

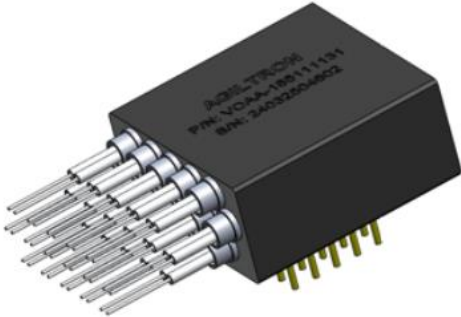
# Ultra-Mini MEMS Variable Attenuation Array

(16 channels, 0-5V, 780-2640nm, 40dB attenuation, SM, MM, PM)



DATASHEET

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## Features

- High Stability
- Low Cost
- High Repeatability
- Low Power Consumption
- Low Drift
- Compact Size

## Applications

- Laboratory Uses
- Testing
- Instrumentation

This series of MEMS Variable Attenuator Arrays boasts an ultra-miniature design, offering a 0-5V drive and low power consumption. It delivers excellent repeatability and outstanding optical performance. These arrays are fully compliant with the Telcordia 1209 and 1221 reliability standards, ensuring robust and reliable operation. The design incorporates pins for mounting, providing an efficient and secure installation method.

## Specifications

| Parameter                                | Min                 | Typical             | Max                | Unit |
|--|---------------------|---------------------|--------------------|------|
| Operation Wavelength                     | 850-1310, 1260~1620 |                     |                    | nm   |
| Insertion Loss (Without Connector)       |                     | 0.6                 | 1.0 <sup>[3]</sup> | dB   |
| Attenuation Dynamic Range                | 40                  |                     | 55                 | dB   |
| Polarization Dependent Loss (SM, 0~15dB) |                     | 0.1                 | 0.2                | dB   |
| Repeatability (0-60 °C)                  |                     | 0.3                 | 0.5                | dB   |
| Extinction Ratio (PM)                    | 18                  | 22                  |                    | dB   |
| Return Loss                              | SM, PM              | 50                  |                    | dB   |
|  | Multimode           | 35                  |                    |      |
| Wavelength Dependent Loss <sup>[1]</sup> |                     | 0.45                | 0.8                | dB   |
| Response Time (0~20 dB)                  |                     | 1                   | 3                  | ms   |
| Optical Power Handling (CW)              |                     | 300                 | 400                | mW   |
| Polarization Mode Dispersion             |                     | ≤ 0.05              |                    | ps   |
| Optical Crosstalk                        |                     | ≥ 65                |                    | dB   |
| Attenuation Resolution                   |                     | Continuous          |                    |      |
| Max. Power Consumption                   |                     | ≤ 10 <sup>[2]</sup> |                    | mW   |
| Electric Power Input                     |                     | 0 ~ 5               |                    | VDC  |
| Electrical Control Signal <sup>[4]</sup> | -20                 |                     | +75                | °C   |
| Storage Temperature                      | -40                 |                     | +85                | °C   |
| Relative Humidity Range                  |                     | 0 ~ 85              |                    | %    |

### Notes:

[1]. Within 40nm band, 0~20dB.

[2]. At the maximum attenuation 50dB for all 8 channels.

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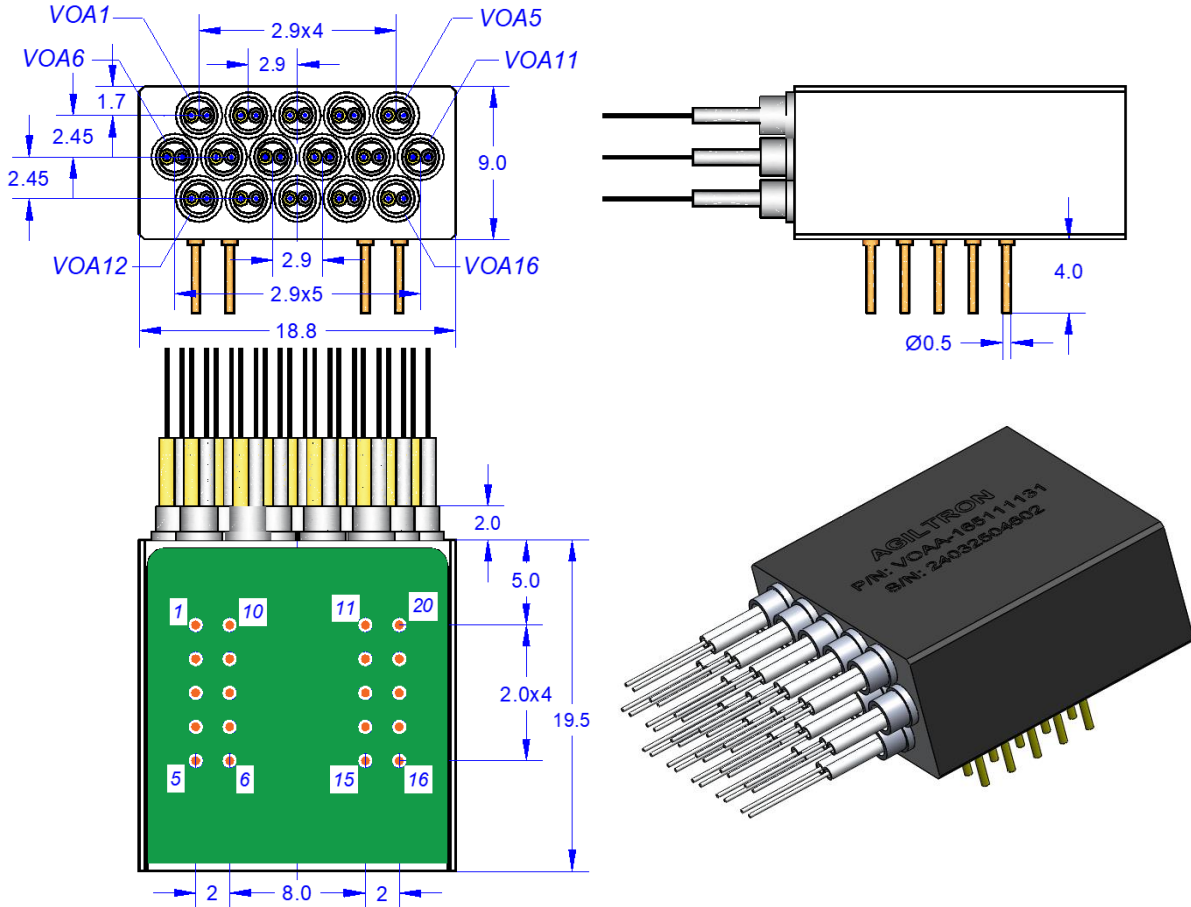
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### Mechanical Dimensions (mm)



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

### Electrical/Computer Connection

| Pin # | Control VOA # | Control Voltage |
|-------|---------------|-----------------|
| 1     | VOA 1         | 0 ~ 5 VDC       |
| 2     | VOA 2         |                 |
| 3     | VOA 3         |                 |
| 4     | VOA 4         |                 |
| 5     | VOA 5         |                 |
| 6     | VOA 6         |                 |
| 7     | VOA 7         |                 |
| 8     | VOA 8         |                 |
| 9     | VOA 9         |                 |
| 10    | VOA 10        |                 |

| Pin # | Control VOA # | Control Voltage |
|-------|---------------|-----------------|
| 11    | VOA 11        | 0 ~ 5 VDC       |
| 12    | VOA 12        |                 |
| 13    | VOA 13        |                 |
| 14    | VOA 14        |                 |
| 15    | VOA 15        |                 |
| 16    | VOA 16        |                 |
| 17    | 0V            |                 |
| 18    | 0V            |                 |
| 19    | N/A           |                 |
| 20    | N/A           |                 |

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### Ordering Information

| Prefix       | Type  | Wavelength  | Off State                                    | Package     | Fiber Type   | Fiber Cover                                     | Fiber Length                                     | Connector*   |
|--------------|---|---|--|-------------|--|---|--|--|
| <b>VOMA-</b> | 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 | 1060 = 1<br>C + L = 2<br>1310 = 3<br>1550 = 5<br>780 = 7<br>850 = 8<br>850/1310 = A<br>1260~1620 = B<br>Special = 0 | Transparent = 1<br>Opaque = 2<br>Special = 0 | Special = 0 | SMF-28 = 1<br>HI1060 = 2<br>HI780 = 3<br>MM 50/125 = 5<br>MM 62.5/125 = 6<br>PM1550 = B<br>PM1310 = D<br>PM980 = E<br>PM850 = F<br>Special = 0 | Bare fiber = 1<br>900um tube = 3<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/PC = 7<br>Duplex LC/PC = 8<br>MTP = 9<br>LC/APC = A<br>LC/UPC = U<br>Special = 0 |

**Notes:**

\*Only bare fiber is available due to the compact size. Adding a connector to bare fiber increases the risk of damage and costs.