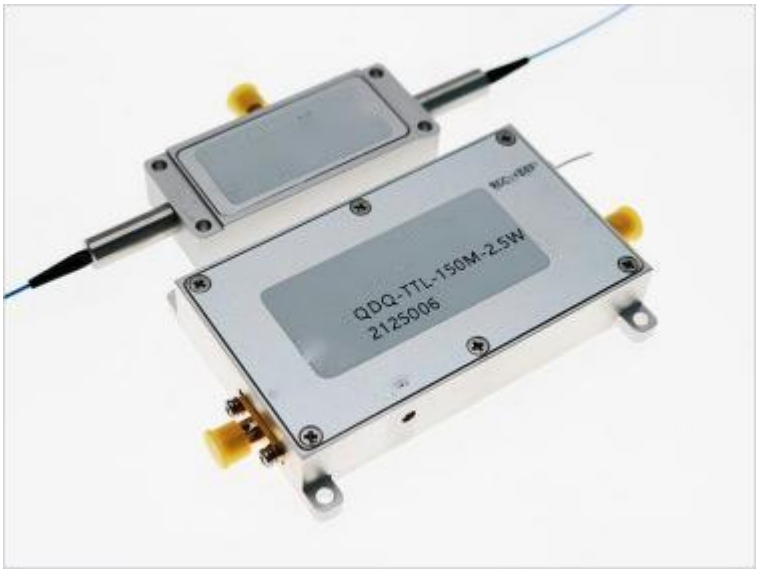
780nm SM acousto-optic modulator (operating frequency 80MHz, FC/APC)



Product Description

Idealphotonics' acousto-optic modulators are widely used in optical fiber sensing applications due to their high modulation extinction ratio, high power tolerance, and other advantages. This product is specifically designed to meet the application needs of optical fiber sensing, featuring small size, low power consumption (less than 1W), fast rise time (12ns), good modulation pulse shape (low overshoot), and excellent pulse repeatability (small jitter in repetition period). Additionally, it can integrate the modulator and driver into a single package, making it convenient for system integration. It is widely applicable in various optical fiber sensing systems that require pulse modulation, such as φ-OTDR, BOTDR, and OFDR.

Part Number

AOM80-780-1-SA

Product features

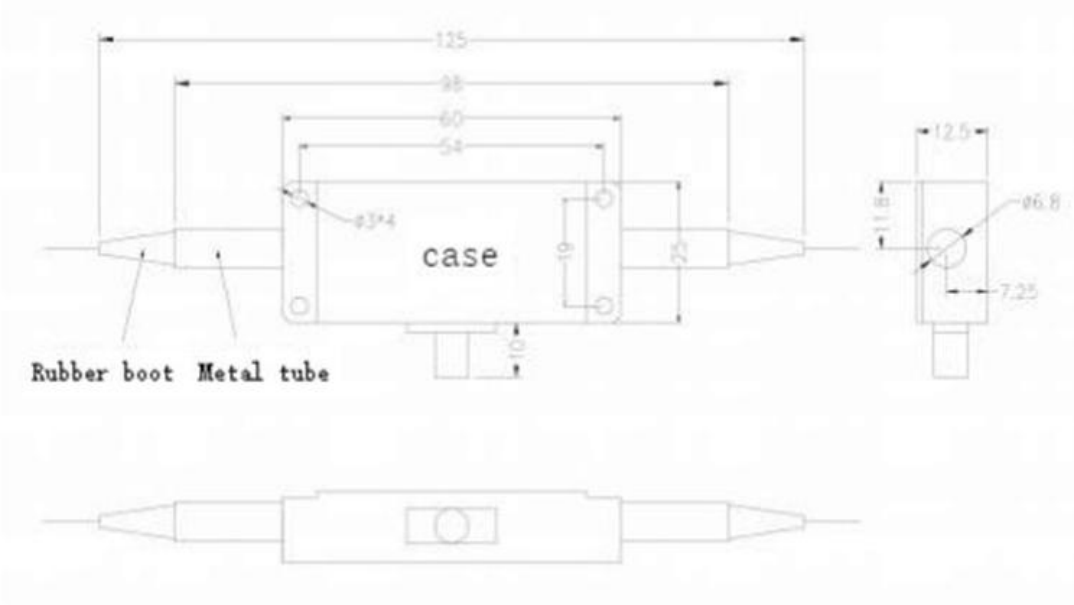
Small size、 Low power consumption（＜500mW） 、 Fast rise time（12ns）、 Good modulation pulse shape (low overshoot)

Application area

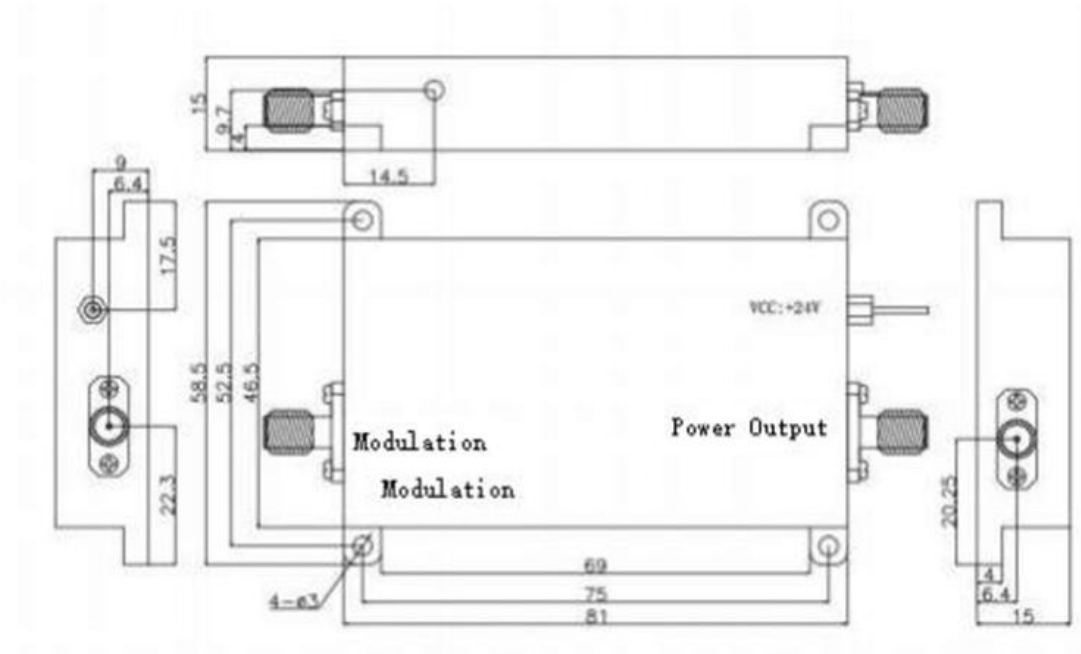
Fiber optic sensing、 LiDAR、 BOTDA

Dimensional Drawing

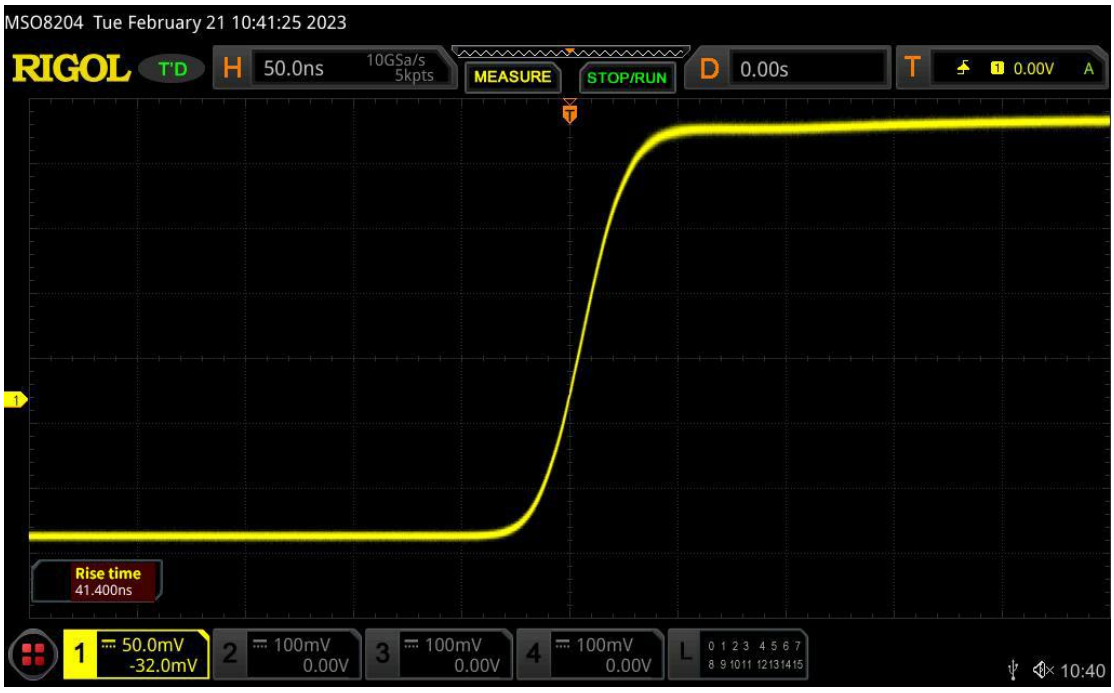
A:AOM Dimensions



B: Driver Dimensions



Modulation test



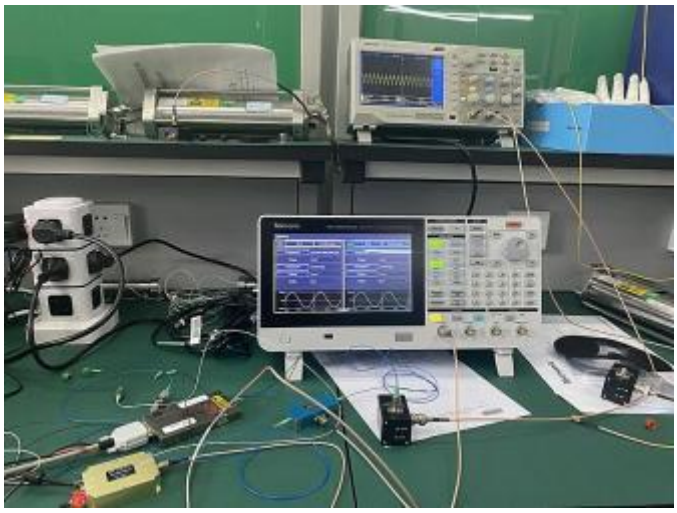
Parameters

Parameter	Unit	PN#		
Material	-	AOM80-780-1(X)	AOM100-780-1(X)	AOM200-780-1(X)
		Bismuth Telluride		
Wavelength	nm	780		
Max Laser Power	W	0.5		
Max Pulse Laser Peak Power	KW	≤1 (5KW custom)		
Insertion Loss	dB	≤3	≤4	≤5
Extinction Ratio	dB	≥50		
Polarization Extinction Ratio	dB	≥18		
Voltage Standing Wave Ratio	1	≤1.2:1		
Optical Pulse Rise Time	ns	60	60	10
Operating Frequency	MHz	80	100	200
Frequency Shift (Default +)	MHz	80	100	200
Fiber Type	-	SM (HI780) or PM (PM780)		
Fiber Connector	-	FC/APC		
Structure	-	Figure A		
Driver		D800-02-M-1D	D100-02-M-1D	D200-02-M-1D

Driver

Parameter	Unit	PN#		
Operating Frequency	MHz	D80-02-M-1D	D100-02-M-1D	D200-02-M-1D
		80	100	200
Driver Power	W	≤2.5	≤3	≤3
Electrical Pulse Rise Time	ns	≤20	≤15	≤7.5
Power Switch Ratio	dB	≥55		
Power Supply Voltage (DC)	V	24		
Harmonic Suppression	dBc	≥25		
Modulation Type	-	TTL		
Output Impedance	Ω	50		
Structure	-	Figure B		

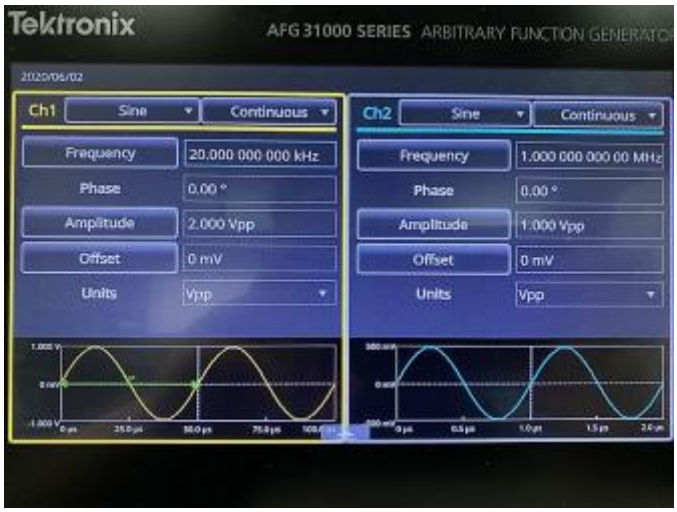
Test Diagram



780nm narrow linewidth laser, 780nm PM acousto-optic modulator, EOT 2.5G photodetector.

Modulation Curve

1. The modulation signal applied to the AOM by the signal generator:



2. The oscilloscope displays the voltage signal output from the detector: