10G EML BOX DWDM LD Transmitter Optical Subassembly (TOSA).



Description

This product is 10Gbps compact optical transmitter module with Electro-absorption Modulator integrated Laser (EML). This module is compliant with MSA standard. This EML-TOSA exhibits high dispersion tolerance and long distance transmission performance up to SMF 80km.

Features

- EML CHIP
- Data rate from 9.95 Gb/s to 11.3 Gb/s
- 50GHz ITU Grid, C Band
- DWDM Wavelength from 1526.83nm to 1567.13nm
- 8pin XMD BOX TOSA package with industry standard FPC and LC receptacle
- Transmission distance up to 40km & 80km
- 50 ohm input impedance match
- Integrated optical isolator,MPD,TEC and Thermistor
- RoHS compliant

Application

- SFP+
- XFP ER
- ZR

E/O Characteristics

All parameters are beginning of life (BOL) and over a TOSA case operating temperature range of 25°C, unless stated otherwise.

Parameter	Symbol	Unit	Conditions	Limits		
				Min	Typ	Max
Laser Threshold Current	Ith	mA	CW,Top	5	-	30
Laser Bias Current	Iop	mA	CW,Top	50	80	100
Forward Voltage	VF	V	Iop	-	1.5	2
Operating Temperature	Top	℃	-	40	45	60
Peak wavelength	λo	nm	Iop,Top	See ordering information		
Side mode suppression ratio	SMSR	dB	CW,Top,Iop	35	45	-
Modulated Output Power	Pmod (I)	dBm	Top,Iop,Vea	-1	1	4
	Pmod (L)			1	2	4
EAM Forward Voltage	Vea	V	-	-2	-0.8	-0.2
EAM Drive Voltage	Vpp	V	-	1.0	1.4	2.6
Peak Wavelength stability	-	pm	-	-	100	-
Wavelength stability over temperature	-	Ghz	-	-	2	3
RF Dynamic Extinction ratio	Er	dB	-	8.4	-	-
Optical isolation	Iso	dB	-	30	-	-
Imput Impedance	Zin	Ω	-	-	50	-
Monitor Dark Current	Id	nA	Vpd=-5V	-	-	100
Monitor Current	Im	uA	CW,Iop,Top	50	-	2000

Thermistor B Constant	B	K	-	3890.7	3930	3969.3
Resistance Value at 25℃	R25	Ω	25℃	9.9k	10k	10.1k
Thermoelectric Cooler Current	ITEC	A	-	-0.9	-	0.9
Thermoelectric Cooler Voltage	VTEC	V	-	-3.33	-	3.33
Thermistor Voltage	VTh	V	-	-	-	5
Thermistor Current	ITh	mA	-	-	-	2
Transmission penalty due to dispersion	Dp	dB	note	-	-	3

Note: 9.95Gbps, PRBS2^23-1,Iop,Vop,Dispersion=800ps/nm,Dispersion Penalty at BER=1.0E-12 .

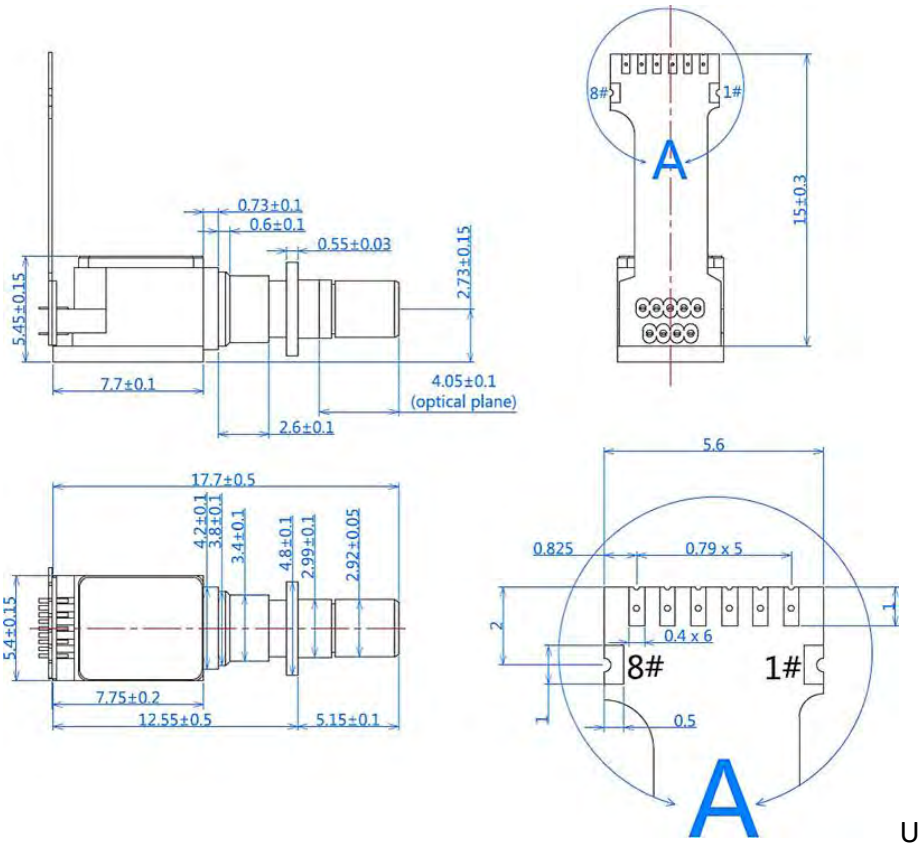
Absolute Maximun Ratings

Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. These are absolute stress ratings only. Functional operation of the device is not implied at these or any other conditions in excess of those given in the operational sections of the data sheet. Exposure to absolute maximum ratings will cause permanent damage and/or adversely affect device reliability.

Parameter	Conditions	Min	Max	Unit
Storage Temperature Range	—	–40	+85	°C
Storage and Operating Relative Humidity	—	0	95	%
TOSA Case Operating Temperature	—	-40	85	°C
Laser Reverse Voltage	—	—	2	V
Laser Forward Current	—	—	150	mA
TEC Voltage	—	-3.33	+3.33	V
TEC Current	—	-0.9	+0.9	A
Flex (FPC) Soldering Temperature (*)	10s max	—	300	℃

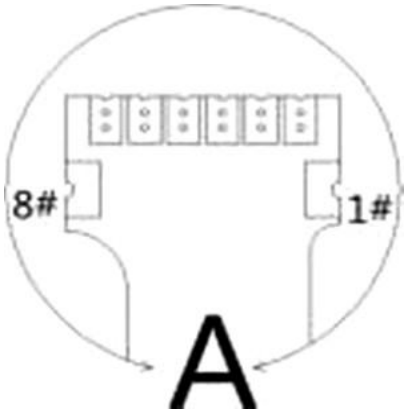
(*) Local heating only. Package body shall not exceed 85°C. Temperature excursion of 120°C for 60s is permissible

Package Size

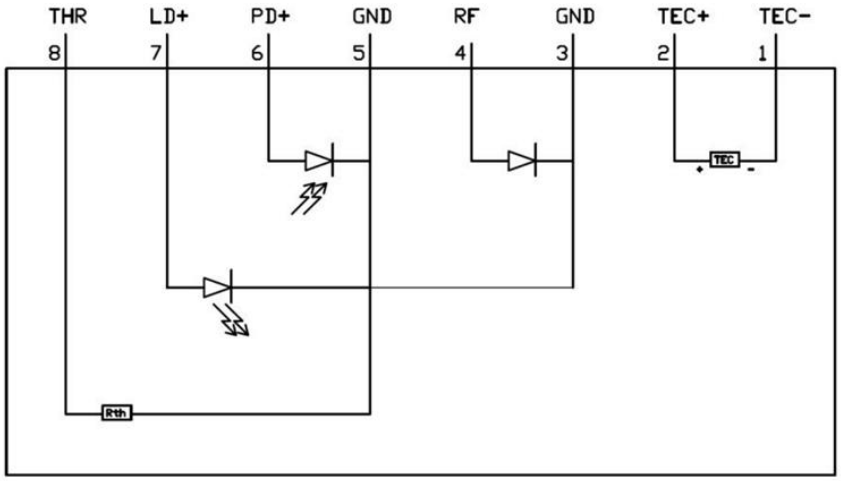


Unit (mm)

Pin definition



Pin	Description	Pin	Description
1	TEC-	5	GND
2	TEC+	6	PD+
3	GND	7	LD+
4	RF	8	THR



Ordering Info

Channel	Wavelength(nm)	Code	Channel	Wavelength(nm)	Code
A63	1527.22	LPEML210xx1-A63	B63	1526.83	LPEML210xx1-B63
A62	1527.99	LPEML210xx1-A62	B62	1527.6	LPEML210xx1-B62
A61	1528.77	LPEML210xx1-A61	B61	1528.38	LPEML210xx1-B61
A60	1529.55	LPEML210xx1-A60	B60	1529.16	LPEML210xx1-B60
A59	1530.33	LPEML210xx1-A59	B59	1529.94	LPEML210xx1-B59
A58	1531.12	LPEML210xx1-A58	B58	1530.72	LPEML210xx1-B58
A57	1531.9	LPEML210xx1-A57	B57	1531.51	LPEML210xx1-B57
A56	1532.68	LPEML210xx1-A56	B56	1532.29	LPEML210xx1-B56
A55	1533.47	LPEML210xx1-A55	B55	1533.07	LPEML210xx1-B55
A54	1534.25	LPEML210xx1-A54	B54	1533.86	LPEML210xx1-B54
A53	1535.04	LPEML210xx1-A53	B53	1534.64	LPEML210xx1-B53
A52	1535.82	LPEML210xx1-A52	B52	1535.43	LPEML210xx1-B52
A51	1536.61	LPEML210xx1-A51	B51	1536.22	LPEML210xx1-B51
A50	1537.4	LPEML210xx1-A50	B50	1537	LPEML210xx1-B50
A49	1538.19	LPEML210xx1-A49	B49	1537.79	LPEML210xx1-B49
A48	1538.98	LPEML210xx1-A48	B48	1538.58	LPEML210xx1-B48
A47	1539.77	LPEML210xx1-A47	B47	1539.37	LPEML210xx1-B47
A46	1540.56	LPEML210xx1-A46	B46	1540.16	LPEML210xx1-B46
A45	1541.35	LPEML210xx1-A45	B45	1540.95	LPEML210xx1-B45
A44	1542.14	LPEML210xx1-A44	B44	1541.75	LPEML210xx1-B44

A43	1542.94	LPEML210xx1-A43	B43	1542.54	LPEML210xx1-B43
A42	1543.73	LPEML210xx1-A42	B42	1543.33	LPEML210xx1-B42
A41	1544.53	LPEML210xx1-A41	B41	1544.13	LPEML210xx1-B41
A40	1545.32	LPEML210xx1-A40	B40	1544.92	LPEML210xx1-B40
A39	1546.12	LPEML210xx1-A39	B39	1545.72	LPEML210xx1-B39
A38	1546.92	LPEML210xx1-A38	B38	1546.52	LPEML210xx1-B38
A37	1547.72	LPEML210xx1-A37	B37	1547.32	LPEML210xx1-B37
A36	1548.51	LPEML210xx1-A36	B36	1548.11	LPEML210xx1-B36
A35	1549.32	LPEML210xx1-A35	B35	1548.91	LPEML210xx1-B35
A34	1550.12	LPEML210xx1-A34	B34	1549.72	LPEML210xx1-B34
A33	1550.92	LPEML210xx1-A33	B33	1550.52	LPEML210xx1-B33
A32	1551.72	LPEML210xx1-A32	B32	1551.32	LPEML210xx1-B32
A31	1552.52	LPEML210xx1-A31	B31	1552.12	LPEML210xx1-B31
A30	1553.33	LPEML210xx1-A30	B30	1552.93	LPEML210xx1-B30
A29	1554.13	LPEML210xx1-A29	B29	1553.73	LPEML210xx1-B29
A28	1554.94	LPEML210xx1-A28	B28	1554.54	LPEML210xx1-B28
A27	1555.75	LPEML210xx1-A27	B27	1555.34	LPEML210xx1-B27
A26	1556.55	LPEML210xx1-A26	B26	1556.15	LPEML210xx1-B26
A25	1557.36	LPEML210xx1-A25	B25	1556.96	LPEML210xx1-B25
A24	1558.17	LPEML210xx1-A24	B24	1557.77	LPEML210xx1-B24
A23	1558.98	LPEML210xx1-A23	B23	1558.58	LPEML210xx1-B23
A22	1559.79	LPEML210xx1-A22	B22	1559.39	LPEML210xx1-B22
A21	1560.61	LPEML210xx1-A21	B21	1560.2	LPEML210xx1-B21
A20	1561.42	LPEML210xx1-A20	B20	1561.01	LPEML210xx1-B20