

CHAPTER 3 PHOTONICS

MODULATORS & FIXED FREQUENCY SHIFTERS

Acousto-optic modulators are used to vary and control laser beam intensity. A Bragg configuration gives a single first order output beam, which intensity is directly linked to the power of RF control signal. The rise time of the modulator is simply deduced by the necessary time for the acoustic wave to travel through the laser beam. For highest speeds the laser beam will be focused down, forming a beam waist as it passes through the modulator. The first order beam of a modulator is frequency shifted by the amount of the RF carrier frequency : it acts like as fixed frequency shifter.



Model	Material	Wavelength nm	Aperture mmxmm	Freq(Shift) MHz	Polarisation	Rise Time ns	Modul.BW MHz(Am)	Efficiency %
MQ200-A1.5-244.266-B	Fused silica	244-266	1.5 x 2	200	Linear	60	8	85
MQ180-A0.3-244.266-B	Fused silica	244-266	0.3 x 1 1	80	Linear	12	40	85
MQ200-A1.5-266.300	Fused silica	266-300	1.5 x 2	200	Linear	60	8	85
MQ180-A0.2-266.300	Fused silica	266-300	0.2 x 1	180	Linear	10	48	85
MQ180-A0,2-UV	Fused silica	325-425	0.2 x 2	180	Linear	10	48	80
MQ110-A1-UV	Fused silica	25-425	1 x 2	110	Linear	15	32	85
MQ110-A3-UV	Fused silica	325-425	3 x 3	110	Linear	50	10	90
MQ240-A0.15-UV	Fused silica	325-425	0.15 x 1	240	Linear	6	80	70
MTS130-A3-400.442	TeO2	400-442	3 x 3	130	Linear	1000	0,4	85
MQ180-A0.2-VIS	Fused silica	440-650	0.2 x 1	180	Linear	10	48	70
MT350-A0.2-VIS	TeO2	450-700	0.2 x 1	350	Linear	5	96	80
MT250-A0.5-VIS	TeO2	450-700	0.5 x 2	250	Linear	6	80	80
MT200-A0,5-VIS	TeO2	450-700	0.5 x 2	200	Linear	8	60	85
MT110-A1-VIS	TeO2	450-700	1 x 2	110	Linear	15	32	85
MT110-A1.5-VIS	TeO2	450-700	1.5 x 2	110	Linear	50	9	85
MT80-A1-VIS	TeO2	450-700	1 x 2	80	Linear	23	21	85
MT80-A1.5-VIS	TeO2	450-700	1.5 x 2	80	Linear	50	9	85
MTS110-A3-VIS	TeO2	458-670	3 x 3	110	Linear	1000	0.4	85
MTS40-A2.5-VIS	TeO2	458-670	2.5 x 2.5	40	Linear	1000	0.4	85
MTS40-A2.5-IR	TeO2	780-900	2.5 x 2.5	40	Linear	1000	0.4	85
MT110-A1.5-IR-Hk (Ti:sa)	TeO2	690-1064	1.5 x 2	110	Linear	50	9	80
MT350-A0.2-IR	TeO2	700-1100	0.2 x 1	350	Linear	5	96	80
MT250-A0.5-IR	TeO2	700-1100	0.2 x 2	250	Linear	6	80	80
MT200-A0,5-IR	TeO2	700-1100	0.5 x 2	200	Linear	8	60	85
MT110-A1-IR	TeO2	700-110	1 x 2	110	Linear	15	32	85
MT110-A1.5-IR	TeO2	700-1100	1.5 x 2	110	Linear	50	9	85
MT80-A1-IR	TeO2	700-1100	1 x 2	80	Linear	23	21	85
MT80-A1.5-IR	TeO2	700-1100	1.5 x 2	80	Linear	50	9	85
MT200-A0.4-1064	TeO2	1000-1100	0.4 x 1	200	Linear	8	60	80
MT200-A0.2-1064	TeO2	1000-1100	0.2 x 1	200	Linear	8	60	80
MT110-A1-1064	TeO2	1000-1100	1 x 2	110	Linear	15	32	85
MT80-A1-1064	TeO2	1000-1100	1 x 2	80	Linear	23	21	85
MT80-A1.5-1064	TeO2	1000-1100	1.5 x 2	80	Linear	50	9	85
MTS80-A3-1064Ac	TeO2	1064	3 x 3	80	Linear	500	1	85
MQ40-A3-L1064-W	SiO2	1064	3 x 3	40	Linear	120	4	80
MQ40-A3-S1064-W	SiO2	1064	3 x 3	40	Random	180	2.5	80
MGAS40-A1	Dopped Glass	1300-160	1 x 2	40	Random	50	10	85
MGAS80-A1	Dopped Glass	1300-1600	1 x 2	80	Random	50	10	85
MGAS110-A1	Dopped Glass	1300-1600	1 x 2	110	Random	25	20	85
MG40-A6-9300	germanium	9300	6 x 10	40	Linear	120	4	75
MG40-A8-9300	germanium	9300	8 x 10	40	Linear	120	4	75
MG40-A6-10600	germanium	10600	6 x 10	40	Linear	120	4	75
MG40-A8-10600	germanium	10600	8 x 10	40	Linear	120	4	75