

MINI EDFA Datasheet

Features

- Single erbium doped fiber amplifier assembly
- Single channel
- Pump, TOF and VOA

Version History

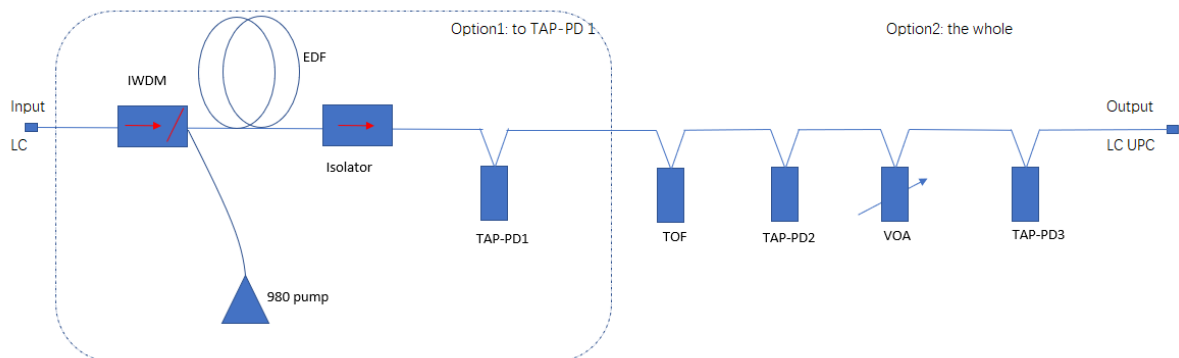
Date	Version	Description	Author
2024/12/31	1.0	Initialize	Zhang Xuehu

Order Information

Taolink Part Number	Description	Code
WZEDFA-OM-BCB011910-LC/UPC	Without TOF-VOA	-
WZEDFA-OM-BCT011910-LC/UPC	With TOF-VOA	-

Functional Diagram

Function block



Gain block in one mechanical case.

Figure1 Functional Diagram

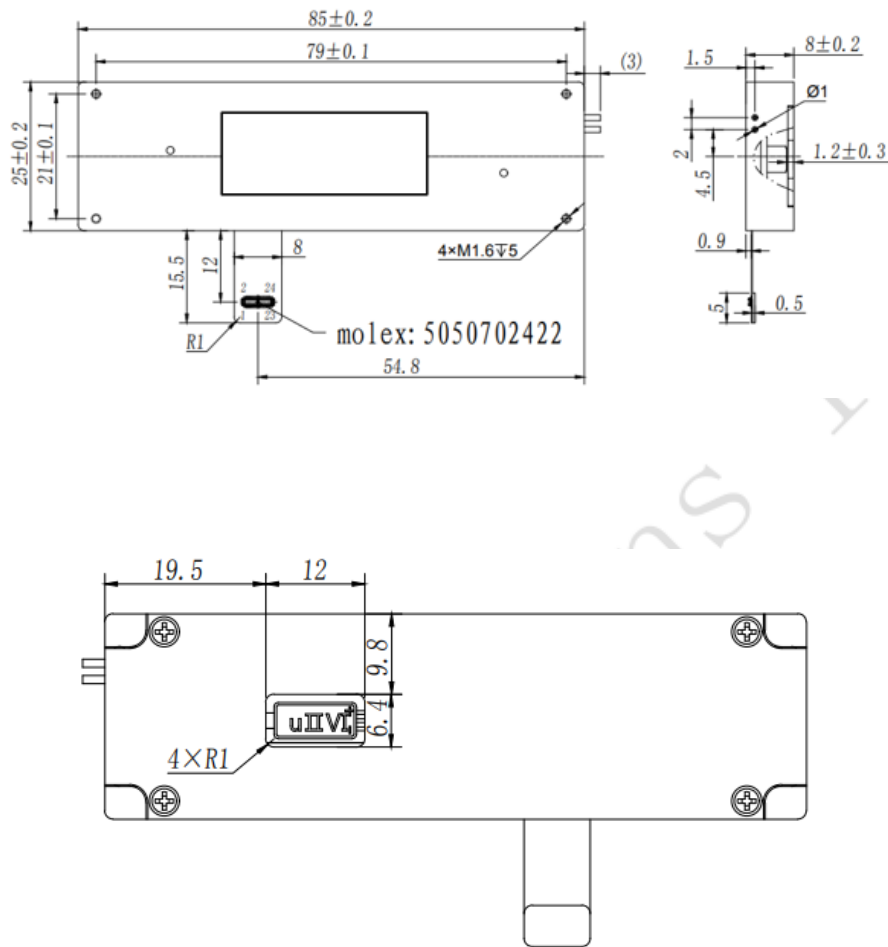
Operation/Storage Temperature and Humidity

Parameter	Specification	Unit	Note
Operating case temperature	-5 ~ 75	°C	
Operation Humidity	5~85	%RH	
Storage Temperature	-40 ~ +85	°C	
Storage Humidity	5~95	%RH	

Optical Characteristics

Parameter	Min	Typ	Max	Units	Remark
Wavelength range	1527.216		1568.362	nm	C-band
Frequency range	191.15		196.30	THz	C-band
ITU-T Channel			1	Ch	
Input Power Range	-22	0	0	dBm	
Output power @ Without TOF-VOA	0	9.5	9.5	dBm	
Output power @With TOF-VOA	0	9.5	9.5	dBm	VOA=0dB
Noise Figure			6.5	dB	Input Power = -10dBm, Output power=9.5dBm
Small Signal Gain	18.5	19		dB	Input Power = -10dBm, Output power=9.5dBm
Isolation at input and Output	20			dB	
Output power setting range	0		9.5	dBm	See note①
Output setting accuracy	-0.5		0.5	dB	
Output power @shutdown			-5	dBm	Input=5dBm,See note②
Output power @shutdown			-50	dBm	Input=-35 to -40dBm
PDG@ Without TOF-VOA			0.7	dB	center frequency
PDG@ With TOF-VOA			0.7	dB	VOA=0dB, center frequency
PMD			0.3	ps	
Return loss	40			dB	Pump off, Input port
Return loss	27			dB	Pump off, Output port
ISO isolation@25°C	26			dB	
VOA Type	Bright			-	
VOA Attenuation Range	25			dB	
VOA Response Time			5	ms	
Tap-pd ratio		2		%	
Tap-pd Responsivity	11		28	uA/mW	
Tap-pd Dark Current			2	nA	<1.0@25°C <2.0@70°C
Tap-pd Reverse Voltage Vr			10	V	
TOF Turing Speed		30	50	ms	Any to any channel
TOF Voltage Range			12	V	
TOF BW@3dB	150	180	210	GHz	
TOF Side-mode Suppression Ratio	20			dB	
Fiber type	250um bare fiber, Bend radius>7.5mm, No connector				Bend-insensitive fiber
Fiber color	Input: Black, Output: Clear				
Fiber Length	450	500	550	mm	From case to end

Mechanical Dimension Part



Electrical connector and definition

PIN#	Function	Description	PIN	Function	Description
1	TOF_PIN3	Short Wavelength 12V	2	TOF_PIN1	Long Wavelength 12V
3	EVOA+	VOA control Voltage 5V	4	EVOA-	GND
5	Pump_Anode		6	Pump_Cathode	
7	Pump_Anode		8	Pump_Cathode	
9	Pump_Anode		10	Pump_Cathode	
11	Pump_Anode		12	Pump_Cathode	
13	GND	GND	14	GND	GND
15	PD1_Anode		16	PD1_Cathode	
17	GND	GND	18	GND	GND
19	PD2_Anode		20	PD2_Cathode	
21	GND	GND	22	GND	GND
23	PD3_Anode		24	PD3_Cathode	

MiNi EDFA Datasheet

Features

- C Band, APC (Automatic Power Control)with electrical control
- Input and output isolation
- Ultra compact size : 45 x 15.5 x 9 mm
- 20pins
- Control & monitoring by 12C
- Single + 3.3 V power supply

Version History

Date	Version	Description	Author
2024/12/31	1.0	Initialize	Zhang Xuehu

Order Information

Taclink Part Number	Description	Code
WZEDFA-EM-BCWM0809	BA2- APC control	-

Functional Diagram

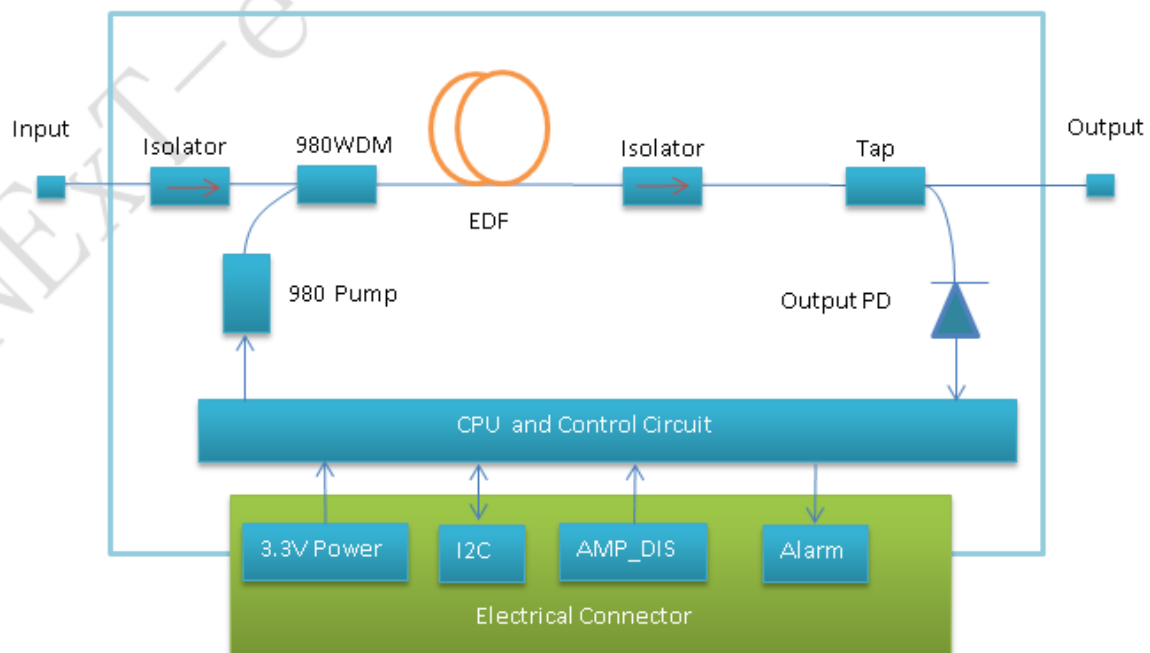


Figure1 Functional Diagram

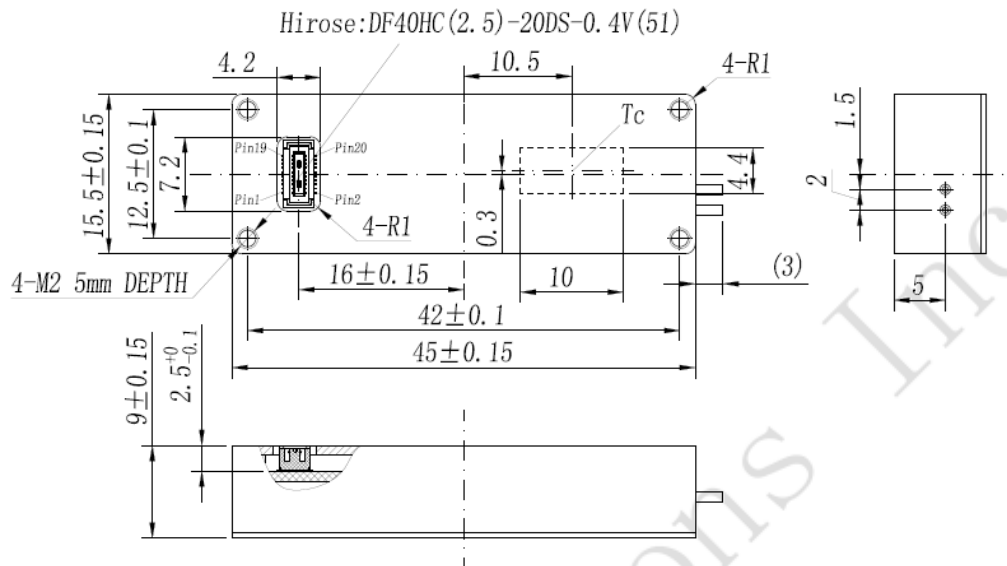
Operation/Storage Temperature and Humidity

Parameter	Min	Typ	Max	Units	Remark
Operating ambient Temperature	-5		70	C	Air Speed: C-band Min 4m/s
Operating Case Temperature	-5		75	C	
Storage temperature	-40		85	C	
Operating Relative Humidity	5		85	% RH	
Storage Relative Humidity	5		95	% RH	
Power Supply Voltage	2.97	3.3	3.63	V	
Input Power			10	dBm	
Power consumption			3	W	

Optical Characteristics

Parameter	Min	Typ	Max	Units	Remark
Wavelength range	1528.5		1567	nm	C-band
ITU-T Channel			1	Ch	
Input Power Range	-30	-30	-25	dBm	PA
Output power	-2	-2	0	dBm	PA ,APC, Total output
Noise Figure			6.5	dB	PA Input Power = -30dBm, Output power= -2dBm
Input Power Range	-15	-8	0	dBm	BA
Output power	0	2	5.5	dBm	BA1, APC, Total output
Output power	0		9	dBm	BA2, APC, Total output
Noise Figure			6.5	dB	BA1 Input Power = -8dBm, Output power= 5.5dBm
Noise Figure			6.2	dB	BA2 Input Power = -8dBm, Output power= 9dBm
Isolation at input and Output	20			dB	
Output monitor accuracy	-0.5		0.5	dB	
PDG			0.5	dB	
PMD			0.3	ps	
Return loss	40			dB	Pump off
Fiber type	250um bare fiber, Bend radius>7.5mm, No connector				Bend-insensitive fiber
Fiber color	Input: Clear, Output: Black				
Fiber Length	750			mm	From case to end

Mechanical Dimension Part



Electrical connector and definition

Pin	Symbol	Function		Pin	Symbol	Function	
1	VCC	3.3V Power Supply		2	VCC	3.3V Power Supply	
3	VCC	3.3V Power Supply		4	VCC	3.3V Power Supply	
5	NC	No Connect		6	NC	No Connect	
7	NC	No Connect		8	NC	No Connect	
9	AMP_DIS	PUMP Disable; When High, Turns off PUMP 30-50K Pulldown	I	10	COMM_ALARM	Module Alarm Output, ActiveHigh if any bit of register 80-81 is 1(active)30-50K Pullup	O
11	SCL	2-Wire Serial Interface Clock;Pullup: None	I/O	12	NC	No Connect	
13	SDA	2-Wire Serial Interface Data Pullup: None	I/O	14	GND	Ground	
15	NC	No Connect		16	NC	No Connect	
17	GND	Ground		18	GND	Ground	
19	GND	Ground		20	GND	Ground	