AC6700 FIBRE OPTIC TRANSMITTERS

AC6741…AC6762 products are CWDM DFB laser transmitter modules for the return path applications of AC node. AC6740 is a FP laser transmitter module. DFB lasers are available in two optical output power categories.

AC67 module

AC67B module

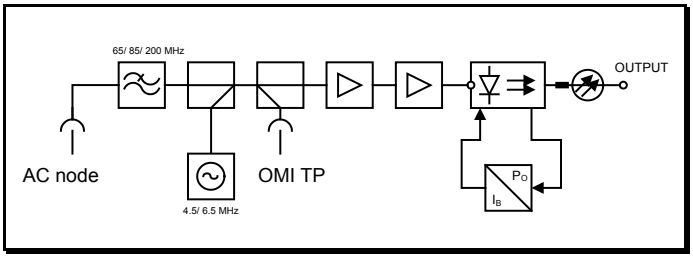
Features

- Two optical output power classes: standard and high
- Pilot generator for OMI reference
- OMI test point
- Temperature compensated and calibrated OMI
- Available also with integrated fibre organiser (AC67B)

Management features

- Laser bias current monitoring
- Pilot signal on/off selection
- Pilot frequency selection
- Frequency pass band selection
- Module identification

Block Diagram



Technical specifications

Parameter		Specification	Note
Light source		FP or DFB laser	1)
Centre wavelength			
	FP or DFB	1310 nm	2)
	DFB	1430 nm	3)
	DFB	1450 nm	3)
	DFB	1470 nm	3)
	DFB	1490 nm	3)
	DFB	1510 nm	3)
	DFB	1530 nm	3)
	DFB	1550 nm	3)
	DFB	1570 nm	3)
	DFB	1590 nm	3)
	DFB	1610 nm	3)
Wavelength temperature coefficient		0.1 nm/°C	4)
Spectral width			
	FP	2 nm	5)
	DFB	0.3 nm	6)
Output power			7)
	FP	+1 dBm	
	DFB	+3 dBm or +6 dBm	
Frequency range		5...65 or ..85 or ..204 MHz	8)
Input return loss		20 dB	
Flatness		±0.5 dB	9)
OMI test point		See note	10)
Input level			11)
	AC8700	57 dBµV	
	AC8800	62 dBµV	
	AC9000	57 dBµV	
Pilot frequency		5.5 or 6.5 MHz or no pilot	12)
Pilot OMI		4 %	
Relative intensity noise			13)
	FP	-130 dBc/Hz	
	DFB	-145 dBc/Hz	
3rd order distortion		60 dB	14)
2nd order distortion		55 dB	14)

General

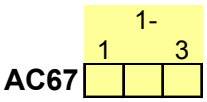
Supply voltage	12 V / 115 mA	
Power consumption	1.5 W	
EMC compatibility	EN 50083-2	
Operating temperature range	-40...+55 °C	15)
Storage temperature range	-30...+70 °C	
Dimensions	75 x 62 x 18 mm	
Weight	90 g	
Output connector	See note	16)

Notes

1) FP is an uncooled laser without an optical isolator. DFB is an uncooled laser with an optical isolator.
2) Typical peak wavelength at 25°C. The centre wavelength variation is ±20 nm at 25°C.
3) Typical peak wavelength at 25°C. The centre wavelength variation is ±3 nm at 25°C.
4) Typical value. The maximum value is 0.12 nm/°C.
5) Full width at half maximum.
6) -20 dB spectral width when the laser is unmodulated. The modulated spectral width will be slightly wider.
7) Output power tolerance is ±1 dB.
8) Factory setting is 65 MHz. The frequency band can be changed by a user. +6 dBm models do not support 5…204 MHz frequency range.
9) Maximum value.
10) The test point is located at the motherboard of AC node.
11) Required input level of AC node for getting 4 % OMI. The input level of the module is 74.5 dBµV for 4 % OMI.
12) Factory setting is 5.5 MHz. The frequency and pilot on/off settings can be changed by a user. In the module version D.1.2 or earlier the frequencies are 4.5 and 6.5 MHz. 5.5/ 6.5 MHz version available from August 2012.
13) This is a typical value and the value can be used for C/N calculations.
14) Typical distortion distance for two carriers between 5 and 65 MHz at 10% OMI.
15) Ambient temperature of AC node. Mismatching can cause a permanent damage.
16) The connector is specified by a customer. Available connector types are: SC/APC, FC/APC or E-2000.

Ordering information

AC67 configuration map



1-1 Module type	
40	+1 dBm FP 1310 nm (AC6740)
41	+3 dBm CWDM 1430 nm (AC6741)
42	+6 dBm CWDM 1430 nm (AC6742)
43	+3 dBm CWDM 1450 nm (AC6743)
44	+6 dBm CWDM 1450 nm (AC6744)
45	+3 dBm DFB 1310 nm (AC674
46	+6 dBm DFB 1310 nm (AC674
47	+3 dBm CWDM 1470 nm (AC6747)
48	+6 dBm CWDM 1470 nm (AC6748)
49	+3 dBm CWDM 1490 nm (AC6749)
50	+6 dBm CWDM 1490 nm (AC6750)
51	+3 dBm CWDM 1510 nm (AC6751)
52	+6 dBm CWDM 1510 nm (AC6752)
53	+3 dBm CWDM 1530 nm (AC6753)
54	+6 dBm CWDM 1530 nm (AC6754)
55	+3 dBm CWDM 1550 nm (AC6755)
56	+6 dBm CWDM 1550 nm (AC6756)
57	+3 dBm CWDM 1570 nm (AC6757)
58	+6 dBm CWDM 1570 nm (AC6758)
59	+3 dBm CWDM 1590 nm (AC6759)
60	+6 dBm CWDM 1590 nm (AC6760)
61	+3 dBm CWDM 1610 nm (AC6761)
62	+6 dBm CWDM 1610 nm (AC6762)
1-3 Optical connector	
A	SC/APC, 9 deg.
B	FC/APC, 8 deg.
C	E-2000
D	SC/APC, 8 deg.

DOC0017006, Rev0(

AC67B configuration map