

Fiber coupled acousto-optic modulator

Overview

Acousto-optic modulators (AOM) are generally used outside the laser cavity to change the intensity of the incoming laser (amplitude modulated AM). This can be simple ON/OFF modulation for quick switching or variable level modulation to achieve intensity modulation. The modulation mode is determined by the type of RF driver and can be digital (ON/OFF) or analog (sinusoidal, square wave, linear, random...). Generally, the RF driver of AOM adopts fixed frequency.

Product Introduction



The key parameter of the AOM is the rise/fall time, which defines the achievable “speed” or amplitude modulation bandwidth of the modulation. The rise/fall time is proportional to the beam diameter inside the modulator. Therefore, the diameter of the incident laser beam must be controlled in order to obtain a fast rise time.

The AOM can be used as a shutter (cyclic switch at a set frequency) or as a variable attenuator (dynamically controlling the intensity of the transmitted light). Laser modulation is achieved by controlling the sound wave in the acousto-optic crystal caused by radio frequency.



Goptica has developed a series of free-space (up to 24 channels in a single channel) and fiber-coupled (PM fiber and non-PM fiber) AOM with a frequency range of up to 300 MHz and a rise time as low as 6 ns, wavelength cover from UV to far infrared (266, 343, 355, 532, 800, 1045, 1030, 1064, 1553, 9300, 10600 etc). AOM selects AO materials with excellent quality (Fused quartz, Quartz crystal, Ge crystal, etc.), which can be designed into shear and longitudinal wave mode according to needs. High quality optical polishing, anti-reflective coatings with low reflection and high damage threshold, reliable welding techniques, and novel acoustic management and optical mechanical design techniques enable excellent thermal management, maintaining excellent beam quality and high transmittance.

Application

Industrial lasers, sensing, scientific research, telecommunications, quantum technology.

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产品参数

Product Code	Working wavelength (nm)	Operating Frequency (MHz)	Fiber Type	Rise Time	Insertion Loss (dB)
FM0001-TL040-P01-1550	1550	40	PM1550XP	≤60 ns	≤2.5
FM0005-TL200-P02-1064	1064	200	PM 980	< 10 ns	<2.5
FM0006-TL200-P09-1064	1064	200	PM 10/125	< 10 ns	<2.5
FM0010-TL080-P03-780	780	80	PM 780	< 50 ns	<3
FM0011-TL200-P03-780	780	200	PM 780	< 50 ns	<3
FM0013-TL080-P01-1550	1550	80	PM1550XP	≤35 ns	≤2.5
FM0016-TL210-P03-780	780	210	PM 780	< 50 ns	<3
FM0017-TL200-P02-1030	1030	200	PM 980	< 10 ns	<2.5
FM0018-TL200-F23-910-940	910-940	200	Nufern-780-HP	< 10 ns	<3.5
FM0021-TL080-P16-780	780	80	PM 780	< 20 ns	<3
FM0022-TL087-P16-780	780	87	PM 780	< 20 ns	<3
FM0023-TL080-P01-532	532	80	PM460	≤30 ns	≤3
FM0026-TL100-F02-1064	1064	100	10/125 Double cladding	< 45 ns	<1
FM0027-TL120-F02-1064	1064	120	10/125 Double cladding	< 45 ns	<1
FM0030-TL110-F05-532	532	110	NP532 10/125	< 50 ns	<3
FM0031-TL080-P06-2000	2000	80	PM 1950	< 20 ns	<3
FM0032-TL120-F02-1030	1030	120	10/125 Double cladding	< 45 ns	<3
FM0033-TL080-P05-760	760	80	PM 630	< 50 ns	<5
FM0034-TL100-P02-935	935	100	PM 980	< 50 ns	<3
FM0035-TL200-P11-1650	1650	200	PM 20/250	< 50 ns	<3
FM0036-TL300-P01-1550	1550	300	PM1550XP	≤6 ns	≤3
FM0037-TL100-F06-532	532	100	/	< 45 ns	<3
FM0038-TL100-F05-1064	1064	100	SC10/125	≤50ns	≤1.2

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FM0039-TL080-F07-1550	1550	80	20/130, NA 0.09+0.01	≤50ns	≤1
FM0040-TL200-P01-1550	1550	200	PM1550XP	≤10ns	≤3
FM0041-TL080-F08-1940	1940	80	Double cladding 10/130, NA 0.14+0.01	≤50ns	≤2.5
FM0042-TL100-F08-1940	1940	100	Double cladding 10/130, NA 0.14+0.01	≤50ns	≤2.5
FM0043-TL080-P01-1550	1550	80	PM1550XP	≤60 ns	≤3
FM0045-TL200-P01-1550	1550	200	PM1550XP	≤60 ns	≤3
FM0046-TL080-P08-532	532	80	PM460	< 15 ns	<3
FM0047-TL200-P08-532	532	200	PM460	< 15 ns	<3
FM0049-TL200-P02-1100	1100	200	PM 980	< 10 ns	<2.5
FM0050-TL200-F05-1064	1064	200	Single mode10/125	< 20 ns	<1.2
FM0051-TL080-P01-1550	1550	80	PM1550XP	≤70ns	≤3
FM0052-TL250-P02-1030	1030	250	PM 980	< 10 ns	<2.5
FM0053-TL120-F02-1550	1550	120	10/125	≤60 ns	≤2.5
FM0057-TL100-P09-1030	1030	100	PM10/125	< 45 ns	<2.5
FM0058-TL020-P01-1550	1550	20	PM1550XP	≤300ns	≤3
FM0059-TL200-000-1030	1030	200	/	9ns	75%
FM0060-TL100-F05-1064	1064	100	SM10/125	/	<1.2
FM0061-TL160-P01-1550	1550	160	PM1550XP	≤60 ns	≤3
FM0063-TL080-P01-1550	1550	80	PM1550XP	≤70 ns	≤2.5
FM0068-TL200-P03-852	852	200	PM780	< 10 ns	<3.5
FM0069-TL200-P02-1030	1030	200	PM980	< 10 ns	<2.5&<3
FM0072-TL120-F05-1064	1064	120	SSM 10/125	/	<1.2
FM0073-TL120-F05-1064	1064	120	SSM 10/125	/	<1.2