

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 **	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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Part

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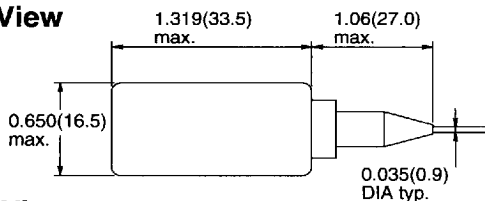
Electrical Characteristics (Over operating temperature range)

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	

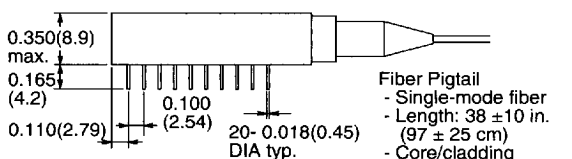
Outline Drawings and Pin Descriptions

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

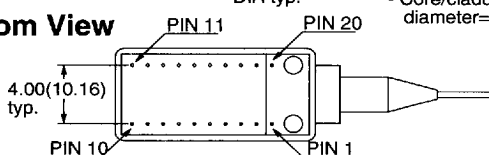
Top View



Side View



Bottom View



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:	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.

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