



XS-T3100 series 10Gb/s 1550nm cooled EML TOSA

Description

Intexys Photonics offers a 10Gb/s Transmitter Optical Sub-Assembly (TOSA), integrating an electro-absorption modulated laser (EML) with monitoring photodiode and micro-cooler, for 10Gb/s XFP, X2, XPAK and XENPAK transceivers, 300pin transponders for WDM (IR2/LR2), TDM or 10GbE applications and OC192/STM-64 SONET/SDH Metro or Long Reach line cards.

The use of an EML enables to reach a much lower dispersion penalty compared to a direct modulated DFB and avoids the complexity of LiNbO₃ external modulators. The low form factor package is compliant with the XMD MSA standard.



Features

- Operating temperature range : -5 to +70°C
- Ultracompact package compliant with XMD MSA standard
- Data rates up to 10.7Gb/s
- **Up to 80km (1600ps/nm) at 10Gb/s available**
- Temperature stabilized through use of micro-TEC
- LC, SC receptacle or pigtailed versions
- Flex interconnection option available
- ITU-T DWDM C-band wavelengths 100GHz channel spacing
- Central wavelength range : 1528nm to 1564nm

Main Optical Characteristics



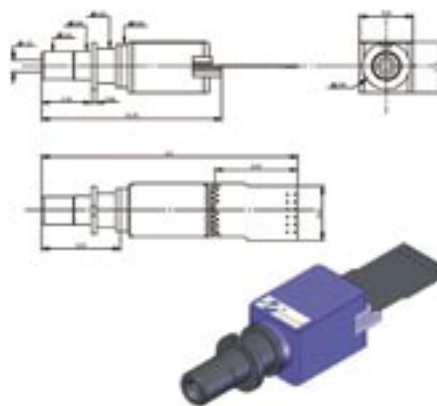
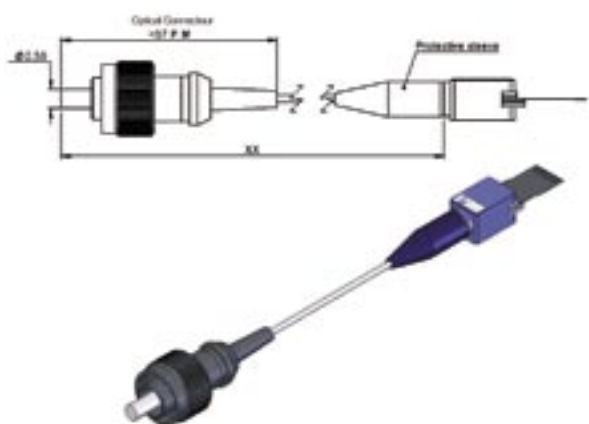
Parameters	Sym.	Test conditions	Min	Max	Unit
Operating case temperature	T _c		-5	+70	°C
Laser Threshold current	I _{th}	V _{BM} =0V	5	35	mA
Laser operating current	I _{op}	V _{BM} =0V (BOL)	50	100	mA
Modulator bias voltage	V _{BM}		-2	0	V
Modulator drive voltage	V _{pp}	Note 1		2	V _{pp}
Average optical output power	P _{AVG}	@I _{op} , DER, λ _c , notes 1 & 2	-1	+3	dBm
Center wavelength range	λ _c		1528	1564	nm
Laser chip temperature range for tunability	T _{wave}	Note 3	20	35	°C
Dynamic Extinction Ratio	DER	@I _{op} , Note 1, 2	10		dB
Dispersion Penalty	ΔS	DER, Note 1, 2		2	dB
Side Mode Suppression Ratio	SMSR	Note 1	35		dB
Monitor Diode Current	I _m	@I _{op} , V _b =-5V	20	1500	μA
Dark Current	I _d			0.1	μA
TEC Voltage	I _t	@V _{BM} min, ΔT=50°C, 1.2*I _{op} max (EOL)		2.4	V
TEC Current	V _t	@V _{BM} min, ΔT=50°C, 1.2*I _{op} max (EOL)		1.2	A
Thermistor Resistance	R _{TH}	T _s =25°C	9.5	10.5	KΩ
Thermistor β Coefficient	β	T _s =25°C	3800	4000	K

Note 1 : BER=10⁻¹⁰, 9.953 Gb/s, modulation, 231-1 PRBS, NRZ line code

Note 2 : 800 ps/nm minimum dispersion assuming fibre with an average dispersion of 17 ps/nm/km @ 1550 nm

Note 3 : For WDM application, T_{submount} = T_{wave}. T_{wave} is the chip temperature required to meet target wavelength

Mechanical dimensions



Pin number	Function
1	TEC Cathode
2	TEC Anode
3	Signal Ground
4	Modulator anode
5	Signal Ground
6	PD Anode
7	PD Cathode
8	Thermistor

(as defined in XMD MSA)



Intexys Photonics reserves the right to change specifications without prior notice

contact :

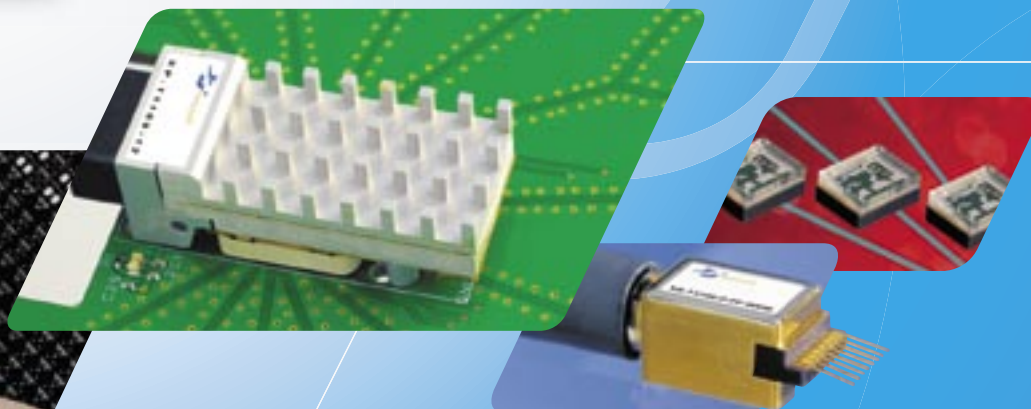
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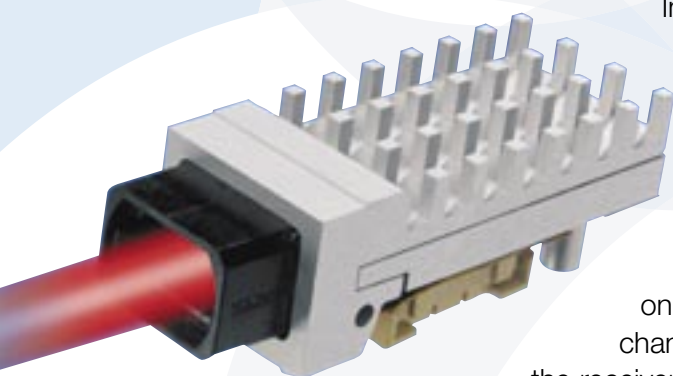
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XP-T1100-12 series 12 channel * 10Gb/s Pluggable Parallel Optical Transmitter

Description



Intexys Photonics' 12-channel pluggable fiber-optic transmitter module, operating up to 10Gb/s per channel provides high density, high data throughput and a cost effective solution for parallel optical data communication applications. Combining a 850nm VCSEL array, using Intexys proprietary flip chip technology with a 12-channel VCSEL driver, its form factor is compliant with the SNAP12 MSA. The on-board microcontroller allows to define settings for each channel independently. The transmitter module together with the receiver module (XP-R1100-12 series) is used as a complete link for high bandwidth datacom applications.

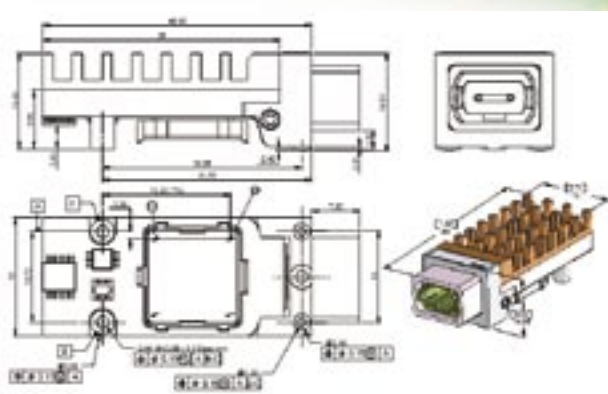
Features

- Aggregate data rate up to 120Gb/s
- Up to 10Gb/s per channel
- 12 independent channels
- On-board microcontroller allowing independent channel settings
- Differential CML input
- Standard MTP/MPO® fiber ribbon connector interface
- 100-pin MegArray® BGA pluggable connector
- SNAP12 form factor compliant
- Single 3.3V power supply dissipating 180mW per channel
- Central wavelength : 850nm
- High efficiency heatsink for thermal management
- EMI shield integrated

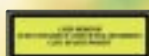
Parameters	Sym	Min	Typ	Max	Unit
Operating temperature	T _c	0		70	°C
Emission wavelength	λ _c	840	850	860	nm
RMS spectral width	λ _{RMS}		0,5		nm
Average output power	P _{avg}	-8	-4	-2	dBm
Relative intensity noise RIN12 (OMA) I _{dc} = 8 mA	RIN			-128	dB/Hz

Parameters	Sym	Min	Typ	Max	Unit
Data rate	D		10.3125	10.7	Gb/s
Rise time	t _r		40		ps
Fall time	t _f		40	50	ps
Extinction ratio (ER)	ER	4	5		dB
Jitter RMS	J _{rms}		3.75		ps
Jitter pp	Jpp		30	35	ps
10G Ethernet mask margin		5	10		%
Differential input (see note1)	Vdiff-pp	200	600	1200	mV
Common mode voltage	Vcm	2.6		Vcc	V
CMOS input voltage high	Vih	1.1		3.3	V
CMOS input voltage low	Vil	0		0.7	V
Supply voltage	Vcc	+3	3.3	+3.6	V
Supply current	Icc	5		770	mA
Power dissipation	Pd			2.8	W
Differential termination resistance	Rterm		100		Ω

Mechanical dimensions



Pinout as per SNAP12 MSA



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