

622 Mb/s DIGITAL TRANSMITTER MODULE

DESCRIPTION

The TX20622 product is a high performance, cost effective module for serial data communication applications specified for a data rate up to 622 Mb/s.

This Transmitter integrates a 1300nm Fabry Perot laser diode optically coupled into a single mode fiber. The output power is controlled through a specific circuit via a monitor photodiode. The electronic circuit provides two controls which maintain constant the output optical power level both for a digital 'one' and a digital 'zero' on the input. These two loops compensate effects due to thermal variations on the laser diode characteristics. So, the transmitter circuit can operate from -40°C to +85°C.

When there is no input digital stream, the loop is blocked to protect the laser for the case of appearance of a new signal. An alarm is provided in that case.

Another alarm is provided when current into the laser goes up to 150% of the initial value.

A digital interface, between digital inputs and laser driver circuit, controls the peak to peak voltage to the laser modulator input. So, variations can be accepted on the digital input levels.



MAIN FEATURES : APPLICATIONS

- SONET OC-12 / SDH STM 4 Equipment Interconnect and ATM applications
- Data link
- Fiber in the loop

SPECIFICATIONS

Operating Case Temperature: - 40°C to + 85°C

PARAMETERS	Min.	Typ.	Max.	UNITS
Wavelength	1260	1310	1340	nm
Spectral width (rms)		4	7	nm
Average optical power (*)	-12	- 10	- 8	dBm
Optical power stability (-40°C to +85°C)		± 1.5		dB
Extinction ratio	8	12	17	dB
Bit rate (2^{23} - 1 PRBS NRZ)	20		622	Mb/s
Data inputs	ECL 10K compatible			
Alarm on (Laser current limitation)	+4			V
Alarm off (Laser current limitation)			1	V
No input signal alarm on	+4			V
No input signal alarm off			1	V
Thermistor at +25°C		10		k Ω
Thermistor coefficient		4		% / °C
Positive supply voltage	+ 4.75	+ 5	+ 5.25	V
Positive supply current (**)	60		80	mA
Negative supply voltage	- 4.75	- 5	- 5.25	V
Negative supply current (**)	150		250	mA
DC power consumption(**)	1		1.7	W

(*) measured at point S in accordance with CCITT G. 957

(**) Depending on the case temperature

ABSOLUTE MAXIMUM RATINGS

PARAMETERS	Min.	Max.	UNITS
Positive supply voltage		+ 6	V
Negative supply voltage		- 6	V
Fiber bending radius		40	mm
Operating Case Temperature range	-40	+85	°C
Storage Temperature	-40	+85	°C

Information furnished is believed to be accurate and reliable. However THOMSON-CSF LASER DIODES assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. Specifications mentioned in this document are subjected to change without notice.

Copyright C 1997 THOMSON-CSF Laser Diodes

<http://www.laser-diodes.thomson-csf.com>.