	$P_{diss}$		1.0	W
Relative Humidity	RH	0	90	%
Storage Temperature	$T_s$	-45	+ 110	°C
Lead Soldering Temperature / Time	$T_h$		260/10	°C / s

**MINI-TRANSCIEVER MECHANICAL SPECIFICATIONS**

Pin	Description	Notes
MS	Mounting Studs are for mechanical attachment	
1	Transmitter DATA Input	AC Coupled
2	Transmitter Ground	
3	Transmitter DATA NOT Input	AC Coupled
4	Transmitter Vcc	
5	Receiver Signal Detect: Assert Logic "1" Output De-Assert Logic "0" Output	
6	Transmitter Disable	
7	Receiver DATA Output	AC Coupled
8	Receiver Vcc	
9	Receiver DATA NOT Output	AC Coupled
10	Receiver Ground	

**FIGURE 2:  
 MINI-TRANSCIEVER MECHANICAL CONFIGURATION**

TR - MINI is a very small form factor (VSFF) package case for special miniaturized applications.



**NOTES**

- All units are in inches.
- The material of PINs to be Brass alloy with 10 micron inch Gold over 100 micron inch Nickel.

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