

# MSA Compatible Full Function Pre-Amplifier EDFA



## Optical Characteristics

Parameter		Condition	Specification		
			Min.	Typ.	Max.
Operating Wavelength Range	nm		1528	-	1562
Input Optical Power (p <sub>in</sub> )	dBm		- 30	-	- 10
Signal Gain	dB	P <sub>in</sub> = -30dBm, λ= 1562nm	20	-	-
			25	-	-
Noise Figure	dB	P <sub>in</sub> = -30dBm, P <sub>out</sub> = -5dBm	-	-	5.5
		P <sub>in</sub> = -20dBm, P <sub>out</sub> = -5dBm	-	-	6.0
		P <sub>in</sub> = -10dBm, P <sub>out</sub> = -5dBm	-	-	7.5
Polarization Dependent Gain	dB		-	-	0.5
Polarization Mode Dispersion	ps		-	-	0.5
Return Loss	dB	Pump LD off	35	-	-
Operating Temperature	°C		- 5	-	70
Fiber Type	-	SMF-28, 900μm loose tube			
Dimensions	mm	70 x 90 x 15			

Unless otherwise noted, specifications listed in this section are guaranteed under single channel operation over operating wavelength range and operating case temperature range and without connectors.

## Electrical Characteristics

Parameter	Uni	Min.	Typ.	Max.
Input Monitor Accuracy	dB	- 0.5	-	+ 0.5
Output Monitor Accuracy	dB	- 0.5	-	+ 0.5
Power Supply Voltage	V	3.1	3.3	3.5
Power Consumption (uncooled)	W	-	1	2
Power Consumption (cooled)	W	-	3	6
Cold Start Settle Time	s	-	-	10
Warm Start Settle Time	s	-	-	0.1

## Fireware Function, Monitors and Alarms

Parameter	Specification
Firmware Functions	• Field upgradable
	• Automatic Output Power Control (APC) mode
	• Automatic Pump Current Control (ACC) mode
	• Reset
	• Disable
	• Mute
Monitors	• Total input optical power
	• Total output optical power
	• Pump status
	• Module temperature
Alarms	• Loss of signal alarm
	• Loss of output power alarm
	• Module temperature alarm
	• Pump temperature alarm
	• Pump bias current alarm

## Features/Benefits

- Firmware field upgradable
- Multiple control modes (APC and ACC)
- Comprehensive reporting
- Digital interface with RS-232
- Low Noise Figure (NF)
- Optimized as a pre-amp

## Applications

- Single-channel or narrow-band amplification
- Metropolitan and access networks
- Amplet for long haul networks
- Optical cross-connect
- Switch matrix
- Optical add/drop module
- Signal loss compensation in optical modules
- Digital CATV

## Full Function Pin Assignment

Pin	Function	Pin	Function
1	+ 3.3V	2	+ 3.3V
3	NC	4	NC
5	GND	6	GND
7	RS-232 Rx	8	RS-232 Tx
9	GND	10	GND
11	NC	12	RESET input, (active Low)
13	Amplifier disable input, (active high)	14	Output power mute input,(active high)
15	Case temperature alarm, (active high)	16	Common alarm, (active Low)
17	Pump temperature alarm, (active high)	18	Pump bias alarm, (active high)
19	Loss of input alarm, (active high)	20	Loss of output alarm, (active high)
21	Input power monitor ground	22	Output power monitor ground
23	Input power monitor	24	Output power monitor
25	GND	26	GND
27	NC	28	NC
29	+ 3.3V	30	+ 3.3V

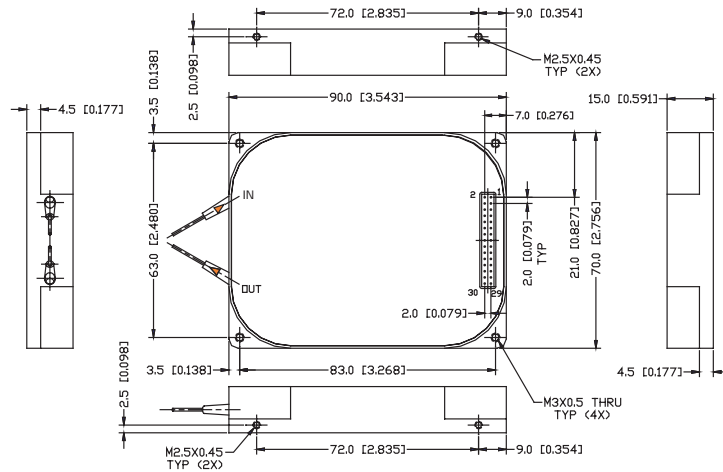
Electrical connection is made via a female 30 PIN connector (2 rows of 15, pin pitch 2.0mm, 0.5x0.5mm), Samtec SMM-115-01-S-D or equivalent.

## Safety Information

### ESD Protection

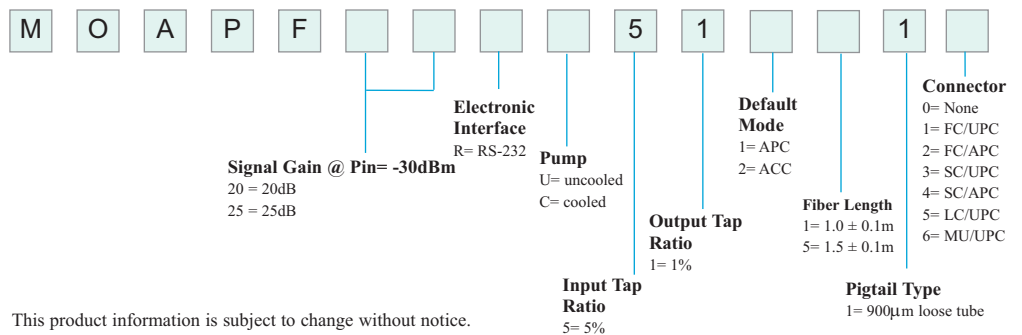
The laser diodes and photodiodes in the module can be easily destroyed by electrostatic discharge. Use wrist straps, grounded work surfaces, and anti-static techniques when operating this module. When not in use, the module shall be kept in a static-free environment.

## Dimensions



Unit: mm (inch)

## Ordering Information



This product information is subject to change without notice.