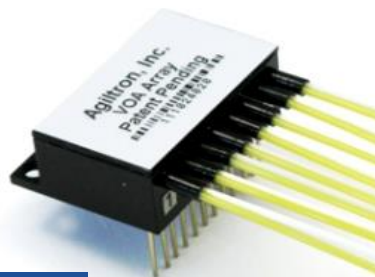


# 9~16 Channel *et*MEMS™ VOA Array

(US patent 8,666,218 and other patents pending)

## Product Description

The *et*MEMS™ series VOA is based on a micro-electro-mechanical mechanism featuring compact design, simple construction, easy direct drive, and excellent optical performance. The *et*MEMS™ series VOA is compliant with the Telcordia 1209 and 1221 reliability standards. The VOA is driven by directly applying an electrical voltage.



## Performance Specifications

| 9~16 Channel <i>et</i> MEMS™ VOA array        | Specification     | Unit  |
|-----------------------------------------------|-------------------|-------|
| Operating Wavelength                          | 1310±50; 1550±50  | nm    |
| Insertion Loss (without connector)            | 0.6typ.; 1.0max.  | dB    |
| Attenuation Dynamic Range                     | 55                | dB    |
| Polarization Dependant Loss (0~20dB)          | ≤ 0.1             | dB    |
| Wavelength Dependant Loss (40nm band, 0~20dB) | 0.45typ.; 0.8max. | dB    |
| Polarization Mode Dispersion                  | ≤ 0.05            | ps    |
| Optical Cross Talk                            | ≥ 65              | dB    |
| Attenuation Resolution                        | Continuous        | dB    |
| Response Time (0~20dB)                        | 5typ.; 10max      | ms    |
| Return Loss (Input / Output)                  | 50                | dB    |
| Maximum Power Consumption                     | ≤170              | mW/Ch |
| Electric Power Input (DC)                     | 5                 | V     |
| Electrical Control Signal                     | 0-4.5             | V     |
| Operating Temperature                         | -20 ~ +75         | °C    |
| Storage Temperature                           | -40 ~ +85         | °C    |
| Optical Power Handling <sup>3</sup>           | 300typ.; 500max   | mW/ch |
| Relative Humidity Range                       | 0 ~ 85            | %     |
| Package Dimensions (see next page)            | 50.0 x 25.0 x 9.0 | mm    |

## Features

- High Stability
- Low Cost
- Ease to Use

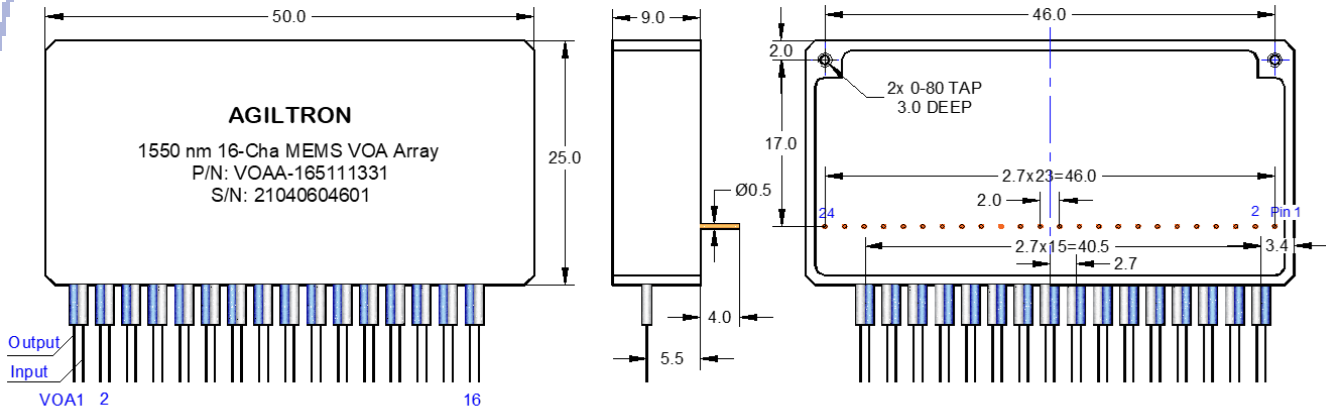
## Applications

- Laboratory Uses
- Testing
- Instrumentation



Revised on 9/20/21

## Dimensions (Unit: mm)



\*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

## Electrical/Computer Connection

| Pin No. | Electronic Drive | VOA No. | Pin No. | Electronic Drive | VOA No. | Pin No. | Electronic Drive | VOA No. | Pin No. | Electronic Drive | VOA No. |
|---------|------------------|---------|---------|------------------|---------|---------|------------------|---------|---------|------------------|---------|
| 1       | 0~5V             | 1       | 7       | 0~5V             | 5       | 13      | 0~5V             | 9       | 19      | 0~5V             | 13      |
| 2       | 0~5V             | 2       | 8       | 0~5V             | 6       | 14      | 0~5V             | 10      | 20      | 0~5V             | 14      |
| 3       | 0~5V             | 3       | 9       | 0~5V             | 7       | 15      | 0~5V             | 11      | 21      | 0~5V             | 15      |
| 4       | 0~5V             | 4       | 10      | 0~5V             | 8       | 16      | 0~5V             | 12      | 22      | 0~5V             | 16      |
| 5       | GND              |         | 11      | GND              |         | 17      | GND              |         | 23      | GND              |         |
| 6       | GND              |         | 12      | GND              |         | 18      | GND              |         | 24      | 5V Power Supply  |         |

## Ordering Information

| <b>VOAA-</b> | <input type="checkbox"/>                                                                                    | <input type="checkbox"/>                   | <input type="checkbox"/>    | <input type="checkbox"/> | <b>2</b>                                                                                                               | <input type="checkbox"/>                         | <input type="checkbox"/>                                                                                                         | <input type="checkbox"/> | <input type="checkbox"/> |
|--------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------|-----------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|
|              | Type                                                                                                        | Wavelength                                 | Off State                   | Package                  | Fiber                                                                                                                  | Fiber Length                                     | Connector                                                                                                                        |                          |                          |
|              | 9-ch = 09<br>10-ch = 10<br>11-ch = 11<br>12-ch = 12<br>13-ch = 13<br>14-ch = 14<br>15-ch = 15<br>16-ch = 16 | 850/1310 =A<br>1260~1620 =B<br>Special = 0 | Transparent=1<br>Opaque = 2 | Special=0                | SMF-28 =1<br>MM 50/125=5<br>MM 62.5/125=6<br>PM1550/250=B<br>PM1300/250=D<br>PM980/250=E<br>PM850/250=F<br>Special = 0 | 0.25m = 1<br>0.5m = 2<br>1.0m = 3<br>Special = 0 | None = 1<br>FC/PC = 2<br>FC/APC = 3<br>SC/PC = 4<br>SC/APC = 5<br>ST/PC = 6<br>LC = 7<br>Duplex LC = 8<br>MTP = 9<br>Special = 0 |                          |                          |