

MULTI-RATE GIGABIT ETHERNET & FIBER CHANNEL SFP TRANSCEIVERS WITH DIGITAL DIAGNOSTICS

TRPUG1 CLXx000E2G



Product Description

The TRPUG1-E2G SFP series of multi-rate fiber optic transceivers with integrated digital diagnostics monitoring functionality provide a quick and reliable interface for 1000BASE-LX Gigabit Ethernet and 1.062GBd Fiber Channel applications. The transceivers are designed to support data rates ranging from 1.25Gb/s down to 125Mb/s. The diagnostic functions, alarm and warning features as described in the Multi-Source Agreement (MSA) document, SFF-8472 (Rev. 9.4), are provided via an I²C serial interface.

The transceivers use a 1310nm Fabry Perot laser and provides a minimum optical link budget of 11dB, corresponding to a minimum distance of 10km, assuming fiber loss of 0.45dB/km. All modules satisfy Class 1 Laser Safety requirements in accordance with the U.S. FDA/CDRH and international IEC-60825 standards.

The transceivers connect to standard 20-pad SFP connectors for hot plug capability. This allows the system designer to make configuration changes or maintenance by simply plugging in different types of transceivers without removing the power supply from the host system.

The transceivers have bail-type latches, which offer an easy and convenient way to release the modules. The latch is compliant with the SFP MSA. Latches are colored-coded to indicate the different wavelength.

The transmitter and receiver DATA interfaces are AC-coupled internally. LV-TTL Transmitter Disable control input and Loss of Signal (LOS) output interfaces are also provided.

The transceivers operate from a single +3.3V power supply over operating case temperature ranges of -40°C to +85°C (Industrial), -5°C to +70°C (Commercial) or -5°C to +85°C (Extended) . The housing is made of metal for EMI immunity.



Features

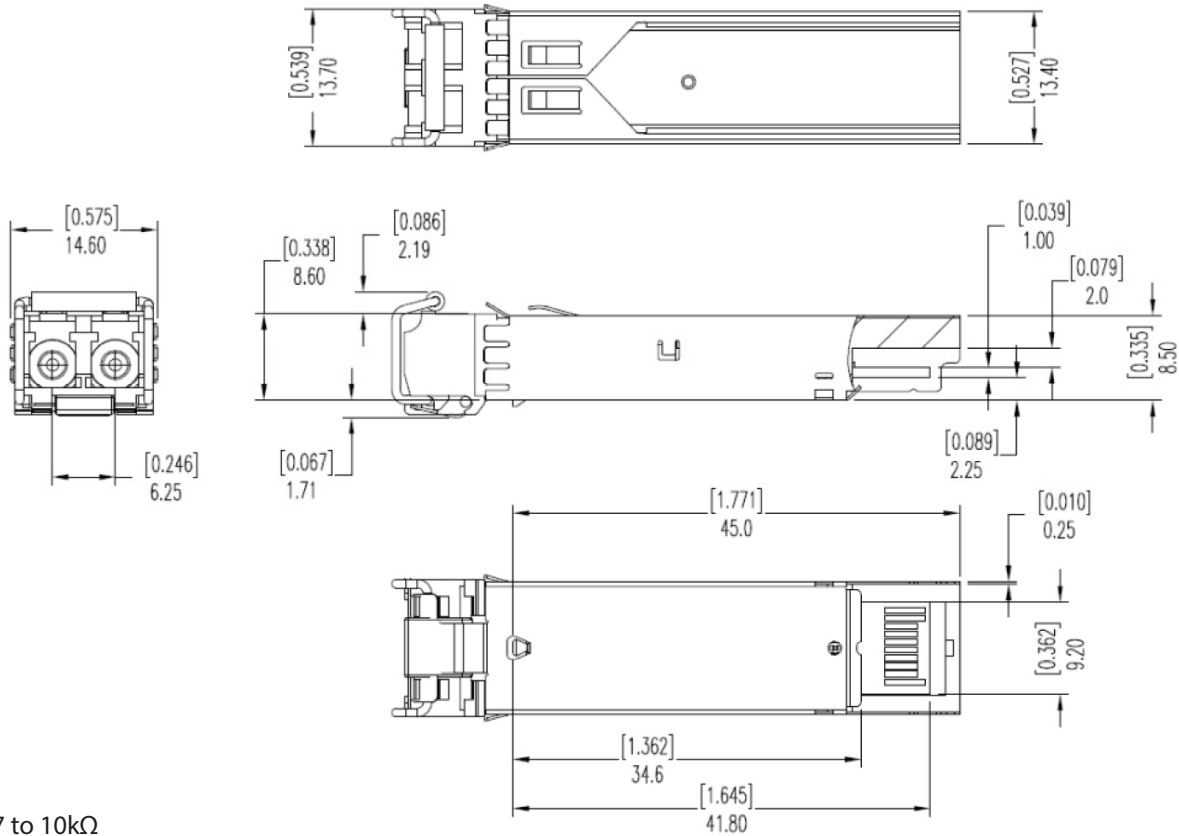
- Compliant with IEEE 802.3ah Gigabit Ethernet 1000BASE-LX PMD Specifications
- Compliant with SFP MSA
- Lead Free Design & RoHS Compliant
- Digital Diagnostics through Serial Interface
- Internal Calibration for Digital Diagnostics
- Distance Options to Support 10km
- Eye Safe (Class 1 Laser Safety)
- Duplex LC Optical Interface
- Loss of Signal Output & TX Disable Input
- Wide Operating Case Temperature Option
- Hot-pluggable
- Single +3.3V Power Supply

Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Units
Storage Temperature Range	T_{ST}	- 40	+ 85	°C
Operating Case Temperature ¹	Commercial	- 5	+ 70	°C
	Extended	- 5	+ 85	
	Industrial	- 40	+ 85	
Supply Voltage	V_{CC}	0	+ 3.47	V
Input Voltage	V_{IN}	0	V_{CC}	V

¹ Measured on top side of SFP module at the front center vent hole of the cage.

Mechanical Package



R: 4.7 to 10kΩ
CAP Values in μF

Oplink Part Number	Operating Temperature		Center Wavelength	Distance ¹	Latch Color
TRPUG1CLXC000E2G	- 5°C to +70°C	Commercial	1310nm	10km	Blue
TRPUG1CLXI000E2G	- 5°C to +85°C	Extended			
TRPUG1CLXE000E2G	- 40°C to +85°C	Industrial			

¹ The indicated transmission distance is for guidelines only, not guaranteed, The exact distance is dependent on the fiber loss, connector and splice loss, and allocated system penalty. Longer distances can be supported if the optical link power budget is satisfied.