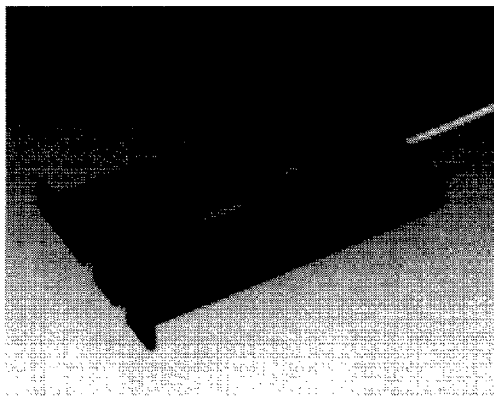


Description

The TRM5712AN is a lightwave transmitter for OC-12.

Features

- Complied with SONET/SDH standard
- Fabry-Perot laser diode
- Operation from 1Mb/s to 622.08Mb/s at 1.3 μm wavelength
- 50 Ω , AC-coupled interface
- Low-power-alarm and performance monitors



Absolute Maximum Ratings ($T_C = 25^\circ\text{C}$)

Item	Symbol	Rated Value	Units
Operating case temperature	T_{opr}	-40 to 75	$^\circ\text{C}$
Storage case temperature	T_{stg}	-40 to 85	$^\circ\text{C}$
Humidity (long-term)	—	55	%
Lead soldering temperature	T_s	250	$^\circ\text{C}$
Lead soldering time	—	10	sec

Optical Characteristics (Unless otherwise indicated, measurement conditions are $T_C = 25^\circ\text{C}$, 50% duty-cycle data signal)

Item	Symbol	Min	Typ	Max	Units	Test Conditions
Average power output	$\overline{P_O}$	-1.25	0	1.25	dBm	622Mb/s, $T_C = 0$ to 65°C
		-1.50	0	1.50		156Mb/s, $T_C = -40$ to 75°C
Center wavelength	λ_c	1300	—	1320	nm	622Mb/s, $T_C = 0$ to 65°C
		1280	—	1335		156Mb/s, $T_C = -40$ to 75°C
RMS spectral width	$\Delta\lambda$	—	—	2.5	nm	
Extinction ratio	—	10	—	—	dB	P_{OH} / P_{OL}
Optical rise and fall times	t_r, t_f	—	—	0.5	ns	10 to 90% (50% duty cycle)
Optical path penalty	—	—	—	1	dB	max. 110 ps/nm (1.3 μm) at 4% optical reflection

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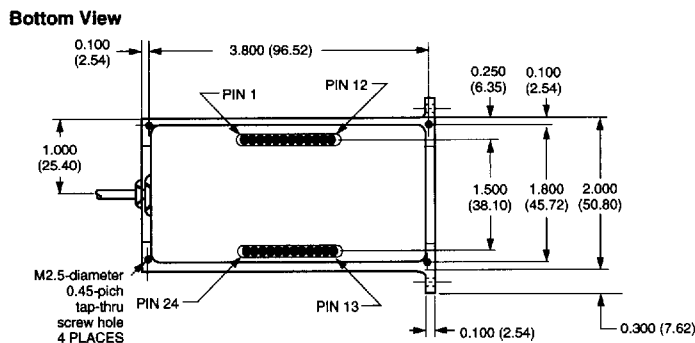
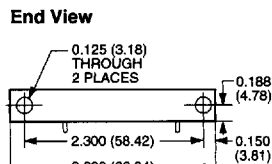
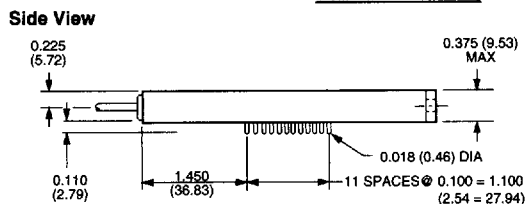
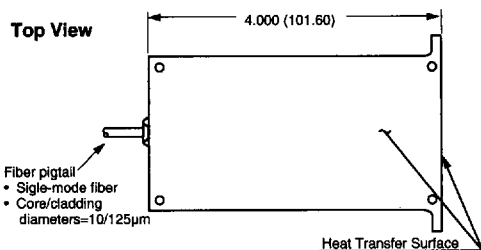
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Electrical Characteristics (Unless otherwise indicated, measurement conditions are $T_C = 25^\circ\text{C}$, 50% duty-cycle data signal)

Item	Symbol	Min	Typ	Max	Units	Test Conditions
DC power supply voltage	V_{CC}	4.75	5.0	5.25	V	
	V_{EE1}	-4.95	-5.2	-5.45		
	V_{EE2}	-2.1	-2.2	-2.3		
DC power supply current	I_{CC}	—	—	800	mA	$V_{CC} = 5.0\text{ V} \pm 5\%$
	I_{EE1}	—	—	200		$V_{EE1} = -5.2\text{ V} \pm 5\%$
	I_{EE2}	—	—	1000		$V_{EE2} = -2.2\text{ V} \pm 5\%$
Input data voltage	V_{IN}	0.6	0.8	1.0	V_{pp}	
Input transition time	T_{IN}	—	—	T/4	ns	10 to 90% (50% duty cycle)

T: bit-period

Outline Drawings and Pin Descriptions



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

Pin	Description
1:	Case Ground (RF ground)
2:	Case Ground (RF ground)
3:	V_{EE1}
4:	V_{EE2}
5:	V_{CC}
6:	Case Ground (RF ground)
7:	DATA (50Ω, AC-coupled)
8:	Case Ground (RF ground)
9:	Case Ground (RF ground)
10:	Case Ground (RF ground)
11:	Case Ground (RF ground)
12:	No User Connection
13:	No User Connection
14:	Laser Bias Monitor (+)
15:	Laser Bias Monitor (-)
16:	Laser Backface Monitor (+)
17:	Laser Backface Monitor (-)
18:	Disable
19:	Case Ground (RF ground)
20:	Alarm Output
21:	Temperature Monitor (+)
22:	Temperature Monitor (-)
23:	Case Ground (RF ground)
24:	Case Ground (RF ground)

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