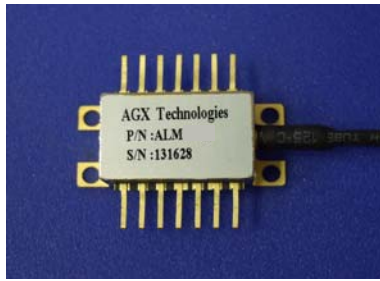


DESCRIPTION



The ALM5Q series of 1550nm 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
- High linearity, low residual chirp
- Internal TEC, Thermistor & Monitor PD
- 14 pin Butterfly Package
- Up to 10 mW Optical Power
- Wavelengths available on ITU Grid

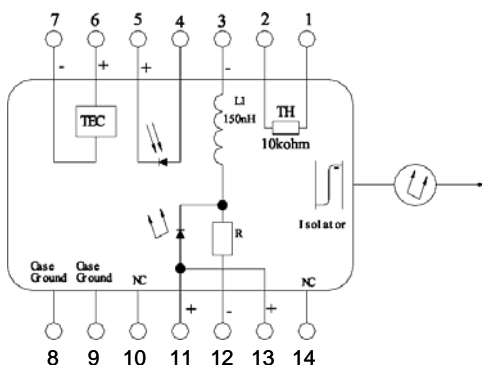
APPLICATIONS

- 1550 broadcast and narrowcast applications
- High power, DWDM CATV forward path Quadrature Amplitude Modulation (QAM) transmission and RF over fiber

MECHANICAL SPECIFICATION

(in mm unless otherwise noted)

- Type: SMF-28 fiber, flame retardant Hytel coating, 0.9 mm diameter, 1-meter long, SC/APC connector standard. Please call if special connectors are needed
- Nominal Pin Lead Length: 5mm (from external package wall)



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 (+)
5	MPD Cathode (-)	12	Laser Modulation (-)
6	TEC (+)	13	Laser Common (+)
7	TEC (-)	14	NC

ELECTRO-OPTICAL CHARACTERISTICS					
PARAMETER	SYMBOL	CONDITIONS	MIN	MAX	UNIT
Threshold Current	I_{th}	25°C	--	35	mA
Operating Chip Temperature	T_{op}	$I_F = I_{op}$	15	35	°C
Operating Current	I_{op}	$T = T_{op}$	-	100	mA
Operating Voltage	V_{op}	$T = T_{op}$	--	2.1	V
Operating Output Power	P_o	ZZ=08 ZZ=10 ZZ=11	8 10 11		dBm
Monitor PD Responsivity	r_{MPD}	--	10	200	$\mu A/mW$
Dark Current	I_D	$I_{OP} = 0mA$	--	0.2	μA
Operating Wavelength	λ_{OP}	$I_F = I_{OP}, T = T_{OP}$	1529	1561	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
TEC Case Temp Range	T_C	-	-20	65	°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 Ω
TE Cooler Voltage	V_{TH}	Top=15-35 °C over Tc	-2.5	3.8	V
Carrier to Noise Ratio	CNR	Note ^(1,2)	51		dB
Composite Second Order	CSO	Note ⁽¹⁾ Note ⁽²⁾	--	-50 -52	dBc
Composite Triple Beat	CTB	Note ^(1,2)	--	-65	dBc
Relative Intensity Noise	RIN	-	--	-155	dB/Hz

(1) Test conditions: P_o at rated power, $T=25^\circ C$, 79 channel loading, 10 km fiber, 0 dBm received power (tentative)

(2) Test conditions: P_o at rated power, $T=25^\circ C$, 79 channel loading, 5 km fiber, 0 dBm received power (tentative)

MAXIMUM RATINGS – 35°C					
PARAMETER	SYMBOL	CONDITIONS	MIN	MAX	UNIT
Storage Temperature	-	Continuous	-40	85	°C
Photodiode reverse voltage	-	60 seconds	-	15	V
	-	Continuous	-	10	
Forward DC laser current	-	Continuous	-	150	mA
Reverse DC laser voltage	-	Continuous	-	1	V
TE Cooler current	-	Continuous	-1.9	1.9	A

Ordering Information

Note: not all wavelengths are available yet. Please check with your sales associate for more information.

<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Power 8 dBm XX=08 10 dBm XX=10 11 dBm XX=11 </div>			ALM5Q – XX – ZZ		
λ (nm)	Frequency	ITU Channel	λ (nm)	Frequency	ITU Channel
1567.95	191.2	12	1548.51	193.6	36
1567.13	191.3	13	1547.72	193.7	37
1566.31	191.4	14	1546.92	193.8	38
1565.50	191.5	15	1546.12	193.9	39
1564.68	191.6	16	1545.32	194.0	40
1563.86	191.7	17	1544.53	194.1	41
1563.05	191.8	18	1543.73	194.2	42
1562.23	191.9	19	1542.94	194.3	43
1561.42	192.0	20	1542.14	194.4	44
1560.61	192.1	21	1541.35	194.5	45
1559.79	192.2	22	1540.56	194.6	46
1558.98	192.3	23	1539.77	194.7	47
1558.17	192.4	24	1538.98	194.8	48
1557.36	192.5	25	1538.19	194.9	49
1556.55	192.6	26	1537.40	195.0	50
1555.75	192.7	27	1536.61	195.1	51
1554.94	192.8	28	1535.82	195.2	52
1554.13	192.9	29	1535.04	195.3	53
1553.33	193.0	30	1534.25	195.4	54
1552.52	193.1	31	1533.47	195.5	55
1551.72	193.2	32	1532.68	195.6	56
1550.92	193.3	33	1531.90	195.7	57
1550.12	193.4	34	1531.12	195.8	58
1549.32	193.5	35	1530.33	195.9	59

Table 1