Fiber Coupled AO Modulator

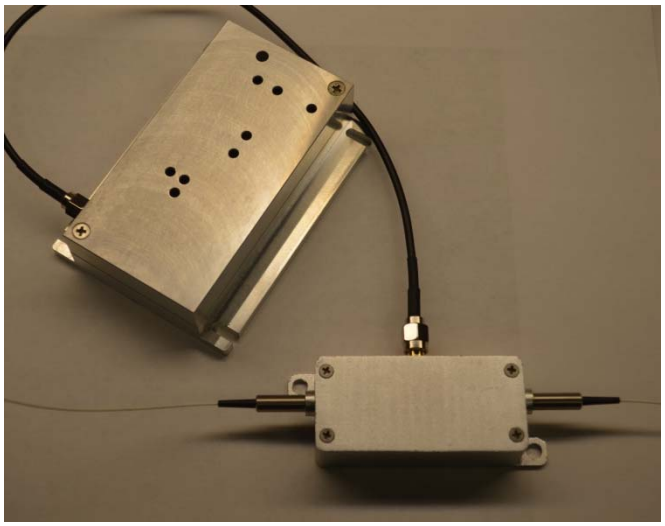
For ultrafast switching and laser pulse picking

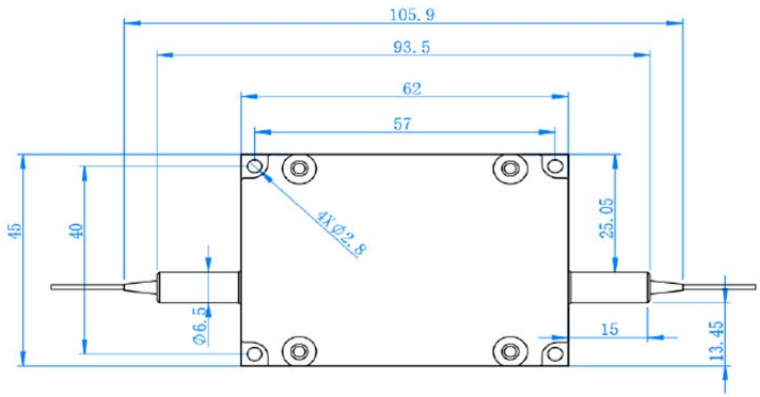
The short rise time acousto-optic modulator (AOM) is designed for use in ultrafast fiber laser systems as pulse pickers to convert their high repetition rate from up to 50 MHz to kHz or any lower frequencies. They can also be used as Q-switches in lasers, or as ultrafast optical switches in applications where very fast optical switching or modulations are required.

It has 20ns risetime and very high extinction ratio (ER) of up to 60dB to ensure very high degree suppression of the unwanted pulses.

This fast AOM can work with our AOD30 AOM driver, or with other compatible AOM drivers available in the market.

In addition to standard products, we have the capability to design and manufacture custom AOMs to the specs of your choice. Wavelength, fiber type, risetime, optical power, and package can all be customized to fit your needs.





Features:

- Low insertion loss
- Fast rise/fall time
- High on/off contrast ratio
- High PER
- Stable performance
- Compact OEM package
- Customer configuration available

Applications:

- Mode-locked laser pulse picking
- Fast optical shutter
- Q-switching
- Optical switch
- Frequency shifter
- Acousto-optic modulator
- Pulse extraction of cavity dump lasers
- Pulse injection & extraction for regenerative amplifiers

WaveSource Photonics, Inc, 81 Palm Drive, Union City, California, USA, salesatwsp@gmail.com
www.wsphotonics.com

Optical, Electrical & Environmental Characteristics

T_{OP} =25C, beginning of life unless otherwise specified

Parameter	Unit	Nominal	Min	Max
Operating wavelength	nm	1045	1020	1070
Insertion loss	dB	1.7		2.2
Rise-time/Fall-time (10% - 90%)	ns	20		
Extinction ratio (on/off)	dB	50	45	
Return loss (RF on/RF off)	dB	50	45	
Optical polarization		Linear, along PM fiber slow axis		
Polarization extinction ratio	dB	23	20	
RF frequency	MHz	80		
Input impedance	Ω	50		
VSWR		2 : 1		
RF power	W	7.5		10
Fiber type		Fujikura SM98-PS-U25, 1.5m, bare fiber (or per request)		
Dimension (LxWxH)	inch (mm)	2.44x1.77x1.22 (62x45x31)		

Absolute Maximum Rating:

Stress beyond those ratings may cause damage to the device. These values are stress ratings only. Operation of the device at these or beyond these ratings are not implied. Exposure to these ratings for extended time may affect device reliability

Parameter	Unit	Min	Max
Storage temperature	C	-20	65
Operating case temperature	C	-20	65
Humidity	%		90
Average optical input power*	W		3, 10, 20
Peak power handling (< 10 picosec laser pulse)	W		3000
RF input power (continuous)	W		12
Fiber bend radius	mm	30	
Fiber pull force	N	5	
ESD (human body model)	V		500

* Standard 3W version is supplied. High power 10W & 20W versions per request.

AOM Application Example: Pulse Picking