

# MQ200-A1.5-266-Br

AO Modulator/Shifter

## High power 244-266 nm modulator

### • High power • Linear Polar • Large aperture

These modulators have been specially designed for applications for which TeO<sub>2</sub> cannot be used. Their large aperture allows user to combine the laser beam without additional optics. Their Brewster design allows high transmission in 244 to 266 nm range.

They can also be used as fixed frequency shifters @200 MHz, as well as variable frequency shifters with a frequency range up to 200 +/- 15 MHz.

With an adapted frequency range, user will be able to operate this device as a high speed low resolution deflector.

### Specifications

<b>Material-Acoustic mode</b>	Fused silica UV grade
<b>Acoustic Velocity</b>	V=5960 m/s
<b>Optical Wavelength range</b>	244-266 nm
<b>Transmission</b>	Brewster incidence
<b>Optical Input / Output polarizations</b>	Linear parallel to baseplate
<b>Aperture</b>	1.5 x 2 mm <sup>2</sup>
<b>Carrier frequency / Frequency shift</b>	200 MHz
<b>Separation angle</b>	> 8 mrd
<b>Diffraction efficiency (with TEM<sub>00</sub> beam, M<sup>2</sup> ≤ 1.1)</b>	Nom 90 % @ 266 nm
<b>Rise time</b>	110 ns/mm (min 10 ns)
<b>Amplitude modulation bandwidth</b>	> 4 MHz (-3 dB, @1 mm)
<b>Static extinction ratio</b>	> 1000/1
<b>Max optical power density</b>	> 10 W / mm <sup>2</sup> @266 nm
<b>Input impedance</b>	Nom 50 Ω
<b>V.S.W.R.</b>	Nom < 1.5/1
<b>RF Power</b>	< 4 Watts
<b>Connector</b>	SMA
<b>Size / Weight</b>	(LxIxh)
<b>Operating Temperature</b>	10 to 40 °C



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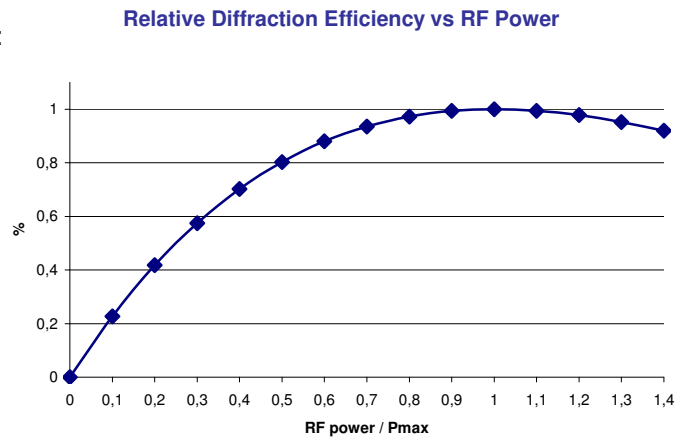


→ Separation angle ( $\Delta\theta$ ) is wavelength ( $\lambda$ ) sensitive:

$$\Delta\theta = \frac{\lambda F}{V}$$

→ RF power (P) is wavelength ( $\lambda$ ) sensitive:

$$\frac{P_1}{P_2} = \frac{\lambda_1^2}{\lambda_2^2}$$



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OPTION

**Frequency range** 200+/- 15 MHz

Nominal efficiency over 200+/- 15 MHz > 70%