

DESCRIPTION

The 1310nm DFB laser modules are intended for use in the transmission of broadband analog signals. Their high linearity makes them especially suitable for CATV broadcast and narrowcast applications. All critical components, including optical isolator, TEC, thermistor, laser, and monitor photodiode are hermetically sealed in a butterfly package.

FEATURES

- Directly Modulated DFB Lasers
- OC-48 Compatible Pinouts
- 59 Channel PAL Loading
- Internal TEC, Thermistor & Monitor PD
- 14 pin Butterfly Package
- Up to 14dBm Optical Power
- Telcordia qualified

APPLICATIONS

- 1310 broadcast and narrowcast applications
- CATV forward path
- RF over fiber

MODEL NUMBERS:

MODEL #s	ALM3P-N-X-Y
Output Power	N=08,10,14,16,18,20,22,24,26, <u>31 (mW)</u>
Distortion	X=1 -- CSO \leq -57dBc, CTB \leq -65dBc X=2 -- CSO \leq -60dBc, CTB \leq -65dBc
Fiber connector	Y=S -- SC/APC Y=F -- FC/APC

OPTICAL FIBER and PIN LEAD SPECIFICATIONS

- Type: SMF-28 fiber, flame retardant Hytrel coating, 0.9 mm diameter
- Length: 1-meter minimum
- Nominal Pin Lead Length: 5mm (from external package wall)

ELECTRO-OPTICAL CHARACTERISTICS

(T=25°C, unless otherwise specified)

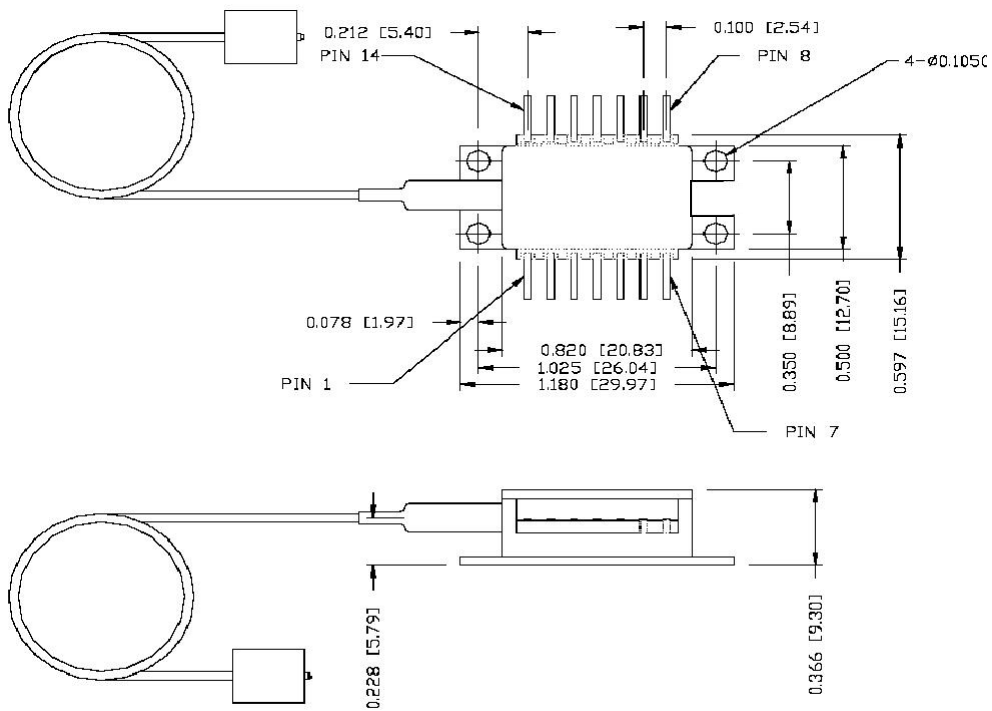
PARAMETER	SYMBOL	CONDITIONS	MIN	MAX	UNIT
Threshold Current	I_{TH}		--	20	mA
Operating Temperature	T_{OP}	$I_F = I_{OP}$	25		°C
Operating Current	I_{OP}		-	100	mA
Operating Voltage	V_{OP}		--	2.1	V
Operating Output Power	P_o	See Model #s	-	-	-
Monitor PD Responsivity	r_{MPD}	--	50	4000	μA
Dark Current	I_D	$I_{OP} = 0mA$	--	0.2	μA
Operating Wavelength	λ_{OP}	$I_F = I_{OP}, T = T_{OP}$	1301	1319	nm
Side Mode Suppression	SMSR	$I_F = I_{OP}$	35	--	dB
Optical Isolation	ISO		30	--	dB
Optical Return Loss	ORL		40	--	dB
Nominal Input Impedance	Z_{IN}	--	25 typical		Ohms
Bandwidth			1.1		GHz
TECCaseTempRange	T_C		-40	70	°C
TEC Current	I_{TEC}	$-40 < T_C < 70^\circ C, I_f = 100 mA$	-1.0	1.6	Amp
Thermistor Resistance	R_{TH}		9.5	10.5	$k\Omega$
TE Cooler Voltage	V_{TH}	$T_{op} = 25^\circ C \text{ over } T_c$	-2.5	3.8	V
Composite 2 nd Order	CSO	See Note (1) Below and Model #s	--	--	dBc
Composite Triple Beat	CTB		--	--	dBc
Carrier to Noise Ratio	C/N		51	--	dB
Relative Intensity Noise	RIN		--	-155	dB/Hz

Note (1) Test conditions: P_o at rated power, T=25°C, 59unmodulated carriers, PAL, -1 dBm received power, 10 km fiber

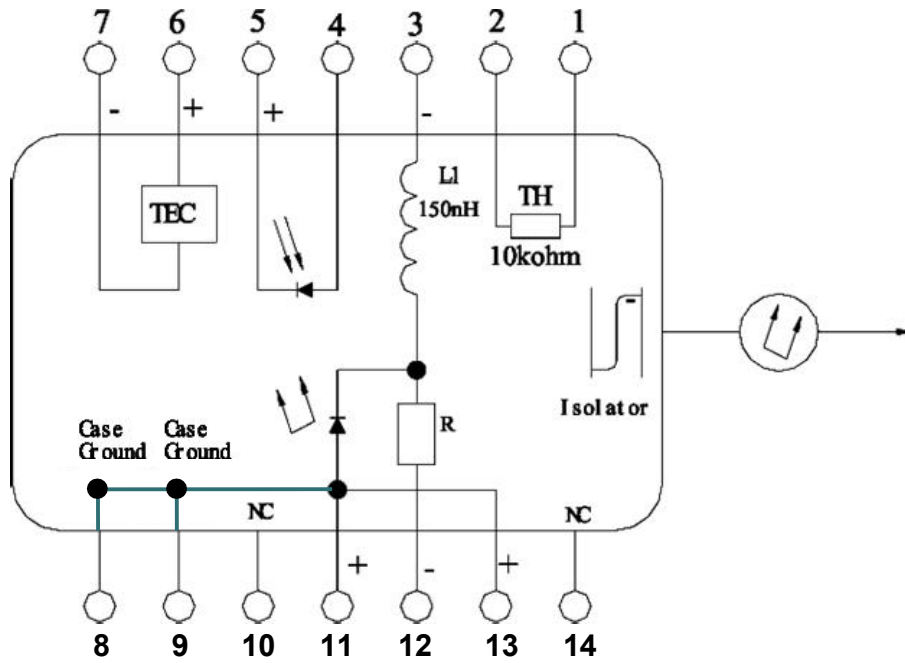
MAXIMUM RATINGS (T=25°C, unless otherwise specified)

PARAMETER	CONDITION	LIMIT
Storage Temperature	continuous	-40 to +85°C
Monitor Photodiode Reverse Voltage	60 seconds	15 V
	continuous	10 V
Forward DC Laser Current	continuous	150 mA
Reverse DC Laser Voltage	continuous	1 V
TE Cooler current	continuous	-1.9A to 1.9 A

MECHANICAL DRAWINGS



Unit : Inch [mm]



PIN ASSIGNMENTS			
Pin #	Function	Pin #	Function
1	Thermistor	8	Case Ground
2	Thermistor	9	Case Ground
3	DC Laser Bias (-)	10	NC
4	MPD	11	Laser Common (+)/GND
5	MPD Cathode	12	Laser Modulation (-)
6	TEC (+)	13	Laser Common (+)/GND
7	TEC (-)	14	NC