

## Acousto-Optic Light Modulators

Type: **EFLM**



This acousto-optic light modulator, using an acousto-optic effect, can modulate various lasers ranging from visible light to infrared light.

### Features

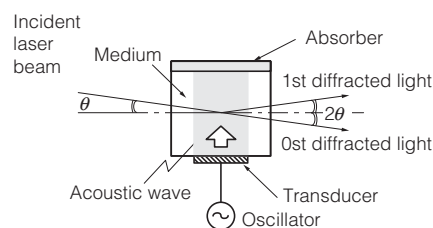
- Low driving power (0.5 to 2.5 W)
- Wide modulation bandwidth (DC to 40 MHz)
- Superior temperature characteristics ( $2\theta$ : 200 ppm/°C)
- RoHS compliant

### Recommended Applications

- Laser printer
- Laser Doppler measuring
- Various light recording
- Various light measuring
- Laser processing
- Q-switch for Fiber Laser

### Principle

#### Light Modulators



### Explanation of Part Numbers

1	2	3	4	5	6	7	8	9	10
E	F	L	M						
Product Code				Center Frequency			Design No.		

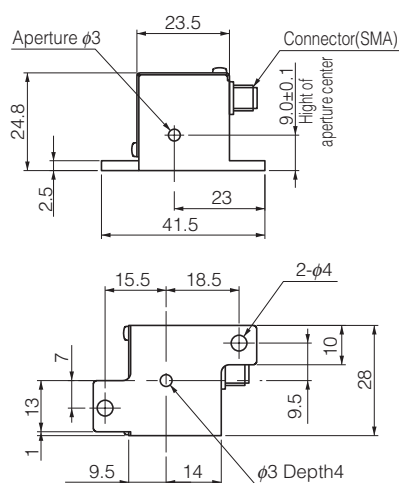
## Ratings and Characteristics

### ● Type EFLM

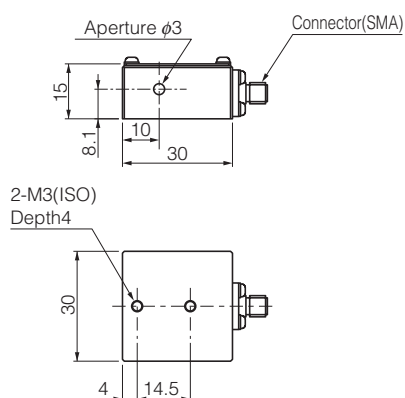
Item \ Part No.	EFLM200AL2G	EFLM135Y01A	EFLM120Y05B
AO Medium	TeO <sub>2</sub>		
Acoustic Velocity: $v$ (m/s)	4260		
Optical Wavelength: $\lambda$ (nm)	440 to 770	1064	1550
Center Frequency: $f$ (MHz)	200	135	120
Modulation Bandwidth: $\Delta f$ (MHz) (Beam Diameter (mm))	DC–28 min. ( $\phi 0.075$ )	DC–4 min. ( $\phi 0.5$ )	DC–4 min. ( $\phi 0.5$ )
Maximum Diffraction Efficiency (%) (Beam Diameter (mm))	75 min. ( $\phi 0.075$ )	75 min. ( $\phi 0.5$ )	50 min. ( $\phi 0.5$ )
Pulse Response (ns) (Beam Diameter (mm))	12 max. ( $\phi 0.075$ )	80 min. ( $\phi 0.5$ )	80 min. ( $\phi 0.5$ )
Maximum Beam Diameter (mm)	0.4	0.6	0.8
Maximum Driving Power (W)	1.0	1.2	2.0
Optical Transmittance (%)	90 min. ( $\lambda=400$ to $500$ nm) 85 min. ( $\lambda=551$ to $700$ nm)	92 min.	90 min.
Extinction Ratio	1000 : 1 min.		
Input Impedance ( $\Omega$ )	50 (VSWR 1.5 max.)		
Laser Polarization	Linear (Vertical to the base: E Vector)		

## Dimensions in mm (not to scale)

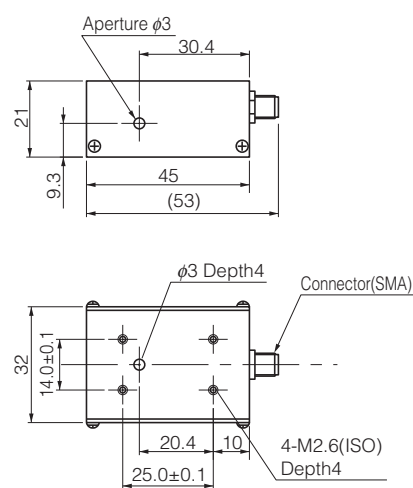
EFLM200AL2G



EFLM135Y01A



EFLM120Y05B

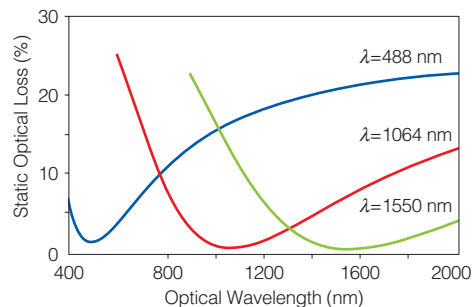


unit : (mm)

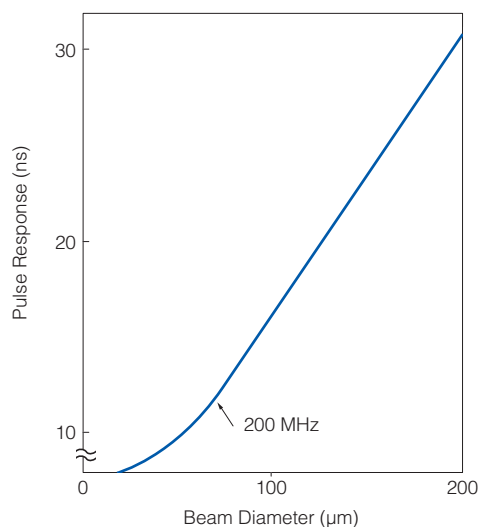
■ Please contact the factory for packaging methods.

## Typical Characteristics (AO Modulators)

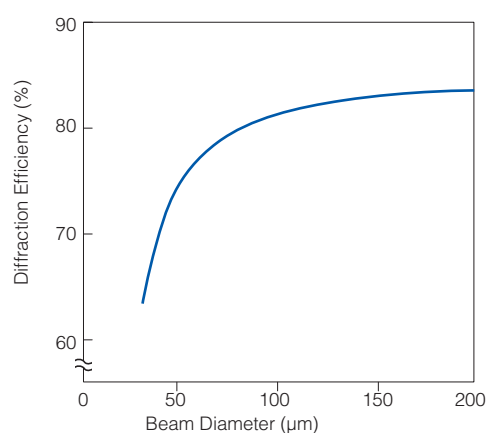
Optical Transmittance



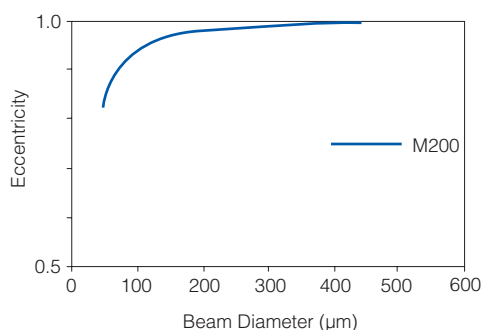
Beam Diameter vs. Pulse Response



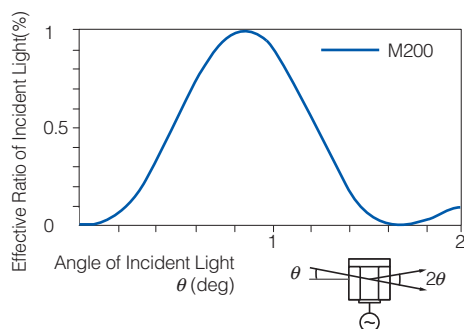
Beam Diameter vs. Diffraction Efficiency



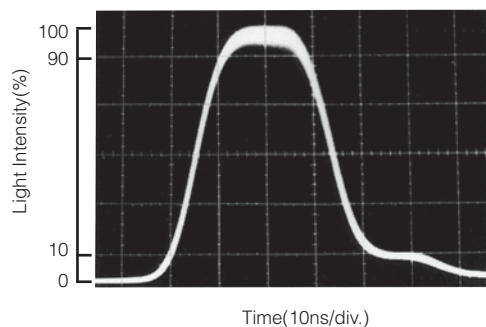
Beam Diameter vs. Eccentricity of Diffracted Beam



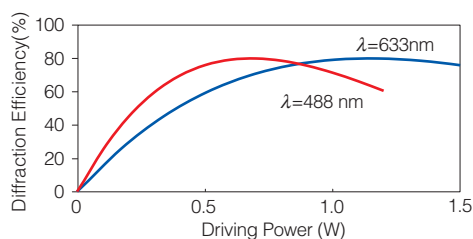
Angle of Incident Light vs. Effective Ratio of Incident Light



Pulse Response EFLM200



Driving Power vs. Diffraction Efficiency



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EFL-M200