

Product Specification

R9100DJ Counter Propagating RAMAN 700mW, 2-Pumps

Finisar PN: FOA-R9100DJ-RBW2C-CY007

Generic PN: 280-0490

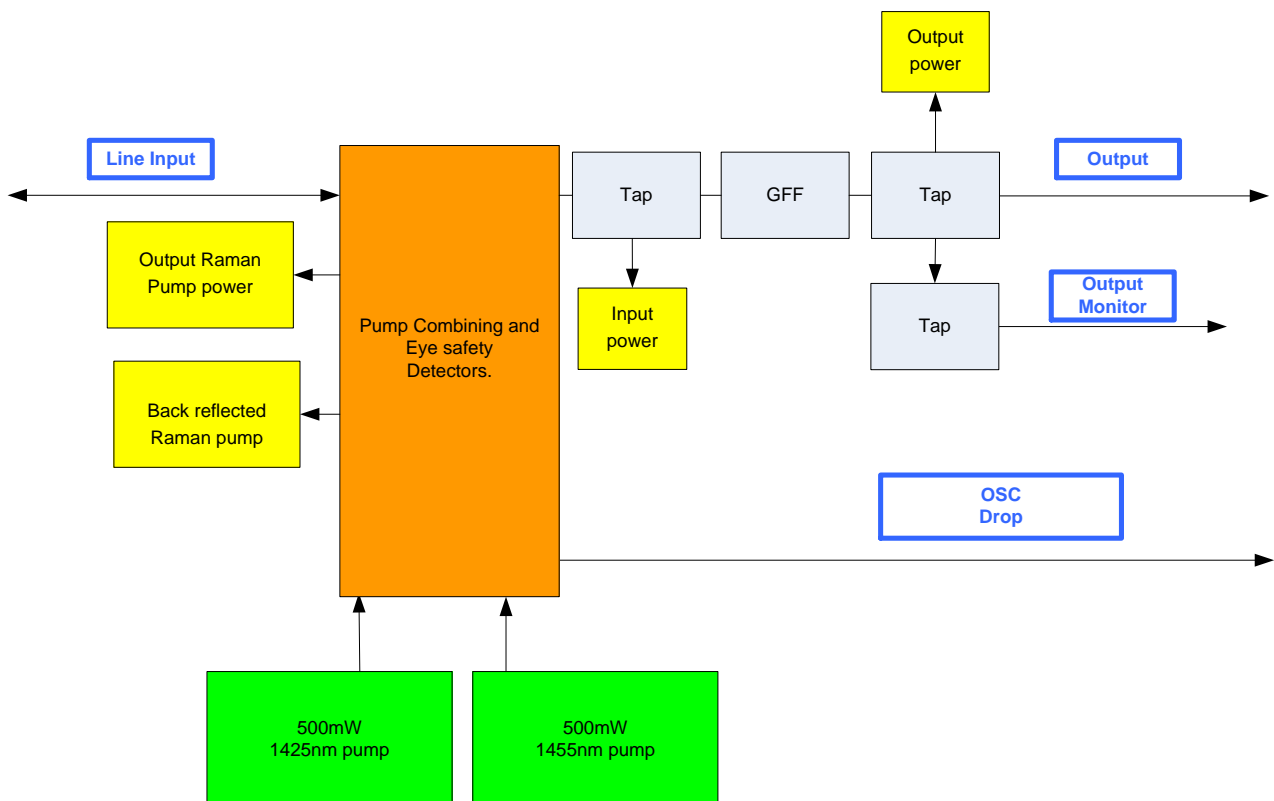
Revision: 1

Date: 15-Sep-13

Customer: Generic

Revision changes: Mechanical drawing

Block Diagram



Specifications

Item	Parameters	Min	Typ	Max	Unit	Notes
1	Number of Pump Lasers	2				Pumps wavelengths: 1425nm, 1455nm
2	1455nm pump power	500			mW	
3	1425nm pump power	500			mW	
4	Composite power into the line		680	750	mW	EOL current value
5	Pump wavelength accuracy			1	nm	
6	Wavelength range	1529		1567.2	nm	
7	Total Input Power (with fast transient suppression)	-48.0		+10	dBm	Minimum power when Raman is OFF. Maximum power when Raman is ON.
8	Input power accuracy for input >-45dBm			0.5	dB	
9	Input power accuracy for input >-48dBm			0.7	dB	
10	Output power Monitoring	-28		+10	dBm	When Raman pumps are operative and value includes ASE created along the transmission line.
11	Gain flatness, PTP			1	dB	For gain ranges: optimal gain down to optimal gain-3dB.
12	Gain measurement accuracy			+/- 0.7	dB	Gain accuracy is not dependent on fiber loss and fiber type.
13	Input Loss threshold			-48	dBm	Does not turn ON if input < -48dBm.
14	Supervisory channel Band	1500		1520	nm	
15	Residue of Supervisory band in transmission Band related to its input power to unit.			-16	dB	
16	Residue of C Band channels in the 1500-1520nm band relative to input power in C band.			-30	dB	
17	OSC modulation rate	55		155	Mbits /sec	Ethernet or SDH/Sonet. Possibility also for lower bit rate and other protocols.
18	OSC Modulation Detection Range	-34		-5	dBm	Raman pumps ON.
19	OSC power reading accuracy			0.6	dB	

Item	Parameters	Min	Typ	Max	Unit	Notes
20	OSC non modulated detection range	-42		-3	dBm	At -42dBm, unit turns ON for 100msec. If modulated OSC is detected after this period unit remains on.
21	Optimal On/OFF gain for C band channels for G.652 Fiber loss = 0.21dB/Km		14.4		dB	
22	Optimal ON/OFF gain for OSC (1500-1520nm) for G.652 Fiber loss = 0.21dB/Km	9		13.5	dB	
23	NF for G.652	-1.5		-0.6	dB	For 1529nm NF is -0.6dB and for 1565nm NF is -1.7dB
24	Optimal Net gain for LEAF for C band channels (after GFF) Fiber loss = 0.21dB/Km			15.8	dB	
25	Optimal Net gain for LEAF for OSC (1500nm-1520nm) Fiber loss = 0.21dB/Km	10.5		14.6	dB	
26	NF for LEAF	-2.4		-1.5	dB	For 1529nm NF is -1.5dB and for 1565nm NF is -2.4dB
27	Insertion loss C band (Input Line port to Output port)			2.5	dB	@1541nm
28	Insertion loss OSC (IN LINE port to OSC DROP port)			4.5	dB	@1510nm
29	Tilt	-1		+1	dB	
30	Optical Return Loss (at any port, pump off)	45			dB	
31	Polarization dependent loss (Raman off)			0.2	dB	
32	Polarization dependent gain (PDL)			0.3	dB	
33	Polarization Mode Dispersion			0.2	ps	
34	Maximum output power of pump at input loss			-42	dBm	Pumps are shut down in this case.
35	Output Monitor Ratio	-19	-20	-22	(dB)	
36	Accuracy of detectors			0.5	dB	Unless otherwise specified in spec
37	Power Consumption			32	W	

Item	Parameters	Min	Typ	Max	Unit	Notes
38	Modes of operation					Max Power AGC Manual
39	Eye safety					Class 1M
40	Shut down in case of fiber cut			160	msec	
41	Warm start turn ON		1	2	sec	

Optical Ports

The Raman module is equipped with four optical ports as described in the following drawing and table:

Port	Description	Adaptor Type	Pigtail length
Line Input	Through this port Raman pump is sent to transmission line	LC	TBD
Output	Through this port amplified signal exits	LC	TBD
Output Monitor	1% Output tap at Output	LC	TBD
OSC Drop	Through this port the OSC is dropped from transmission line	LC	TBD

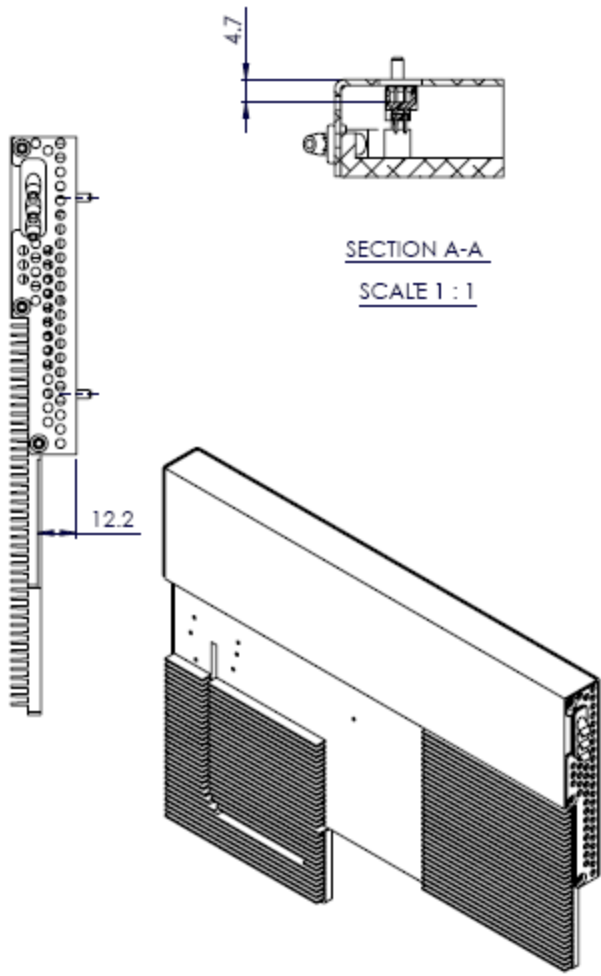
Connector Pinout

Connector type: SAMTEC: ZLTMM- 125-XX-L- D – XXX

Pin no.	Function	Description	Pin no.	Function	Description
1	+ 5.0 V	Power Supply	2	+ 5.0 V	Power Supply
3	+ 5.0 V	Power Supply	4	+ 5.0 V	Power Supply
5	+ 5.0 V	Power Supply	6	+ 5.0 V	Power Supply
7	Ground		8	Ground	
9	Ground		10	Ground	
11	N/C		12	N/C	
13	Ground		14	RESET Input	LVTTL Input, Active Low, P.U 10K
15	1 RS-232 Input, Rx	LVTTL Level 4.75K P.U	16	1 RS-232 Output, Tx	LVTTL Level Output, 4.75K P.U
17	Pumps Current alarm	LVTTL Output, Active High	18	Loss of input signal (Raman Off) Alarm	LVTTL Output, Active High
19	N/C (to be used by Generic)		20	N/C (to be used by Generic)	
21	N/C		22	N/C	
23	N/C		24	N/C	
25	Ground		26	N/C	

Pin no.	Function	Description	Pin no.	Function	Description
27	N/C	Not use	28	N/C	Not use
29	Modulated OSC loss when pumps are ON OR CW OSC band loss when pumps are off.	LVTTL Output, Active High	30	High pump back reflection alarm	LVTTL Output, Active High
31	Ground		32	Ground	
33	Case Temperature Alarm	LVTTL Output, Active High	34	Raman gain not locked Alarm (AGC only)	LVTTL Output, Active High
35	Pumps Temperature Alarm	LVTTL Output, Active High	36	Valid/ Absent module alarm	LVTTL Output 0 = Valid, 1 = Absent,
37	Shutdown Input	LVTTL Input, Active High 10K P.U	38	N/C	Not use
39	N/C	Not use	40	N/C	Not use
41	Ground		42	Ground	
43	Ground		44	Ground	
45	+ 5.0 V		46	+ 5.0 V	
47	+ 5.0 V		48	+ 5.0 V	
49	+ 5.0 V		50	+ 5.0 V	

1. PIN 14: When reset LOW Pumps off & Att` in max
2. PIN 37: Pumps Disable & Att` in max
3. PIN 17: When one of pumps reaches 0.98 * EOL current
4. PIN 33: Case temperature reached 80C
5. PIN 35: when one of the pumps surpassed designated temperature by more than 5C.
6. PINS 19 and 20: For Generic use. Not connected to amp.



Ordering Information:



800 Village Walk #316
Guilford, CT 06437
Ph: 203-401-8093

Email orders to: sales@xsoptix.com

Fax orders to: 800-878-7282