

1550nm polarization-preserving acousto-optic modulator 40MHz



● Product Description

Acousto-optic modulators are widely used in the field of fiber optic sensing due to their advantages such as high modulation extinction ratio and high power handling. This product is specially developed for the application requirements of fiber optic sensing, and has the advantages of small size, low power consumption (<1W), fast rise time (12ns), good modulation pulse shape (small overshoot), good pulse repeatability (small repetition cycle jitter), etc. In addition, the modulator and driver can be packaged in an integrated manner, which is convenient for system integration. It can be



widely used in various fiber optic sensing systems that require pulse modulation, such as ϕ -OTDR, BOTDR, OFDR, etc.

● Product features

Small size 、 Low power consumption (<500mW) 、 Fast rise time (12ns) 、
Good modulation pulse shape (small overshoot) 、 Good pulse repeatability
(small jitter in repetition period)

● Part Number

MP-AOM-1550-40M-PM-FA

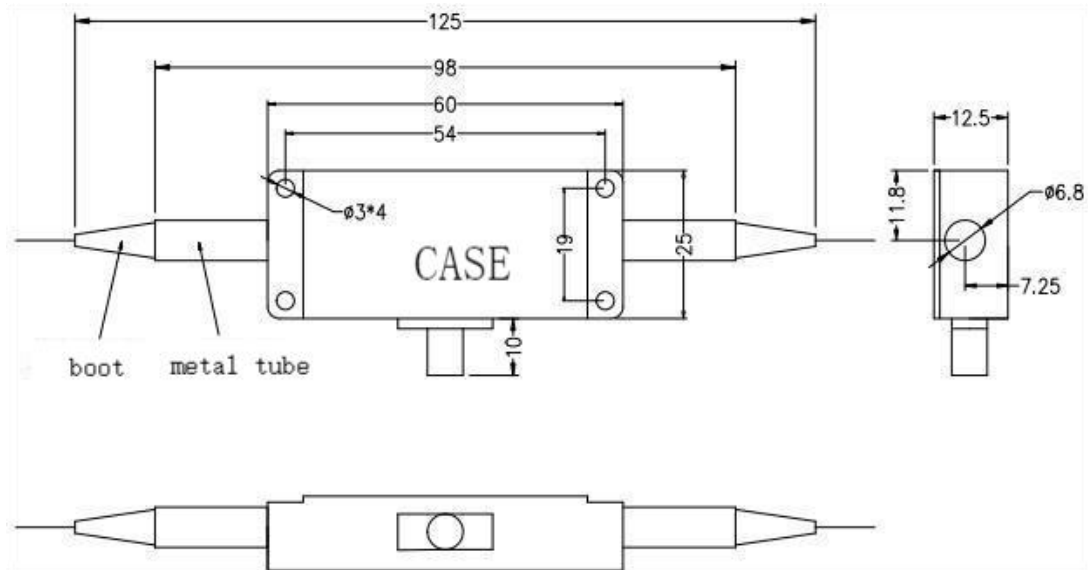
● Application area

Fiber optic sensing、 LiDAR、 BOTDA

● Core parameters

Wavelength	Operating Frequency
1550nm	40MHz

● Dimension Drawing

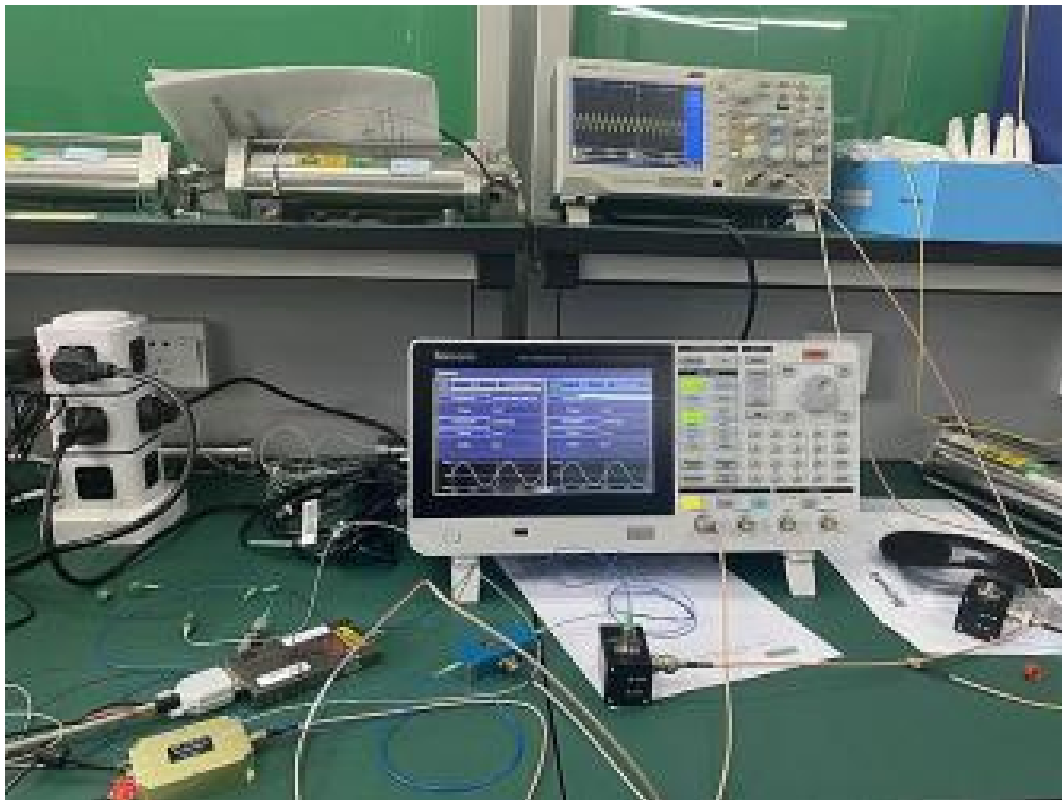


● General Parameters

Parameter	Unit	Min	Max	Typical	Remarks
Material				TeO ₂	
Wavelength	nm	1520	1580	1550	
Average Optical Power (CW)	W			0.5	
Ultrasonic Wave Speed	m/s			4200	
Insertion Loss	dB			2.5	
Polarization Extinction Ratio	dB	18	23	20	
Extinction Ratio	dB	50	55	50	
Return Loss	dB	40			
Rise Time	ns			60	
Frequency	MHz			40	
Frequency Shift	MHz			+/-40	Optional
Frequency Stability				0.1%	
RF Power	W		3	2.5	

Parameter	Unit	Min	Max	Typical	Remarks
Voltage Standing Wave Ratio				1.2:1	
Input Impedance	Ω			50	
Device Connector				SMA	
Fiber Type	SMF28e				
Fiber Length	m			1.2	
Fiber Connector				FC/APC	
Operating Temperature	$^{\circ}\text{C}$			-20~60	
Storage Temperature	$^{\circ}\text{C}$			-30~70	

Test Diagram

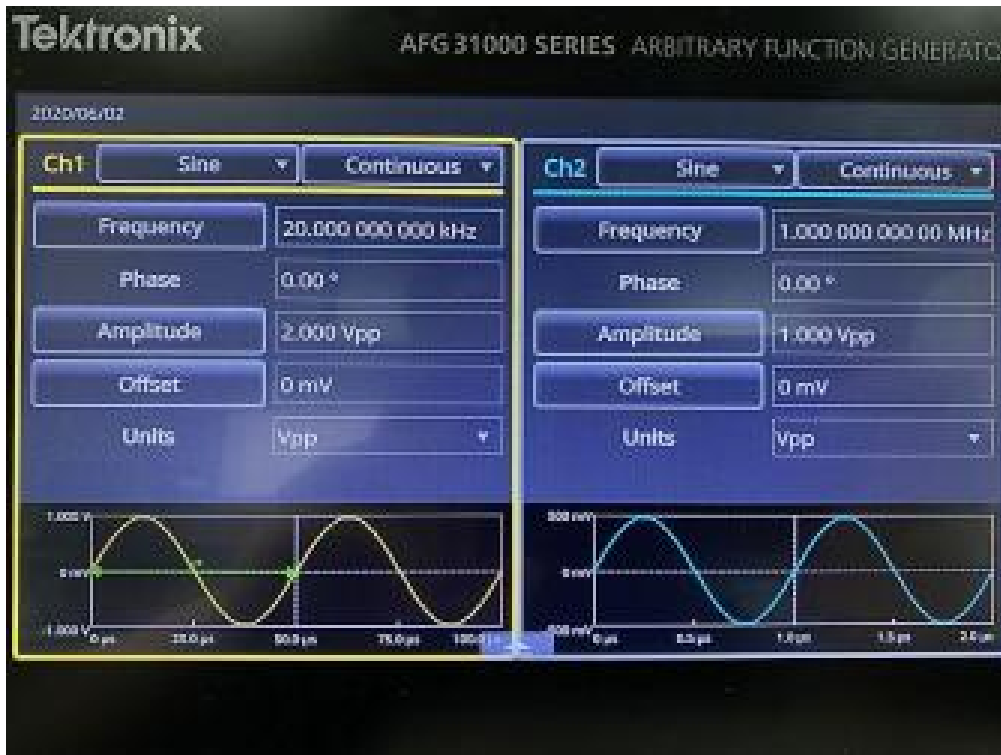


RIO's narrow linewidth lasers, 1550nm PM acousto-optic modulators, and EOT 2.5G

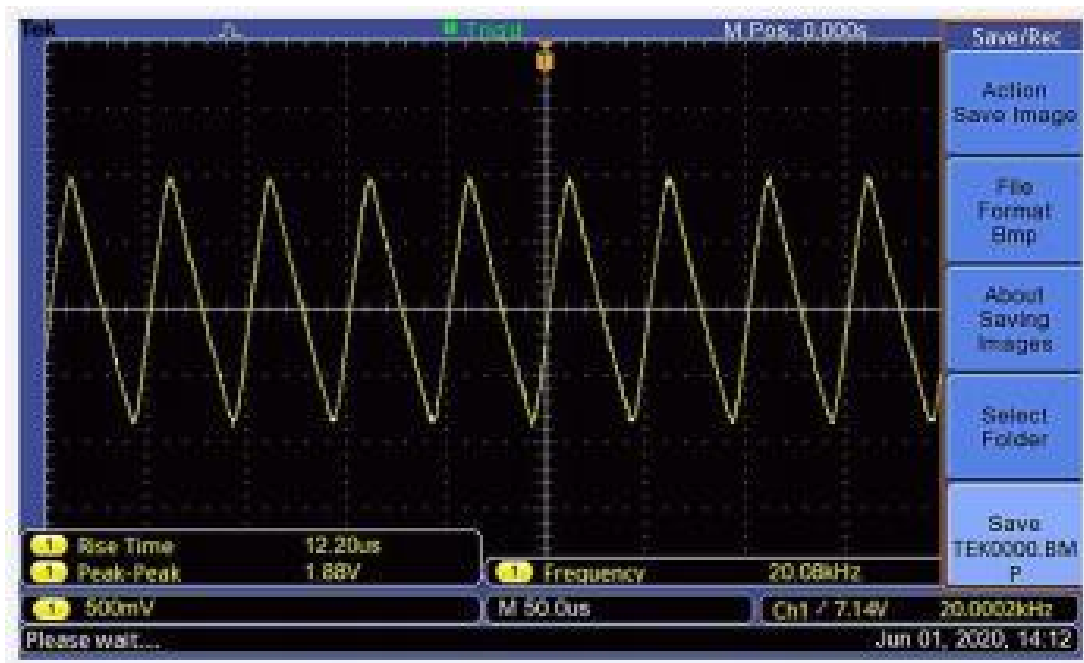
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Modulation curve

The modulation signal applied to the AOM from the signal generator:



The oscilloscope displays the voltage signal output from the detector:





B: Driver Dimensions

