

Desktop type Erbium doped fiber amplifier



Applications

- Suitable for lab applications, test-bed experiments
- C-band
- L-band

Product type: ErFA 11021B, 11022, 11023, 11031B, 11032, 11101, 11501, 11053

Descriptions

ErFA11000 series are desktop type Erbium doped fiber amplifiers (EDFAs) for experimental use. ErFA11000 series can be operated with commercial AC power. Various models are lined up according to the output power level, gain and noise figure.

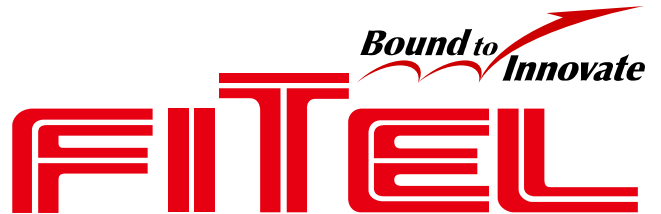
Features

- Both of EDFAs pumped by 1480nm laser diodes and 980nm laser diodes are available.
- Following three operating modes are available
 - (1) ACC : Automatic pump laser current control
Pump laser current is controlled to stabilize pump laser power.
 - (2) APC : Automatic pump power control
Pump power is monitored and controlled using photo diode in pump laser.
 - (3) ALC : Automatic amplified output power control
Output power level of the amplifier is monitored and controlled.
- Pump laser current, pump laser power, temperature of pump laser, input power output power and returned power from output terminal are monitored.
- (Input power monitor and returned power monitor are optional for ErFA11031B)
- Pump laser current, pump laser power, temperature of pump laser and output power are displayed on front panel.
- Maximum output power level is over +24dB.(ErFA11023)
- Maximum gain is over 45dB.(ErFA11023)
- Noise figure is less than 5.5dB.(ErFA11031B and ErFA11032 pumped by 980nm laser diode(s).)

Data Sheet

ErFA 11000 Series

Mar. 2010



Specifications

Table1 Line-up of EDFAs for single channel application pumped by 1480 nm laser diodes

Items	ErFA11021B	ErFA11022	ErFA11023
Signal wavelength	1530 - 1565 nm		
Maximum output power (*1)	> +18 dBm	> +21 dBm	> +24 dBm
Gain (*2)	> 35 dB	> 40 dB	> 45 dB
Gain (*3)	> 30 dB	> 35 dB	> 40 dB
Noise figure (*2)	< 7.5 dB		
Polarization dependence of output power	< 0.15 dB		
Wavelength of pump laser	1480nm band		
Number of pump laser	1 pc.	2 pcs.	4 pcs.
Dimensions (*4)	190 x 270 x 96 mm	190 x 270 x 96 mm	220 x 355 x 116 mm
Optical interfaces	See "Ordering information"		
Optical fiber	SMF (DSF can be supported.) See " Ordering information"		
Power voltage	100-240VAC +4% / -10%		
Operating temperature	0 - 40 deg.C		

Table 2 Line-up of EDFAs for single channel application pumped by 980 nm laser diodes

Items	ErFA11031B	ErFA11032
Signal wavelength	1530 - 1565 nm	
Maximum output power (*1)	> +15 dBm	> +18 dBm
Gain (*3)	> 35 dB	> 40 dB
Noise figure (*3)	< 5.5 dB	
Polarization dependence of output power	< 0.15 dB	
Wavelength of pump laser	980nm band	
Number of pump laser	1 pc.	2 pcs.
Dimensions (*4)	190 x 270 x 96 mm	190 x 270 x 96 mm
Optical interfaces	See "Ordering information"	
Optical fiber	SMF (DSF can be supported.) See " Ordering information"	
Power voltage	100-240VAC +4% / -10%	
Operating temperature	0 - 40 deg.C	

*1 : Input power > 0dBm

*2 : Input power = -35 dBm @ 1530 – 1560 nm

*3 : Input power = -35 dBm @ 1530 – 1565 nm

*4 : Excluding protrusions

Data Sheet

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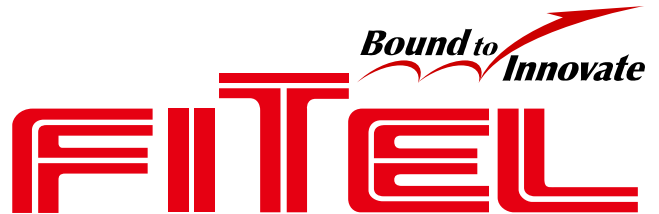


Table3 C band EDFA for WDM application

Items	ErFA11101	Note
Signal wavelength	1534 - 1563 nm	-
Maximum output power	+22 dBm	Input power=-8 dBm (total)
Gain	30 dB	-
Noise figure	< 6.5 dB	Input power=-8 dBm (total), Output power = +22 dBm
Gain flatness	< 2.0 dBpp (Typ. 1.0 dB)	Input power=-8 dBm (total), Output power = +22 dBm
Polarization dependence of output power	< 0.2 dB	-
Wavelength of pump laser	980nm and 1480nm band	-
Number of pump laser	4 pcs.	-
Dimensions	220 x 355 x 116 mm	Excluding protrusions
Optical interfaces	See "Ordering information"	
Optical fiber	SMF (DSF can be supported.) See " Ordering information"	
Power voltage	100-240VAC +4% / -10%	-
Operating temperature	0 - 40 deg.C	-

Table4 L band EDFA for WDM application

Items	ErFA11501	Note
Signal wavelength	1570 - 1600 nm	-
Maximum output power	+22 dBm	Input power=-8 dBm (total)
Gain	30 dB	-
Noise figure	< 7.0 dB	Input power=-8 dBm (total), Output power = +22 dBm
Gain flatness	< 2.0 dBpp (Typ. 1.0 dB)	Input power=-8 dBm (total), Output power = +22 dBm
Polarization dependence of output power	< 0.2 dB	-
Wavelength of pump laser	1480nm band	-
Number of pump laser	4 pcs.	-
Dimensions	220 x 355 x 116 mm	Excluding protrusions
Optical interfaces	See "Ordering information"	
Optical fiber	SMF (DSF can be supported.) See " Ordering information"	
Power voltage	100-240VAC +4% / -10%	-
Operating temperature	15 - 35 deg.C	-

Table5 EDFAs for single channel application pumped by High power 1480nm laser diodes

Items	ErFA11053	Note
Signal wavelength	1530 - 1565 nm	-
Maximum output power	> +27 dBm	Input power>0 dBm
Gain	> 45 dB	-
Noise figure	< 7.5 dB	Input power=-35 dBm, 45dB Gain
Polarization dependence of output power	< 0.15 dB	-
Wavelength of pump laser	1480nm band	-
Number of pump laser	4 pcs.	-
Dimensions	483 x 434.5 x 149 mm	Excluding protrusions
Optical interfaces	SC super PC	
Optical fiber	SMF (DSF can be supported.) See " Ordering information"	
Power voltage	100-240VAC +10% / -10%	-
Operating temperature	0 - 40 deg.C	-

General specifications

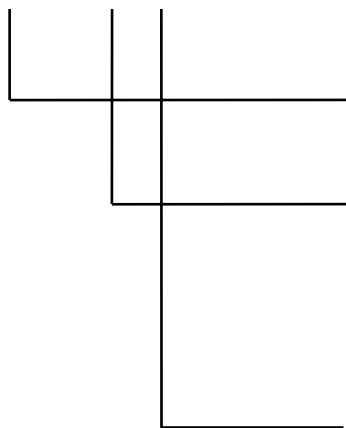
Items	Specification	Note
Pump LD Control mode	ACC / APC / ALC	-
Display	Pump laser current / Pump laser power / Temperature of pump laser / Amplified output power	Displayed on front panel
Alarm	Pump LD current alarm	-
	Temperature alarm	When temperature of pump LD is over 30 deg.C.
	Input power alarm (*1)	When Pin is under -10dBm. (*2)
	Reflection alarm (*1)	When returned power from output terminal is over about +3dBm. (*2)
Shut down	Temperature of pump LD	When temperature of pump LD is over 35 deg.C, pump LDs are automatically shut down.

*1 : Optional for ErFA11031B.

*2 : At the same time, pump LDs are automatically shut down.

Ordering information

ErFA 11XXX - X YY



Model number

See Table1, 2, 3, 4, and 5.

Fiber for optical interfaces

S SMF
D DSF

Optical connector

FS FC super PC
SS SC super PC
SA SC angled PC

High power output

If you need higher output power, we can support up to +27.0 dBm.

This products is not approved for RoHS directive

Safety information



Furukawa Electric reserves the right to improve, enhance and modify the features and specifications of FITEL products without prior notifications.



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