

MT80

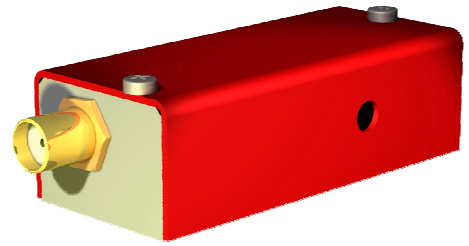
AO Modulator/Shifter

TeO2 modulator for 1300 to 1600 nm lasers

- 1300-1600 nm spectral range
- Linear or random Polar

They can also be used as fixed frequency shifters @80 MHz, as well as variable frequency shifters with a frequency range up to 80 +/- 21 MHz.

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



Specifications

Material-Acoustic mode	TeO2 [L]
Acoustic Velocity	V=4200 m/s
Optical Wavelength range	1300 – 1600 nm
Transmission	> 95 %
Optical Input / Output polarizations	Linear ⊥
Aperture	0.7 x 3 mm ²
Carrier frequency / Frequency shift	80 MHz
Separation angle	29.5 mrd @1550 nm
Diffraction efficiency (with TEM00 beam, M² ≤ 1.1)	> 60 % @ 80 MHz > 40 % over frequency range 80 +/- 21 MHz
Rise time	160 ns/mm (min 24 ns)
Amplitude modulation bandwidth	> 20 MHz (-3 dB, @150μm)
Static extinction ratio	> 2000/1
Max optical power density	5 W / mm ²
Input impedance	Nom 50 Ω
V.S.W.R.	Nom < 1.5/1
RF Power	≤ 2.2 Watts
Connector	SMA
Size / Weight	(Lxhx) 50.9 x 22.4 x 15.8 mm ³ / 50 g
Operating Temperature	10 to 40 °C

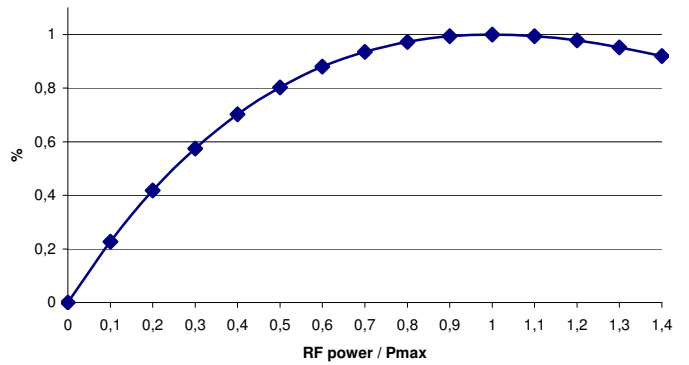
Relative Diffraction Efficiency vs RF Power

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

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

→ RF power (P) is wavelength (λ) sensitive:

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



OPTION

Frequency range 80+/-21MHz
 Nominal efficiency over 80+/-21MHz > 40%

MT80-Ax-zz

X (aperture, mm) = 0.7
Y = frequency range (MHz) if any
ZZ = 1300-1600 (nm)

Outline Drawing

(sizes in mm)

