Optical Amplifiers Selection Guide

Finisar offers a wide selection of optical amplifiers, ranging in optical and electrical specification parameters, and in a variety of form factors and communications interfaces.

This selection guide seeks to help end-users to identify the amplifier(s) that best suit their application needs by providing an “at a glance” comparison of the specification parameters.

The part numbers referenced in the following tables represent a small portion of the full capabilities and offerings of our optical amplifier families. These tables include only the products that are available for purchase by any customer. Customized solutions for special applications are available upon

II. Ultraspan® EDFAs

Finisar's UltraSpan® family of optical amplifiers offers the power of optical amplification in a user-friendly, network-interfaced, rack-mountable platform. They are ideal for field deployment and integration in new or existing network elements. Ultraspan amplifiers can provide stand-alone amplification or work in conjunction with existing systems, complementing or enhancing their performance capabilities.

1RU EDFA Platform

Parameter	P/N➔	FOA-M2200PB-EFG1C-AA015		FOA-R2100PB-EPB2C-AA010		FOA-M2000PB-EFG2C-AA066		FOA-M2000PB-EFG2C-AA067		FOA-M2000PB-EFG1C-AA069		FOA-M1000PB-EFG2C-AA028			
	Unit	Specification		Specification		Specification		Specification		Specification		Booster Specification		Preamp Specification	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Form Factor	mm	1RU Rack Mount		1RU Rack Mount		1RU Rack Mount		1RU Rack Mount		1RU Rack Mount		1RU Rack Mount			
		442x240x43.6		442x240x43.6		442x240x43.6		442x240x43.6		442x240x43.6		442x240x43.6			
Amplifier Type	-	WDM FGA		WDM FGA PowerBooster with OSC EDFA		Dual WDM FGA EDFAs		WDM FGA EDFA		WDM FGA		Dual EDFAs with integrated DCM optimized for ITU 28			
Operating Wavelength Range	nm	1529.1	1564.2	1529.1	1530	1528.77	1564	1528.77	1564	1529.1	1564.2	1554.94 (ITU-T 28)			
Input Power Range	dBm	-15	12	-5	-35	-35	-3	-35	3	-15	12	-26	11	-45	-15
Output Power Range	dBm	-2	18	5	-8	-8	20	-8	20	-2	18	-2	22	-20	0
Saturated Output Power	dBm	17		25.5		20		20		17		20.8			
Settable Gain Range	dB	5	18	5.5	6.5	11	24	11	24	5	18	10	25	5	25
Optimal Flat Gain	dB	17		6		23		23		17		20		20	
Gain/Power Setting Accuracy	dB	-0.5	0.5			-0.25	0.25	-0.25	0.25	-0.5	0.5	-0.25	0.25	-0.25	0.25
Gain Flatness vs. Wavelength	dB		±0.6				±0.6		±0.6		±0.6	N/A			
Dynamic gain tilt	dB/dB		0.85	N/A			0.9		0.9		0.85	N/A			
Gain / Power Stability	dB		±0.1		±0.1		±0.1		±0.1		±0.1		±0.1		±0.1
Noise Figure (at OFG or equivalent)	dB		6.5				6		6		6.5		7		5
Return loss	dB	40		40		40		40		40		40		40	
PDG	dB		0.3		0.3		0.3		0.3		0.3		0.3		0.3
PMD	ps		0.3		0.3		0.3		0.3		0.3		0.3		0.3
Multi-Path Interference	dB		-40		-40		-40		-40		-40		-40		-40
Laser Safety Classification	-	Class 1M		Class 1M with APR		Class 1M		Class 1M		Class 1M		Class 1M			
Optical Connectors	-	2: In, Out		3: In, Out, Monitor Out		4: In1, Out1, In2, Out2		2: In, Out		2: In, Out		6: In1, Out1, In2, Out2, DCM IN, DCM OUT			
Operating Modes	-	AGC, APC, Manual		APC, Manual		AGC, APC, Manual		AGC, APC, Manual		AGC, APC, Manual		AGC, APC, Manual			
Power Supply Voltage	V	110 (AC)	240 (AC)	-76 (DC)	-36 (DC)	-76 (DC)	-36 (DC)	110(AC)	240(AC)	-76 (DC)	-36 (DC)	-76 (DC)	-36 (DC)		
Power Consumption	W		40						40		40		50		
Operating Case Temperature	℃	-5	55	-5	55	-5	55	-5	55	-5	55	-5	55		
Interface	-	Ethernet and		Ethernet and		Ethernet and		Ethernet and		Ethernet and		Ethernet and			
		RS-2132		RS-2132		RS-2132		RS-2132		RS-2132		RS-2132			
Communications Protocol	-	SNMP v2 or web-based GUI		SNMP v2 or web-based GUI		SNMP v2 or web-based GUI		SNMP v2 or web-based GUI		SNMP v2 or web-based GUI		SNMP v2 or web-based GUI			
Ethernet cable P/N	-	18-10-0138R		18-10-0138R		18-10-0138R		18-10-0138R		18-10-0138R		18-10-0138R			
Power Cable P/N	-	1133098 (US AC)		18-10-0089R		18-10-0089R		18-10-0089R		18-10-0089R		18-10-0089R			
		1133099 (EU AC)													
19" Brackets Kit P/N	-	50-60-0102-01R		50-60-0102-01R		50-60-0102-01R		50-60-0102-01R		50-60-0102-01R		50-60-0102-01R			
21" Brackets Kit P/N	-	50-60-0103-01R		50-60-0103-01R		50-60-0103-01R		50-60-0103-01R		50-60-0103-01R		50-60-0103-01R			
23" Brackets Kit P/N	-	50-60-0104-01R		50-60-0104-01R		50-60-0104-01R		50-60-0104-01R		50-60-0104-01R		50-60-0104-01R			
ETSI Brackets Kit P/N	-	50-60-0105-01R		50-60-0105-01R		50-60-0105-01R		50-60-0105-01R		50-60-0105-01R		50-60-0105-01R			

III. Ultraspan Raman and ROPA

Finisar's Ultraspan® family of Raman and ROPA optical amplifiers offer the power of optical amplification in a user-friendly, network-interfaced, rack-mountable platform ideal for field deployment and integration in new or existing network elements. Ultraspan amplifiers can provide stand-alone amplification or work in conjunction with existing systems, complementing or enhancing their performance capabilities.

1RU Raman / ROPA Platform

Parameter	P/N➔	FOA-R9100PR-RBW2C-AA003		FOA-R9100PR-RBW3C-AA004		FOA-R9200PR-RFW3C-AA037	
	Unit	Specification		Specification		Specification	
		Min	Max	Min	Max	Min	Max
Form Factor	mm	1RU Rack Mount		1RU Rack Mount		1RU Rack Mount	
		442x240x43.6		442x240x43.6		442x240x43.6	
Amplifier Type	-	Counter-Propagating Raman Amplifier		Counter-Propagating Raman Amplifier		Co-Propagating Raman Amplifier	
Operating Wavelength Range	nm	1528	1567	1529	1564	1529.2	1564.2
Total Pump Power	mW	450	490	680	710	680	710
Input Signal Power Range (pumps off)	dBm	-45	-10	-44	5	-10	26
Signal Insertion Loss	dB		1.6		1.8		1.8
Nominal Gain for G.652	dB		10		14.5		9
Nominal Gain for Leaf	dB		13		17.5		10
Nominal Gain for TrueWave	dB		15		20		11.5
Nominal Gain for TeraLight	dB		14		19		N/A
Spectral Gain Flatness	dB		1		1.2		1.2
Effective Noise Figure	dB		-1		-0.5		N/A
OSC Wavelength Range	nm	1500	1520	1500	1520	1500	1520
Raman Gain at OSC Wavelength	dB	5		10		6	
OSC Insertion Loss	dB		2.5		1.8		1.8
Return loss	dB	40		40		40	
PDL	dB		0.15		0.15		0.15
PDG	dB		0.6		0.2		0.2
PMD	ps		0.2		0.2		0.2
RIN (any pump)	dB/Hz		-110		-110		-115
Laser Safety Classification	-	Class 1M		Class 1M with APR		Class 1M with APR	
Optical Connectors	-	4: In, Out, Monitor in, Monitor Out		3: In, Out, Monitor Out		3: In, Out, Input Monitor	
Operating Modes	-	AGC, Manual		AGC, Manual		AGC, Manual	
Power Supply Voltage	V	-76 (DC)	-36 (DC)	-76 (DC)	-36 (DC)	-76 (DC)	-36 (DC)
Power Consumption	W		55		55		55
Operating Case Temperature	°C	-5	55	-5	55	-5	55
Interface	-	Ethernet and		Ethernet and		Ethernet and	
		RS-2132		RS-2132		RS-2132	
Communications Protocol	-	SNMP v2 or web-based GUI		SNMP v2 or web-based GUI		SNMP v2 or web-based GUI	
Ethernet cable P/N	-	18-10-0138R		18-10-0138R		18-10-0138R	
Power Cable P/N	-	18-10-0048R		18-10-0048R		18-10-0089R	
19" Brackets Kit P/N	-	50-60-0102-01R		50-60-0102-01R		50-60-0102-01R	
21" Brackets Kit P/N	-	50-60-0103-01R		50-60-0103-01R		50-60-0103-01R	
23" Brackets Kit P/N	-	50-60-0104-01R		50-60-0104-01R		50-60-0104-01R	
ETSI Brackets Kit P/N	-	50-60-0105-01R		50-60-0105-01R		50-60-0105-01R	

IV. Ultraspan for the lab

Finisar's Ultraspan® family optical amplifiers for laboratory and production environments offer the power of optical amplification in a user-friendly, network-interfaced, rack-mountable platform ideal for laboratory or production line use. Ultraspan amplifiers can be integrated via LAN interface with other network components or test equipment in the measurement set-up.

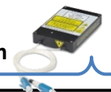
Lab Ultraspan

Parameter	P/N➔	FOA-M2200TM-EFG1C-AA060		FOA-M2200TM-EFG2C-AA061		FOA-M7100TM-EFG2C-AA027		FOA-S2000TM-ASE3C-AA062	
	Unit	Specification		Specification		Specification		Specification	
		Min	Max	Min	Max	Min	Max	Min	Max
Form Factor	mm	1RU Rack Mount 442x240x43.6		1RU Rack Mount 442x240x43.6		1RU Rack Mount 442x240x43.6		1RU Rack Mount 442x240x43.6	
Amplifier Type	-	WDM FGA		Dual WDM FGA EDFAs		WDM VGA EDFA		High-Power ASE Source	
Operating Wavelength Range	nm	1529.1	1564.2	1528.77	1564	1527.6	1565.5	1528.7	1567.1
Input Power Range	dBm	-15	12	-35	-3	-25	8	N/A	
Output Power Range	dBm	-2	18	-8	20	0	19.5	15	26.5
Saturated Output Power	dBm	17		20		13	21	26.5	
Settable Gain Range	dB	5	18	11	24	-0.25	0.25	N/A	
Optimal Flat Gain	dB	17		23		N/A		N/A	
Gain/Power Setting Accuracy	dB	-0.5	0.5	-0.25	0.25	-0.25	0.25	N/A	
Gain Flatness vs. Wavelength	dB		±0.6		±0.6		1		±0.9
Dynamic gain tilt	dB		0.85		0.9	N/A		N/A	
Gain / Power Stability	dB		±0.1		±0.1		±0.1		±0.2
Noise Figure (at OFG or equivalent)	dB		6.5		6		5.5 (at max gain)	N/A	
Return loss	dB	40		40		40		40	
PDG	dB		0.3		0.3		0.3	N/A	
PMD	ps		0.3		0.3		0.3	N/A	
Multi-Path Interference	dB		-40		-40		-40	N/A	
Laser Safety Classification	-	Class 1M		Class 1M		Class 1M		Class 3B	
Optical Connectors	-	2: In, Out		4: In1, Out1, In2, Out2		2: In, Out		1: Out	
Operating Modes	-	AGC, APC, Manual		AGC, APC, Manual		AGC, APC, Manual		ON / OFF	
Power Supply Voltage	V	110V(AC)	240(AC)	110V(AC)	240(AC)	110V(AC)	240(AC)	110V(AC)	240(AC)
Power Consumption	W		40		40		40		50
Operating Case Temperature	C	15	35	15	35	15	35	15	35
Interface	-	Ethernet		Ethernet		Ethernet		Ethernet	
Communications Protocol	-	Web-based GUI		Web-based GUI		Web-based GUI		Web-based GUI	
Ethernet cable P/N	-	18-10-0138R		18-10-0138R		18-10-0138R		18-10-0138R	
US AC Power Cable P/N	-	1133098		1133098		1133098		1133098	
EU AC Power Cable P/N	-	1133099		1133099		1133099		1133099	
19" Brackets Kit P/N	-	50-60-0102-01R		50-60-0102-01R		50-60-0102-01R		50-60-0102-01R	
21" Brackets Kit P/N	-	50-60-0103-01R		50-60-0103-01R		50-60-0103-01R		50-60-0103-01R	
23" Brackets Kit P/N	-	50-60-0104-01R		50-60-0104-01R		50-60-0104-01R		50-60-0104-01R	
ETSI Brackets Kit P/N	-	50-60-0105-01R		50-60-0105-01R		50-60-0105-01R		50-60-0105-01R	

V. Fixed Gain Amplifiers (FGAs)

Finisar's Fixed Gain Amplifiers (FGAs) are typically single-stage EDFAs whose gain spectrum is either non-flattened, or flattened at a specific gain setting (Optimal Flat Gain). They can be used as boosters at the transmission side of a link, preamplifiers at the receive side, or inline amplifiers at the mid-span. Output power and gain can be controlled by the end user, and gain tilt occurs whenever the set gain differs from the OFG. In the following table "Single Channel" refers to non-gain flattened amplifiers, WDM to gain flattened ones.

"Half-MSA" Platform



MSA Platform

Parameter		P/N➔	FOA-M1100MB-ESC1C-AA001		FOA-M1500CB-ESC1C-AA011		FOA-M2200CB-EFG1C-AA002		FOA-M2200CB-EFG1C-AA003		FOA-M2200CB-EFG1C-AA004		FOA-M2200CB-EFG1C-AA005		FOA-M2200CB-EFG1C-AA006		FOA-M2200CB-EFG1C-AA007		FOA-M2200CB-EFG1C-AA008		FOA-M2300CD-EFV1C-AA009	
		Unit	Specification		Specification		Specification		Specification		Specification		Specification		Specification		Specification		Specification		Specification	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Form Factor		mm	70x45x12		90x70x15		90x70x15		90x70x15		90x70x15		90x70x15		90x70x15		90x70x15		90x70x15		90x70x15	
Amplifier Type		-	Single Channel		OSC EDFA		WDM FGA		WDM FGA		WDM FGA		WDM FGA		WDM FGA		WDM FGA		WDM FGA		WDM FGA + Output VOA	
Operating Wavelength Range		nm	1528.77	1567.13	1504.5	1517.5	1529	1563	1528.77	1564	1528.77	1565	1529	1563	1528.77	1565	1528.77	1565	1529	1563	1529.5	1563
Input Power Range	Booster mode	dBm	-10	5	-2	7	-27	2	-25	8	-35	-5	-24	5	-25	10	-25	10	-25	8	-18	2
	Pre-amp mode						-35	-3	-40	-5			-32	0	-35	0	-40	-5				
Output Power Range	Booster mode	dBm	5	16	13		-7	17	-7	17.4	-7	17	-5	20	-5	21	-5	21	-5	20.8	-15	19
	Pre-amp mode						-10	13	-7	17.4			-10	13								
Saturated Output Power		dBm	16		13		17			17.4	17		20		20		20		21		19	
Settable Gain Range	Booster mode	dB	5	26	N/A	N/A	10	20	4	28	15	30	10	20	15	25	10	26	10	20	0	20
	Pre-amp mode	dB					13	25	13	33			13	25	15	30	15	33			VOA, not gain range	
Optimal Flat Gain		dB	N/A		N/A		15		23		23		15		22		26		20		22	
Gain/Power Setting Accuracy	Booster mode	dB	-0.5	0.5	-0.5	1	-0.5	0.5	-0.5	0.5	-0.5	0.5	-0.5	0.5	-0.5	0.5	-0.5	0.5	-0.5	0.5	-0.5	0.5
	Pre-amp mode	dB					-0.5	0.5	-0.5	0.5			-0.5	0.5	-0.5	0.5	-0.5	0.5				
Gain Flatness vs. Wavelength		dB	N/A		N/A			±0.6		±0.6		±0.5		±0.6		±0.6		±0.6		±0.6		1.5pk-pk
Dynamic gain tilt		dB/dB	N/A		N/A			±0.06		0.9		0.9		0.9		0.9		0.9		0.9		N/A
Gain / Power Stability		dB	-0.2	0.2	-0.1	0.1		±0.1		±0.1		±0.1		±0.1		±0.1		±0.1		±0.1		±0.1
Noise Figure (at OFG or equivalent)		dB		6.5		8		6		5.5		5.5		6		5.5		5.5		5.5		5.5
Return loss		dB	40		40		40		40		40		40		40		40		40		40	
PDG		dB		0.5		0.3		0.5		0.4		0.3		0.5		0.4		0.4		0.5		0.5
PMD		ps		0.3		0.15		0.3		0.2		0.3		0.3		0.2		0.2		0.3		0.3
Multi-Path Interference		dB		-40		-40		-40		-40		-40		-40		-40		-40		-40		-40
Laser Safety Classification		-	Class 1M		Class 1M		Class 1M		Class 1M		Class 1M		Class 1M		Class 1M		Class 1M		Class 1M		Class 1M	
Optical Connectors		-	2: In, Out		2: In, Out		2: In, Out		3: In, Out, Out Mon		3: In, Out, Out Mon		2: In, Out		3: In, Out, Out Mon		3: In, Out, Out Mon		3: In, Out, Out Mon		3: In, Out, Out Mon	
Operating Modes		-	APC, Manual		APC, Manual		AGC, APC, Manual		AGC, APC, Manual		AGC, APC, Manual		AGC, APC, Manual		AGC, APC, Manual		AGC, APC, Manual		AGC, APC, Manual		AGC, APC, Manual	
Power Supply Voltage		V	2.97	3.63	3.13	3.46	4.75	5.25	4.75	5.25	4.75	5.25	4.75	5.25	4.75	5.25	4.75	5.25	3.15	3.45	4.75	5.25
Power Consumption		W		2.5		9.5		8		8		8		11		11		8		12		8
Operating Case Temperature		℃	0	70	0	70	0	70	0	70	0	70	0	70	0	70	0	70	0	70	0	70
Communications Protocol		-	RS-232		RS-232		RS-232		RS-232		RS-232 LVTTL		RS-232		RS-232 LVTTL		RS-232 LVTTL		RS-232		RE-232 LVTTL	
Default Baud Rate		Baud	9600		19200		19200		9600		19200		19200		19200		19200		19200		57600	
Eval Board P/N		-	1178581		1185403		1185403		1185403		1185403		1185403		1185403		1185403		1185403		1185402	
Eval Board Cable P/N		-	18-10-0006R		18-10-0006R		18-10-0006R		18-10-0006R		18-10-0006R		18-10-0006R		18-10-0006R		18-10-0006R		18-10-0006R		18-10-0006R	

VI. Variable Gain Amplifiers (VGAs)

Finisar's compact Variable Gain Amplifiers (VGAs) are available in two form factors. Compact VGAs combine the ubiquity of the EDFA MSA form factor (90x70mm) with the advanced feature of a variable gain range; with up to 20dBm output power. Other VGAs with a larger form factor enable more complex functions and higher output power (up to 23dBm). VGAs find their application as booster, pre, or inline amplifiers, and are all suitable for WDM applications, their gain spectrum being flat.

MSA NVG Platform

Dual-Pump Platform

Parameter	P/N➔	FOA-M7300CD-EVG1C-AA002		FOA-M7300CD-EVG1C-AA003		FOA-M7300CD-EVG1C-AA004		FOA-M7100DA-EVG2C-AA013		FOA-M7100DA-EVG2C-AA014		FOA-R7100DA-EVG2C-AA015	
	Unit	Specification		Specification		Specification		Specification		Specification		Specification	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Form Factor	mm	90x70x16.5		90x70x16.5		90x70x16.5		100x150x18		100x150x18		100x150x18	
Amplifier Type	-	WDM VGA		WDM VGA		WDM VGA with Mid-stage access		WDM VGA with Mid-stage access		WDM VGA with Mid-stage access		WDM VGA with Mid-stage access	
Operating Wavelength Range	nm	1529.5	1564	1529.5	1564	1529.5	1564	1529.5	1564	1529.5	1564	1529.5	1564
Input Power Range	dBm	-38	5	-27	10	-27	8	-40	-3.5	-42	5	-38	6
Output Power Range	dBm	-8	17	-8	19.5	-8	18	2	20.5	-5	20.5	-2	23
Saturated Output Power	dBm	17		19.5		18		20.5		20.5		23	
Gain Range	dB	15	30	10	25	10	25	25	40	17	40	17	40
Gain/Power Setting Accuracy	dB	-0.25	0.25	-0.25	0.25	-0.25	0.25	-0.5	0.5	-0.4	0.4	-0.4	0.4
Gain Flatness vs. Wavelength	dB		±0.6		±0.6		±0.6		±0.6		±0.6		±0.6
Gain / Power Stability	dB		±0.1		±0.1		±0.1		±0.1		±0.2		±0.2
Settable Gain Tilt Range	dB	-2	2	-2	2	-2	2	-3.5	0	-2	0	-2	0
Mid-Stage Loss	dB	N/A		N/A		0	4	4	9	4	9.5	4	9.5
Noise Figure[1]	dB	5.5	11.5	5.6	14.5	5.8	18.5	6.1	7.2	5.6	12.5	6.6	16.3
Return loss	dB	40		40		40		45		40		40	
PDG	dB		0.3		0.3		0.3		0.3		0.3		0.5
PMD	ps		0.3		0.3		0.3		0.2		0.2		0.3
Multi-Path Interference	dB		-40		-40		-40		-40		-40		-40
Laser Safety Classification	-	Class 1M		Class 1M		Class 1M		Class 1M		Class 1M		Class 1M with APR	
Optical Connectors	-	3: In, Out, Out Mon		2: In, Ou3: In, Out, Out Mon		5: In, out, Out mon, MSA in, MSA Out		5: In, out, Out mon, MSA in, MSA Out		5: In, out, Out mon, MSA in, MSA Out		5: In, out, Out mon, MSA in, MSA Out	
Operating Modes	-	AGC, APC, Manual		AGC, APC, Manual		AGC, APC, Manual		AGC, APC, Manual		AGC, APC, Manual		AGC, APC, Manual	
Power Supply Voltage	V	4.75	5.25	4.75	5.25	4.75	5.25	4.75	5.25	4.75	5.25	4.75	5.25
Power Consumption	W		10		13		11		17		17		26
Operating Case Temperature	°C	0	70	0	70	0	70	0	70	0	70	0	70
Communications Protocol	-	RS-232		RS-232		RS-232 LVTTL		RS-232 LVTTL		RS-232 LVTTL		RS-232 LVTTL	
Default Baud Rate	Baud	19200		19200		9600		19200		19200		19200	
Eval Board P/N	-	1185403		1185403		1185403		50-45-0069-01R		50-45-0069-01R		50-45-0069-01R	
Eval Board Cable P/N	-	18-10-0006R		18-10-0006R		18-10-0006R		18-10-0006R		18-10-0006R		18-10-0006R	

Notes

1. Max NF at minimum gain setting; min NF at maximum gain setting

VII. Raman And Hybrid Modules

Finisar's Raman and Hybrid Raman Amplifiers enable accurate automatic gain control and deliver the superior OSNR performance achievable with Raman amplification.

Parameter	P/N➔	FOA-R9100PR-RBW2C-AA003	
	Unit	Specification	
		Min	Max
Form Factor	mm	160x220x26	
Amplifier Type	-	Hybrid Raman / EDFA Amplifier	
Operating Wavelength Range	nm	1529	1567.2
Total Gain Range for G.652	dB	19	37
Gain Setting Accracy	dB		±0.5
Gain Flatness (G=27-40dB)	dB		1.3
Saturated Output Power	dBm		20.5
Input Power Range (Raman Pumps off)	dBm	-40	1.5
Output Power Range	dBm	-2	20.5
Tilt Range	dB	-2.5	0
Pre-Tilt	dB	-0.7	-1.3
Tilt Accuracy	dB		0.5
Total Gain Range for LEAF	dB	19	40
Total Raman Pump Power (ex-fiber)	mW		750
Input Signal Power Range (pumps off)	dBm	-40	1.5
Signal Insertion Loss	dB		1.7
Nominal Raman Gain for G.652 (after GFF)	dB	13.6	
Nominal Raman Gain for LEAF (after GFF)	dB	15	
Raman-Only effective NF for G.652	dB	-1.6	-0.8
Raman-Only effective NF for LEAF	dB	-2.4	-1.5
Total NF for G.652 (at Max Gain)	dB		-0.2
Total NF for LEAF (at Max Gain)	dB		-0.3
OSC Wavelength Range	nm	1527.9	1528.09
Raman Gain at OSC Wavelength	dB	-0.4	0.4
OSC Insertion Loss (IN to OSC drop port)	dB		3
Return loss	dB	40	
PDL+PDG	dB		0.35
PMD	ps		0.25

Parameter	P/N➔	FOA-R9100TD-RBW2C-AA049	
	Unit	Specification	
		Min	Max
Form Factor	mm	100x240x33.6	
Amplifier Type	-	Counter-Propagating Raman Amplifier	
Operating Wavelength Range	nm	1527.8	1567.8
Total Raman Pump Power	mW		750
Input Signal Power Range (pumps off)	dBm	-48	+5
Signal Insertion Loss	dB		2.5
Nominal Gain for G.652	dB	13.5	
Nominal Gain for Leaf	dB	14.5	
Spectral Gain Flatness	dB		1
Effective Noise Figure	dB		-0.5
OSC Wavelength Range	nm	1504	1518
OSC Insertion Loss (to drop port)	dB		4.5
Return loss	dB	45	
PDL	dB		0.2
PDG	dB		0.3
PMD	ps		0.2
RIN (any pump)	dB/Hz		-110
Laser Safety Classification	-	Class 1M with APR	
Optical Connectors	-	4: In, Out, Mon Out, OSC drop	
Operating Modes	-	AGC, Manual	
Power Supply Voltage	V	4.75	5.25
Power Consumption	W		32
Operating Case Temperature	°C	-5	70
Communications Protocol	-	RS-2132 LVTTL	
Default Baud Rate	Baud	115200	
Eval Board P/N	-	50-45-0069-01R	
Eval Board Cable P/N	-	18-10-0006R	

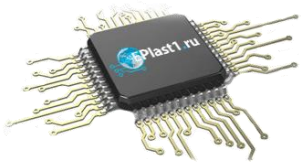
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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