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SKU: E3H5xxS

F5xx series DWDM 1U Standalone Rack-Mount EDFA (Erbium-Doped Optical Fiber Amplifier)

Part Number: F51U-DxxxxGxxxx-x-xx



Overview

The F51U-DxxxxGxxxx-xx is F5xx series 1U Standalone Rack-Mount EDFA. It amplifies the DWDM C-Band signals up to 48 Channels with 100GHz spacing / 96 Channels with 50GHz spacing and has the features of Flat Gain, Adjustable Gain and Low Noise. It is the essential part in the applications of DWDM, High Speed and Long-Haul optical networks. There are three model options in an extended optical link : Booster, In-Line and Pre-amplifier

Booster amplifier operates at the transmission side of the link. It features high input power, high output power, and medium optical Gain. Boosters are designed to amplify aggregated optical input power for reach extension.

In-Line amplifier operates at the halfway stations of the link. It features low input power, high output power, and high optical Gain. In-Line amplifiers are designed to amplify signals in the middle points between transmitters and receivers.

Pre-Amplifier operates at the receiving end of an optical link. It features medium to low input power, medium output power, and high Gain. Pre-amplifiers are designed for optical amplification to compensate for losses in a demultiplexer located near the optical receiver.

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Applications

- Metro DWDM distance extension
- C-Band DWDM signals amplifying
- CATV network system
- Long-Haul transmission system

Features

- Fixed 1U Rack package, LC optical port
- Low Noise Figure : typical 5dB, MAX 5.5dB
- Multiple operating modes : AGC, APC, ACC
- High performance transient response control to ensure Power, Gain stable without affecting existing signal
- Support customized saturated Output Power up to +22dBm
- Support customized Gain variety range 8 ~ 35dB
- Optional OSC management channel for remote management
- Support Red / Blue port for the single-fiber DWDM transmission system
- Support Mid-Stage access for the insertion of a DCM or OADM unit without its inherent loss
- MON port for on-line monitoring optical power and OSNR
- Support LCD screen with Panel buttons control
- Support SNMP, Web management
- Support ALS (Auto Laser Shutdown)
- 1+1 Pluggable Redundancy Power supply,
- AC / DC optional

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Specification

Parameter		Min	Typ	Max	Unit
Operating Wavelength	Standard	1528		1565	nm
	Extended	1528		1567	
Output Power				+22	dBm
Gain		8		35	dB
Gain Flatness			1.0	1.5	dB
Gain Adjustable Range	w/o VOA	± 3			dB
	with VOA	± 5			
Input Power	BA	-22		Max.Output -Gain	dBm
	PA / LA	-32		Max.Output -Gain	
Noise Figure			5.0	5.5	dB
Input threshold		Input Power -1dB			dBm
Polarization Dependence Loss				0.3	dB
Polarization Dependence Gain				0.4	dB
Polarization Mode Dispersion				0.5	ps
Pump Power Leakage				-29	dBm
Return Loss				-45	dB
Power Supply	AC	100 ~ 240			V
	DC	-48			
Power Consumption		≤ 30			W
Size	Fixed 1U	442(W) x 250(D) x 44(H)			mm
Operating Temperature		-10 ~ +60			°C
Storage Temperature		-40 ~ +85			°C
Relative Humidity		5 ~ 95			RH%

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Ordering Information

F51U-D□□□□G□□□□-□-□□

Amplifier Type
B- Booster Amplifier
L- In-Line Amplifier
P- Pre-Amplifier

Wavelength Range
A- Standard *default
E- Extended

Max. Total Output Power
16- 16dBm 20- 20dBm
18- 18dBm 22- 22dBm
xx- xxdBm

Power Gain
12- 12dB 30- 30dB
20- 20dB 35- 35dB
25- 25dB
xx- xxdB

VOA
V- with VOA
Blank- without VOA *default

OSC
S- with OSC
Blank- without OSC *default

Bidi Function
B- Pass 1528~1543nm (Ch45~Ch60)
Reflect 1547~1561nm (Ch21~Ch36)
R- Pass 1547~1561nm (Ch21~Ch36)
Reflect 1528~1543nm (Ch45~Ch60)
Blank- Not Bidi

Mid-Stage Insertion Loss
08- 8dB *default if with Mid-Stage
10- 10dB
xx- xxdB
Blank- without

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Common EDFA Modules

Model	Description	Gain (dB)	Max. Output (dBm)	Min. Input (dBm)	Max. Input (dBm)	Typ. NF (dB)
Booster EDFA						
DBA16G12S	DWDM Booster，Max.Output 16dBm，Gain 12dB，with OSC	12dB	16dBm	-23dBm	7dBm	5dB
DBA16G12	DWDM Booster，Max.Output 16dBm，Gain 12dB，without OSC	12dB	16dBm	-23dBm	7dBm	5dB
DBA20G12S	DWDM Booster，Max.Output 20dBm，Gain 12dB，with OSC	12dB	20dBm	-19dBm	11dBm	5dB
DBA20G12	DWDM Booster，Max.Output 20dBm，Gain 12dB，without OSC	12dB	20dBm	-19dBm	11dBm	5dB
DBA20G15S	DWDM Booster，Max.Output 20dBm，Gain 15dB，with OSC	15dB	20dBm	-22Bm	8dBm	5dB
DBA20G15	DWDM Booster，Max.Output 20dBm，Gain 15dB，without OSC	15dB	20dBm	-22dBm	8dBm	5dB
DBA20G20S	DWDM Booster，Max.Output 20dBm，Gain 20dB，with OSC	20dB	20dBm	-27dBm	3dBm	5dB
DBA20G20	DWDM Booster，Max.Output 20dBm，Gain 20dB，without OSC	20dB	20dBm	-27dBm	3dBm	5dB
DBA22G30S	DWDM Booster，Max.Output 22dBm，Gain 30dB，with OSC	30dB	22dBm	-30dBm	-5dBm	5dB
DBA22G30	DWDM Booster，Max.Output 22dBm，Gain 30dB，without OSC	30dB	22dBm	-30dBm	-5dBm	5dB
Bidi Booster EDFA						
DBA16G12S-B	DWDM Bidi Booster，Max.Output 16dBm，Gain 12dB，with OSC，Pass 1528~1543（Blue），Reflect 1547~1561nm（Red）	12dB	16dBm	-23dBm	7dBm	5dB
DBA16G12-B	DWDM Bidi Booster，Max.Output 16dBm，Gain 12dB，without OSC，Pass 1528~1543（Blue），Reflect 1547~1561nm（Red）	12dB	16dBm	-23dBm	7dBm	5dB
DBA20G12S-B	DWDM Bidi Booster，Max.Output 20dBm，Gain 12dB，with OSC，Pass 1528~1543（Blue），Reflect 1547~1561nm（Red）	12dB	20dBm	-19dBm	11dBm	5dB

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DBA20G12-B	DWDM Bidi Booster，Max.Output 20dBm，Gain 12dB，without OSC，Pass 1528~1543（Blue），Reflect 1547~1561nm（Red）	12dB	20dBm	-19dBm	11dBm	5dB
DBA16G12S-R	DWDM Bidi Booster，Max.Output 16dBm，Gain 12dB，with OSC，Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	12dB	16dBm	-23dBm	7dBm	5dB
DBA16G12-R	DWDM Bidi Booster，Max.Output 16dBm，Gain 12dB，without OSC，Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	12dB	16dBm	-23dBm	7dBm	5dB
DBA20G12S-R	DWDM Bidi Booster，Max.Output 20dBm，Gain 12dB，with OSC，Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	12dB	20dBm	-19dBm	11dBm	5dB
DBA20G12-R	DWDM Bidi Booster，Max.Output 20dBm，Gain 12dB，without OSC，Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	12dB	20dBm	-19dBm	11dBm	5dB

Model	Description	Gain (dB)	Max. Output (dBm)	Min. Input (dBm)	Max. Input (dBm)	Typ. NF (dB)
Pre-amplifier EDFA						
DPA16G20S	DWDM Pre-amplifier，Max.Output 16dBm，Gain 20dB，with OSC	20dB	16dBm	-30dBm	-1dBm	4.5dB
DPA16G20	DWDM Pre-amplifier，Max.Output 16dBm，Gain 20dB，without OSC	20dB	16dBm	-30dBm	-1dBm	4.5dB
DPA16G20S-08	DWDM Midstage access Pre-amplifier，Max.Output 16dBm，Gain 20dB，with OSC，Midstage insertion loss 8dB	20dB	16dBm	-30dBm	-1dBm	5dB
DPA16G20-08	DWDM Midstage access Pre-amplifier，Max.Output 16dBm，Gain 20dB，without OSC，Midstage insertion loss 8dB	20dB	16dBm	-30dBm	-1dBm	5dB
DPA16G25S	DWDM Pre-amplifier，Max.Output 16dBm，Gain 25dB，with OSC	25dB	16dBm	-30dBm	-6dBm	4.5dB
DPA16G25	DWDM Pre-amplifier，Max.Output 16dBm，Gain 25dB，without OSC	25dB	16dBm	-30dBm	-6dBm	4.5dB

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DPA16G25S-08	DWDM Midstage access Pre-amplifier, Max.Output 16dBm, Gain 25dB, with OSC, Midstage insertion loss 8dB	25dB	16dBm	-30dBm	-6dBm	5dB
DPA16G25-08	DWDM Midstage access Pre-amplifier, Max.Output 16dBm, Gain 25dB, without OSC, Midstage insertion loss 8dB	25dB	16dBm	-30dBm	-6dBm	5dB
DPA16G30S-08	DWDM Midstage access Pre-amplifier, Max.Output 16dBm, Gain 30dB, with OSC, Midstage insertion loss 8dB	30dB	16dBm	-30dBm	-11dBm	5dB
DPA16G30-08	DWDM Midstage access Pre-amplifier, Max.Output 16dBm, Gain 30dB, without OSC, Midstage insertion loss 8dB	30dB	16dBm	-30dBm	-11dBm	5dB
DPA20G20S	DWDM Pre-amplifier, Max.Output 20dBm, Gain 20dB, with OSC	20dB	20dBm	-30dBm	3dBm	5dB
DPA20G20	DWDM Pre-amplifier, Max.Output 20dBm, Gain 20dB, without OSC	20dB	20dBm	-30dBm	3dBm	5dB
DPA20G25S	DWDM Pre-amplifier, Max.Output 20dBm, Gain 25dB, with OSC	25dB	20dBm	-30dBm	-2dBm	5dB
DPA20G25	DWDM Pre-amplifier, Max.Output 20dBm, Gain 25dB, without OSC	25dB	20dBm	-30dBm	-2dBm	5dB
DPA22G30S	DWDM Pre-amplifier, Max.Output 22dBm, Gain 30dB, with OSC	30dB	22dBm	-30dBm	-5dBm	5dB
DPA22G30	DWDM Pre-amplifier, Max.Output 22dBm, Gain 30dB, without OSC	30dB	22dBm	-30dBm	-5dBm	5dB
Bidi Pre-amplifier EDFA						
DPA16G20S-B	DWDM Bidi Pre-amplifier, Max.Output 16dBm, Gain 20dB, with OSC Pass 1528~1543 (Blue), Reflect 1547~1561nm (Red)	20dB	16dBm	-30dBm	-1dBm	4.5dB
DPA16G20-B	DWDM Bidi Pre-amplifier, Max.Output 16dBm, Gain 20dB, without OSC Pass 1528~1543 (Blue), Reflect 1547~1561nm (Red)	20dB	16dBm	-30dBm	-1dBm	4.5dB
DPA16G25S-B	DWDM Bidi Pre-amplifier, Max.Output 16dBm, Gain 25dB, with OSC Pass 1528~1543 (Blue), Reflect 1547~1561nm (Red)	25dB	16dBm	-30dBm	-6dBm	4.5dB

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DPA16G25-B	DWDM Bidi Pre-amplifier，Max.Output 16dBm，Gain 25dB，without OSC Pass 1528~1543（Blue），Reflect 1547~1561nm（Red）	25dB	16dBm	-30dBm	-6dBm	4.5dB
DPA16G20S-R	DWDM Bidi Pre-amplifier，Max.Output 16dBm，Gain 20dB，with OSC Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	20dB	16dBm	-30dBm	-1dBm	4.5dB
DPA16G20-R	DWDM Bidi Pre-amplifier，Max.Output 16dBm，Gain 20dB，without OSC Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	20dB	16dBm	-30dBm	-1dBm	4.5dB
DPA16G25S-R	DWDM Bidi Pre-amplifier，Max.Output 16dBm，Gain 25dB，with OSC Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	25dB	16dBm	-30dBm	-6dBm	4.5dB
DPA16G25-R	DWDM Bidi Pre-amplifier，Max.Output 16dBm，Gain 25dB，without OSC Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	25dB	16dBm	-30dBm	-6dBm	4.5dB
DPA20G20S-B	DWDM Pre-amplifier，Max.Output 20dBm，Gain 20dB，with OSC Pass 1528~1543（Blue），Reflect 1547~1561nm（Red）	20dB	20dBm	-30dBm	3dBm	5dB
DPA20G20-B	DWDM Pre-amplifier，Max.Output 20dBm，Gain 20dB，without OSC Pass 1528~1543（Blue），Reflect 1547~1561nm（Red）	20dB	20dBm	-30dBm	3dBm	5dB
DPA20G25S-B	DWDM Pre-amplifier，Max.Output 20dBm，Gain 25dB，with OSC Pass 1528~1543（Blue），Reflect 1547~1561nm（Red）	25dB	20dBm	-30dBm	-2dBm	5dB
DPA20G25-B	DWDM Pre-amplifier，Max.Output 20dBm，Gain 25dB，without OSC Pass 1528~1543（Blue），Reflect 1547~1561nm（Red）	25dB	20dBm	-30dBm	-2dBm	5dB
DPA22G30S-B	DWDM Pre-amplifier，Max.Output 22dBm，Gain 30dB，with OSC Pass 1528~1543（Blue），Reflect 1547~1561nm（Red）	30dB	22dBm	-30dBm	-5dBm	5dB
DPA22G30-B	DWDM Pre-amplifier，Max.Output 22dBm，Gain 30dB，without OSC Pass 1528~1543（Blue），Reflect 1547~1561nm（Red）	30dB	22dBm	-30dBm	-5dBm	5dB

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DPA20G20S-R	DWDM Pre-amplifier，Max.Output 20dBm，Gain 20dB，with OSC Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	20dB	20dBm	-30dBm	3dBm	5dB
DPA20G20-R	DWDM Pre-amplifier，Max.Output 20dBm，Gain 20dB，without OSC Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	20dB	20dBm	-30dBm	3dBm	5dB
DPA20G25S-R	DWDM Pre-amplifier，Max.Output 20dBm，Gain 25dB，with OSC Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	25dB	20dBm	-30dBm	-2dBm	5dB
DPA20G25-R	DWDM Pre-amplifier，Max.Output 20dBm，Gain 25dB，without OSC Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	25dB	20dBm	-30dBm	-2dBm	5dB
DPA22G30S-R	DWDM Pre-amplifier，Max.Output 22dBm，Gain 30dB，with OSC Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	30dB	22dBm	-30dBm	-5dBm	5dB
DPA22G30-R	DWDM Pre-amplifier，Max.Output 22dBm，Gain 30dB，without OSC Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	30dB	22dBm	-30dBm	-5dBm	5dB

Model	Description	Gain (dB)	Max. Output (dBm)	Min. Input (dBm)	Max. Input (dBm)	Typ. NF (dB)
In-Line EDFA						
DLA16G20S	DWDM In-Line-Amp，Max.Output 16dBm，Gain 20dB，with OSC	20dB	16dBm	-30dBm	-1dBm	5dB
DLA16G20	DWDM In-Line-Amp，Max.Output 16dBm，Gain 20dB，without OSC	20dB	16dBm	-30dBm	-1dBm	5dB
DLA16G20S-08	DWDM Midstage access In-Line-Amp，Max.Output 16dBm，Gain 20dB，with OSC，Midstage insertion loss 8dB	20dB	16dBm	-30dBm	-1dBm	6dB
DLA16G20-08	DWDM Midstage access In-Line-Amp，Max.Output 16dBm，Gain 20dB，without OSC，Midstage insertion loss 8dB	20dB	16dBm	-30dBm	-1dBm	6dB
DLA20G20S	DWDM In-Line-Amp，Max.Output 20dBm，Gain 20dB，with OSC	20dB	20dBm	-27dBm	3dBm	5dB

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DLA20G20	DWDM In-Line-Amp，Max.Output 20dBm，Gain 20dB，without OSC	20dB	20dBm	-27dBm	3dBm	5dB
DLA20G20S-08	DWDM Midstage accessIn-Line-Amp，Max.Output 20dBm，Gain 20dB，with OSC，Midstage insertion loss 8dB	20dB	20dBm	-27dBm	3dBm	6dB
DLA20G20-08	DWDM Midstage accessIn-Line-Amp，Max.Output 20dBm，Gain 20dB，without OSC，Midstage insertion loss 8dB	20dB	20dBm	-27dBm	3dBm	6dB
DLA16G25S	DWDM In-Line-Amp，Max.Output 16dBm，Gain 25dB，with OSC	25dB	16dBm	-30dBm	-6dBm	5dB
DLA16G25	DWDM In-Line-Amp，Max.Output 16dBm，Gain 25dB，without OSC	25dB	16dBm	-30dBm	-6dBm	5dB
DLA16G25S-08	DWDM Midstage accessIn-Line-Amp，Max.Output 16dBm，Gain 25dB，with OSC，Midstage insertion loss 8dB	25dB	16dBm	-30dBm	-6dBm	6dB
DLA16G25-08	DWDM Midstage accessIn-Line-Amp，Max.Output 16dBm，Gain 25dB，without OSC，Midstage insertion loss 8dB	25dB	16dBm	-30dBm	-6dBm	6dB
DLA20G25S	DWDM In-Line-Amp，Max.Output 20dBm，Gain 25dB，with OSC	25dB	20dBm	-30dBm	-2dBm	5dB
DLA20G25	DWDM In-Line-Amp，Max.Output 20dBm，Gain 25dB，without OSC	25dB	20dBm	-30dBm	-2dBm	5dB
DLA20G25S-08	DWDM Midstage accessIn-Line-Amp，Max.Output 20dBm，Gain 25dB，with OSC，Midstage insertion loss 8dB	25dB	20dBm	-30dBm	-2dBm	6dB
DLA20G25-08	DWDM Midstage accessIn-Line-Amp，Max.Output 20dBm，Gain 25dB，without OSC，Midstage insertion loss 8dB	25dB	20dBm	-30dBm	-2dBm	6dB
Bidi In-Line EDFA						
DLA16G20S-B	DWDM In-Line-Amp，Max.Output 16dBm，Gain 20dB，with OSC Pass 1528~1543（Blue），Reflect 1547~1561nm（Red）	20dB	16dBm	-30dBm	-1dBm	5dB
DLA16G20-B	DWDM In-Line-Amp，Max.Output 16dBm，Gain 20dB，without OSC Pass 1528~1543（Blue），Reflect 1547~1561nm（Red）	20dB	16dBm	-30dBm	-1dBm	5dB

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DLA16G20S-08-B	DWDM Midstage access In-Line-Amp，Max.Output 16dBm，Gain 20dB，with OSC，Midstage insertion loss 8dB Pass 1528~1543（Blue）， Reflect 1547~1561nm（Red）	20dB	16dBm	-30dBm	-1dBm	6dB
DLA16G20-08-B-B	DWDM Midstage access In-Line-Amp，Max.Output 16dBm，Gain 20dB，without OSC，Midstage insertion loss 8dB Pass 1528~1543（Blue）， Reflect 1547~1561nm（Red）	20dB	16dBm	-30dBm	-1dBm	6dB
DLA20G20S-B	DWDM In-Line-Amp，Max.Output 20dBm，Gain 20dB，with OSC Pass 1528~1543（Blue）， Reflect 1547~1561nm（Red）	20dB	20dBm	-27dBm	3dBm	5dB
DLA20G20-B	DWDM In-Line-Amp，Max.Output 20dBm，Gain 20dB，without OSC Pass 1528~1543（Blue）， Reflect 1547~1561nm（Red）	20dB	20dBm	-27dBm	3dBm	5dB
DLA20G20S-08-B	DWDM Midstage accessIn-Line-Amp，Max.Output 20dBm，Gain 20dB，with OSC，Midstage insertion loss 8dB Pass 1528~1543（Blue）， Reflect 1547~1561nm（Red）	20dB	20dBm	-27dBm	3dBm	6dB
DLA20G20-08-B	DWDM Midstage accessIn-Line-Amp，Max.Output 20dBm，Gain 20dB，without OSC，Midstage insertion loss 8dB Pass 1528~1543（Blue）， Reflect 1547~1561nm（Red）	20dB	20dBm	-27dBm	3dBm	6dB
DLA16G25S-B	DWDM In-Line-Amp，Max.Output 16dBm，Gain 25dB，with OSC Pass 1528~1543（Blue）， Reflect 1547~1561nm（Red）	25dB	16dBm	-30dBm	-9dBm	5dB
DLA16G25-B	DWDM In-Line-Amp，Max.Output 16dBm，Gain 25dB，without OSC Pass 1528~1543（Blue）， Reflect 1547~1561nm（Red）	25dB	16dBm	-30dBm	-6dBm	5dB
DLA16G25S-08-B	DWDM Midstage accessIn-Line-Amp，Max.Output 16dBm，Gain 25dB，with OSC，Midstage insertion loss 8dB Pass 1528~1543（Blue）， Reflect 1547~1561nm（Red）	25dB	16dBm	-30dBm	-6dBm	6dB

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DLA16G25-08-B	DWDM Midstage accessIn-Line-Amp，Max.Output 16dBm，Gain 25dB，without OSC， Midstage insertion loss 8dB Pass 1528~1543（Blue）， Reflect 1547~1561nm（Red）	25dB	16dBm	-30dBm	-6dBm	6dB
DLA20G25S-B	DWDM In-Line-Amp，Max.Output 20dBm，Gain 25dB，with OSC Pass 1528~1543（Blue）， Reflect 1547~1561nm（Red）	25dB	20dBm	-30dBm	-2dBm	5dB
DLA20G25-B	DWDM In-Line-Amp，Max.Output 20dBm，Gain 25dB，without OSC Pass 1528~1543（Blue）， Reflect 1547~1561nm（Red	25dB	20dBm	-30dBm	-2dBm	5dB
DLA20G25S-08-B	DWDM Midstage accessIn-Line-Amp，Max.Output 20dBm，Gain 25dB，with OSC，Midstage insertion loss 8dB Pass 1528~1543（Blue）， Reflect 1547~1561nm（Red）	25dB	20dBm	-30dBm	-2dBm	6dB
DLA20G25-08-B	DWDM Midstage accessIn-Line-Amp，Max.Output 20dBm，Gain 25dB，without OSC，Midstage insertion loss 8dB Pass 1528~1543（Blue）， Reflect 1547~1561nm（Red）	25dB	20dBm	-30dBm	-2dBm	6dB
DLA16G20S-R	DWDM In-Line-Amp，Max.Output 16dBm，Gain 20dB，with OSC Pass 1547~1561nm（Red）， Reflect 1528~1543（Blue）	20dB	16dBm	-30dBm	-1dBm	5dB
DLA16G20-R	DWDM In-Line-Amp，Max.Output 16dBm，Gain 20dB，without OSC Pass 1547~1561nm（Red）， Reflect 1528~1543（Blue）	20dB	16dBm	-30dBm	-1dBm	5dB
DLA16G20S-08-R	DWDM Midstage access In-Line-Amp，Max.Output 16dBm，Gain 20dB，with OSC， Midstage insertion loss 8dB Pass 1547~1561nm（Red）， Reflect 1528~1543（Blue）	20dB	16dBm	-30dBm	-1dBm	6dB
DLA16G20-08-R	DWDM Midstage access In-Line-Amp，Max.Output 16dBm，Gain 20dB，without OSC， Midstage insertion loss 8dB Pass 1547~1561nm（Red）， Reflect 1528~1543（Blue）	20dB	16dBm	-30dBm	-1dBm	6dB

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DLA20G20S-R	DWDM In-Line-Amp，Max.Output 20dBm，Gain 20dB，with OSC Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	20dB	20dBm	-27dBm	3dBm	5dB
DLA20G20-R	DWDM In-Line-Amp，Max.Output 20dBm，Gain 20dB，without OSC Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	20dB	20dBm	-27dBm	3dBm	5dB
DLA20G20S-08-R	DWDM Midstage accessIn-Line-Amp，Max.Output 20dBm，Gain 20dB，with OSC，Midstage insertion loss 8dB Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	20dB	20dBm	-27dBm	3dBm	6dB
DLA20G20-08-R	DWDM Midstage accessIn-Line-Amp，Max.Output 20dBm，Gain 20dB，without OSC，Midstage insertion loss 8dB Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	20dB	20dBm	-27dBm	3dBm	6dB
DLA16G25S-R	DWDM In-Line-Amp，Max.Output 16dBm，Gain 25dB，with OSC Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	25dB	16dBm	-30dBm	-6dBm	5dB
DLA16G25-R	DWDM In-Line-Amp，Max.Output 16dBm，Gain 25dB，without OSC Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	25dB	16dBm	-30dBm	-6dBm	5dB
DLA16G25S-08-R	DWDM Midstage accessIn-Line-Amp，Max.Output 16dBm，Gain 25dB，with OSC，Midstage insertion loss 8dB Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	25dB	16dBm	-30dBm	-6dBm	6dB
DLA16G25-08-R	DWDM Midstage accessIn-Line-Amp，Max.Output 16dBm，Gain 25dB，without OSC，Midstage insertion loss 8dB Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	25dB	16dBm	-30dBm	-6dBm	6dB
DLA20G25S-R	DWDM In-Line-Amp，Max.Output 20dBm，Gain 25dB，with OSC Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	25dB	20dBm	-30dBm	-2dBm	5dB
DLA20G25-R	DWDM In-Line-Amp，Max.Output 20dBm，Gain 25dB，without OSC Pass 1547~1561nm（Red），Reflect 1528~1543（Blue）	25dB	20dBm	-30dBm	-2dBm	5dB

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DLA20G25S-08-R	DWDM In-Line-Amp，Max.Output 20dBm，Gain 25dB，with OSC Midstage insertion loss 8dB Pass 1547~1561nm（Red）， Reflect 1528~1543（Blue）	25dB	20dBm	-30dBm	-2dBm	5dB
DLA20G25-08-R	DWDM In-Line-Amp，Max.Output 20dBm，Gain 25dB，without OSC Midstage insertion loss 8dB Pass 1547~1561nm（Red）， Reflect 1528~1543（Blue）	25dB	20dBm	-30dBm	-2dBm	5dB