Description

The TRM5612 is a lightwave transmitter for OC-1 and OC-3.

Features

- Complied with SONET/SDH standard
- Fabry-Perot laser diode
- Operation at the rates of up to 200 Mb/s at 1.3 μm wavelength
- Uncooled laser with automatic optical power control for constant output power over temperature range
- Hermetically sealed, 20-pin DIP
- Performance monitors

Absolute Maximum Ratings

Item	Symbol	Rated Value	Units
Supply voltage	V	5.5	V
Operating case temperature	T_{opr}	–40 to 85 (0 to 65) *	°C
Storage case temperature	T_{stg}	–40 to 85	°C
Humidity (long-term)	—	85	%
Lead soldering temperature	T_s	250	°C
Lead soldering time	—	10	sec

* Specification depends upon the part number.

Optical Characteristics (Over operating temperature range)

Item	Symbol	Min	Typ	Max	Units	Test Conditions
Average power output **	$\overline{P_O}$	–15	–11	–8	dBm	Single-mode fiber
Center wavelength	λ_c	1260	1308	1360	nm	
RMS spectral width	$\Delta\lambda$	—	—	4	nm	
Extinction ratio	—	10	—	—	dB	P_{OH} / P_{OL}
Optical rise and fall times	t_r, t_f	—	—	T/3	ns	10 to 90% (50% duty cycle) T: bit-period

** Other output power options are available.

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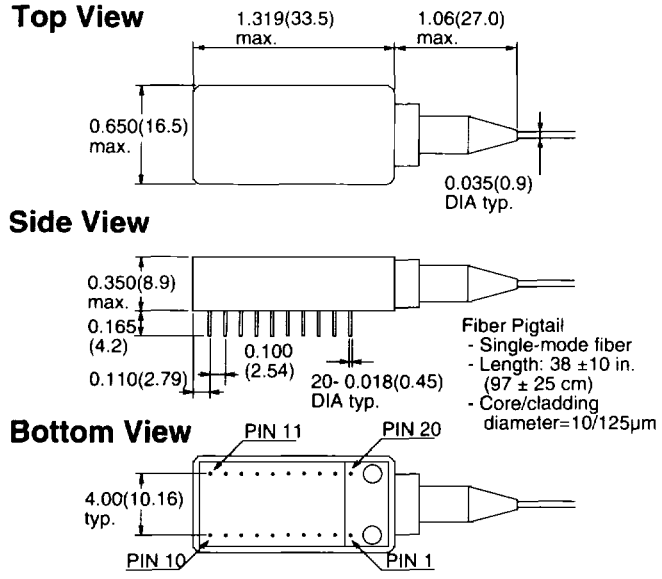
Electrical Characteristics (Over operating temperature range)

Item	Symbol	Min	Typ	Max	Units	Test Conditions
DC power supply voltage	V	4.75	5.0	5.50	V	V_{CC}–V_{EE}
DC power supply current	I	—	—	130	mA	V_{CC} = 5.0 V
Input data voltage						V_{CC} = 5.0 V
Low	V_{IL}	—	V_{CC} – 1.8	—	V	50Ω load to (V_{CC}–2) V
High	V_{IH}	—	V_{CC} – 0.8	—		
Input transition time	T_{IN}	—	—	T/4	ns	10 to 90% (50% duty cycle)
						T: bit-period
Disable voltage	V_D	V_{CC} – 2.0	—	V_{CC}	V	
Enable voltage	V_{EN}	V_{EE}	—	V_{EE} + 0.8	V	

Outline Drawings and Pin Descriptions

Tolerance: ±0.005 in. (±0.127 mm)
Dimension: inch (mm)



Pin	Description
1:	No user connection
2:	Laser-bias monitor (+)*
3:	No user connection
4:	Laser-bias monitor (–)*
5:	V_{EE}
6:	V_{CC}
7:	Transmitter disable
8:	V_{CC}
9:	V_{CC}
10:	No user connection
11:	Case ground
12:	V_{CC}
13:	Case ground
14:	V_{EE}
15:	$\overline{DATA}$
16:	DATA
17:	Laser-backface monitor (–)*
18:	V_{CC}
19:	Laser-backface monitor (+)*
20:	No user connection

* Laser backface and bias monitor functions are customer-use options that are used during manufacture and for diagnostics and are not required for normal operation of the transmitter.

Ordering Information

Operating case temperature (°C)	Connector	Part Number
0 to 65	FC-PC	TRM5612FN
0 to 65	ST *	TRM5612GN
0 to 65	SC	TRM5612HN
–40 to 85	FC-PC	TRM5612FH
–40 to 85	ST *	TRM5612GH
–40 to 85	SC	TRM5612HH

* ST is a registered trademark of AT&T.