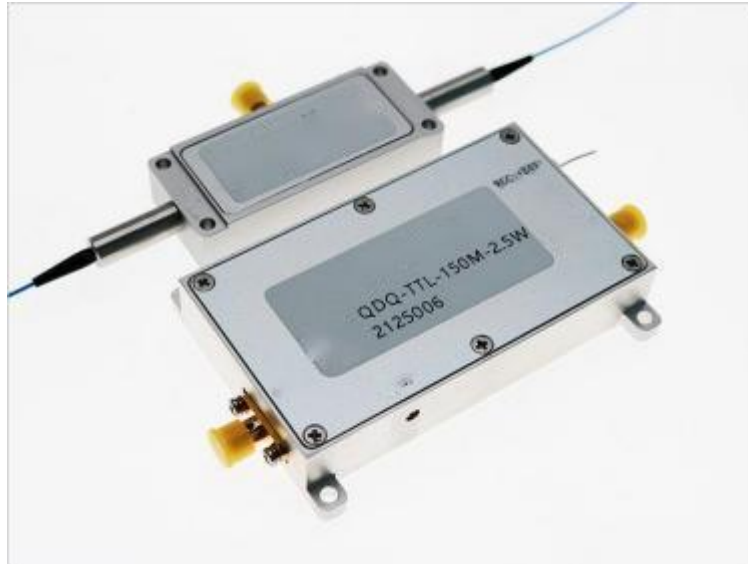


1650nm SM Acousto-Optic Modulator

100MHz



● Product Description

Idealphotonics' acousto-optic modulators are widely used in fiber optic sensing applications due to their high modulation extinction ratio, high power tolerance, and other advantages. This product is specifically developed to meet the application needs of fiber optic sensing, featuring a compact size, low power consumption (<1W), fast rise time (12ns), good modulation pulse shape (small overshoot), and excellent pulse repetition (low jitter in repetition period). Additionally, the modulator and driver can be integrated into a single package, facilitating system integration. It can be widely applied in fiber optic sensing systems that require pulse modulation, such as ϕ -OTDR, BOTDR, OFDR, etc.

● Part Number

AOM100-1650-1-SA

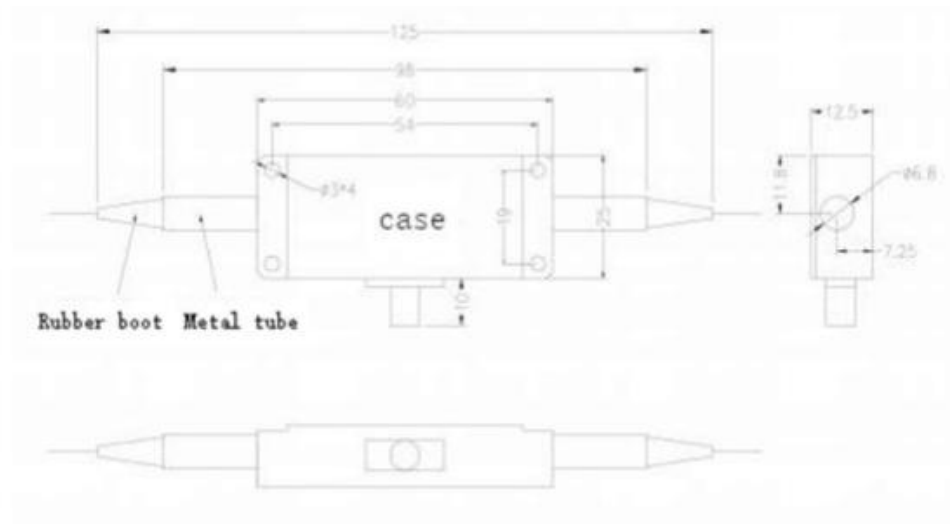
● Product features

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

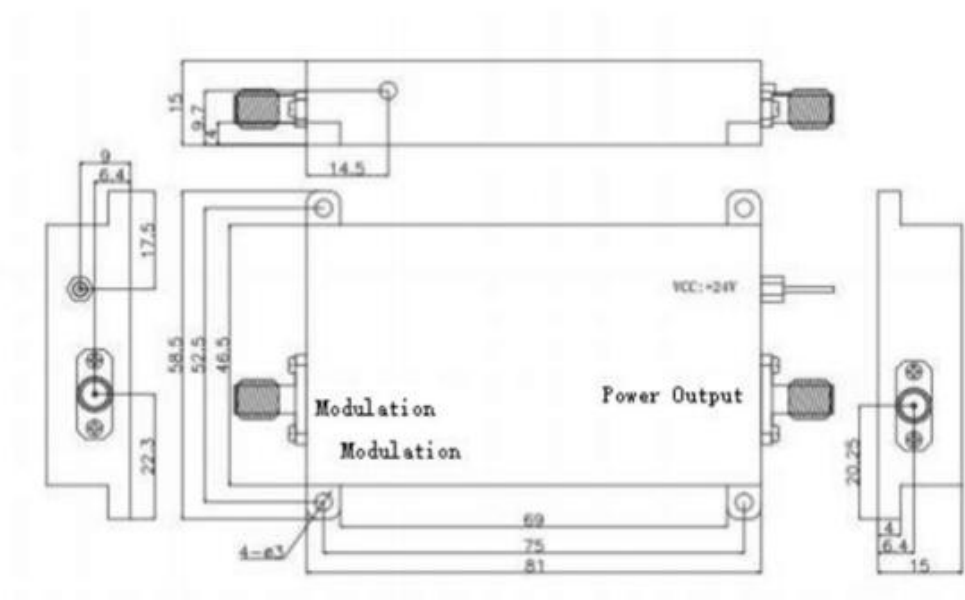
● Application area

Fiber optic sensing、LiDAR、BOTDA

Dimensional Drawing



B, Driver dimension diagram



Parameters

Model Parameters

Parameter	Unit	PN#		
		AOM100-1650-1 (X)	AOM150-1650-1 (X)	AOM200-1650-1 (X)
Material	-	Tellurium Oxide		
Wavelength	nm	1650		

Max Laser Power	W	≤ 0.5		
Max Pulsed Laser Peak Power	KW	≤ 1 (5kW Custom)		
Insertion Loss	dB	≤ 3	≤ 4	≤ 5
Extinction Ratio	dB	≥ 50		
Polarization Extinction Ratio (for PM devices)	dB	≥ 20		
Voltage Standing Wave Ratio	1	$\leq 1.2:1$		
Optical Pulse Rise Time	ns	40	20	12
Operating Frequency	MHz	100	150	200
Fiber Type	-	SM or PM		
Fiber Connector	-	FC/APC		
Structure	-	Picture A		
Driver		D100-02-M-1D	D150-02-M-1D	D200-02-M-1D

Driver

Parameter	Unit	PN#		
		D100-02-M-1D	D150-02-M-1D	D200-02-M-1D
Operating Frequency	MHz	100	150	200
Drive Power	W	≤ 2.5	≤ 3	≤ 3
Electrical Pulse Rise Time	ns	≤ 20	≤ 15	≤ 7.5
Power Switch Ratio	dB	≥ 55		
Supply Voltage (DC)	V	24		

Harmonic Suppression	dBc	≥25
Modulation Mode	-	TTL
Output Impedance	Ω	50
Structure	-	Picture B

Electrical Signal Configuration

Modulation Signal: Pulse signal

Modulation Frequency: 500 kHz

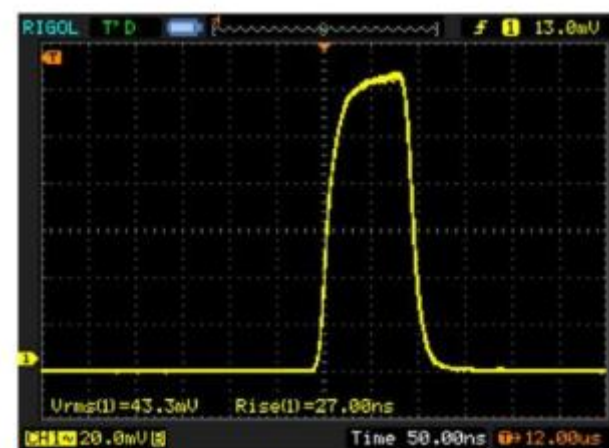
Modulation Amplitude: 0V (low level), 2.5V (high level)

Pulse Width: 100 ns

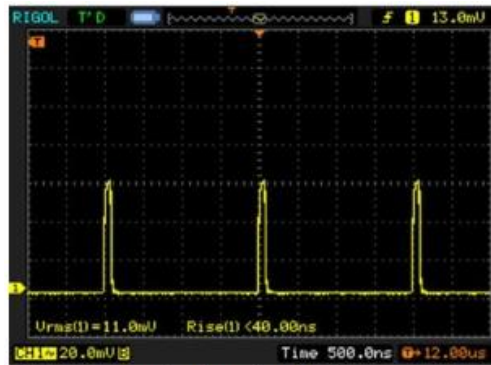
Test Result



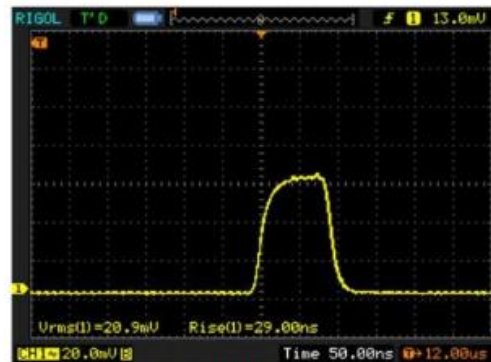
1600nm laser pulse time domain diagram



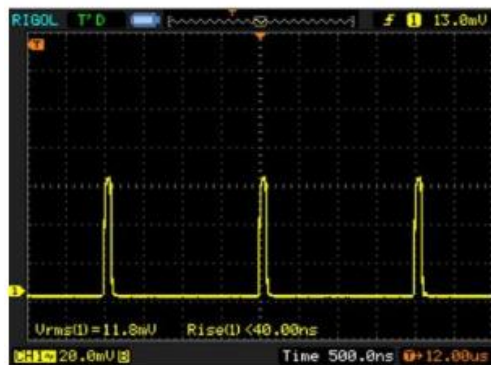
1600nm laser pulse rise time test



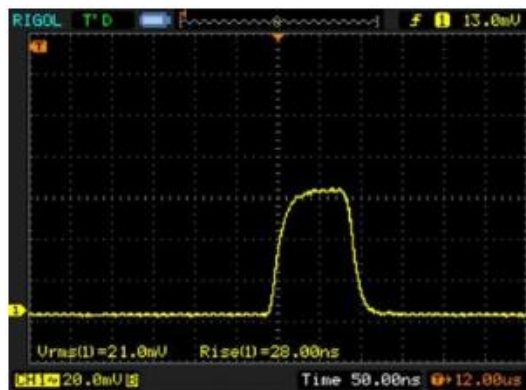
1625nm laser pulse time domain diagram



1625nm laser pulse rise time test



1650nm laser pulse time domain diagram



1650nm laser pulse rise time test

General parameters

Modulation curve

