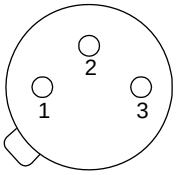
# Application Note 0801 : Driving AOM Variable optical Attenuator

AOM Variable Optical Attenuator is a MEMS based, voltage controlled VOA.

## Features:

- Low Insertion Loss
- Low Polarization Dependent Loss
- Low Wavelength Dependent Loss
- Fast response (<1ms)
- Negligible power consumption
- Compact package




1- Control voltage +
2- NC
3- GND

Figure 1. AOM VOA

## Recommended driving circuit

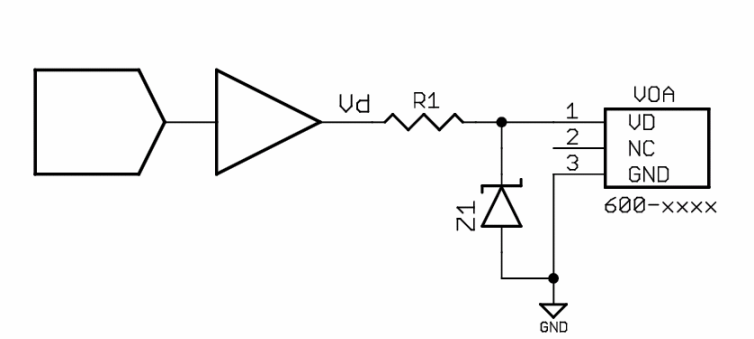



Fig 1. VOA driving circuit

## Circuit description

Typical driving circuit has the VOA connected via limiting resistor R1 to operational amplifier output or other voltage source. The value of the R1 should be selected to limit the VOA driving current to 1mA max. The value of the resistor R1 does not effect the response time of the VOA since the typical VOA resistance is larger than 1000 Mohm. The capacitance of the VOA is typically 10pF.

| Max driving voltage | R1 value | Z1 Zener voltage [V] |
|---|---|---|
| 7 | 10K | 8 |
| 15 | 15K | 16 |
| 20 | 20K | 21 |

The optional Zener diode prevents voltage spikes generated by the circuit during power up or power down from damaging the VOA.

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