# SKA-0130634563-SFSF-D4

Advanced

## Digital Controlled Electrical Attenuator, 1 to 6 GHz

### Description:


**Model SKA-0130634563-SFSF-D4** is an broadband digitally controlled electrical attenuator operating from 1 to 6 GHz. The attenuator exhibits 4.5 dB typical insertion loss and offers 63 dB nominal attenuation control range in 1 dB steps under an 6-bit digital control. The control speed of the attenuator is typically 200 ns. The RF input and output ports are female SMA coax connectors, and a male Micro-D9 port is employed for providing the control signal and DC bias.

### Features:

- Low Insertion Loss
- High Dynamic Range
- Fast Control Speed

### Applications:

- Radar Systems
- Communication Systems
- Testing Equipment

### Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|---|---|---|---|
| RF Frequency | 1 GHz | | 6 GHz |
| Insertion Loss | | 4.5 dB | 6 dB |
| Attenuation Range | | 63 dB | |
| Attenuation Step size | | 1 dB | |
| TTL Control Bit | | 6 | |
| Power Handling | | | +20 dBm |
| DC Voltage Supply | | +5 V | |
| DC Current | | 50 mA | |
| Switching Speed | | 1 µs | |
| Impedance | | 50 Ω | |
| Specification Temperature | | +25 °C | |
| Operating Temperature | -45 °C | | +85 °C |

### Mechanical Specifications:

| Item | Specification |
|---|---|
| RF Ports | SMA (F) |
| Bias Port | MICRO-D9 (Male) |
| Case Material | Aluminum |
| Finish | Gold Plated |
| Weight | 1.8 Oz |
| Insertion Length | 1.10” (W) X 0.79” (L) X 0.37” (H) |
| Outline | KA-DC-Z4 |

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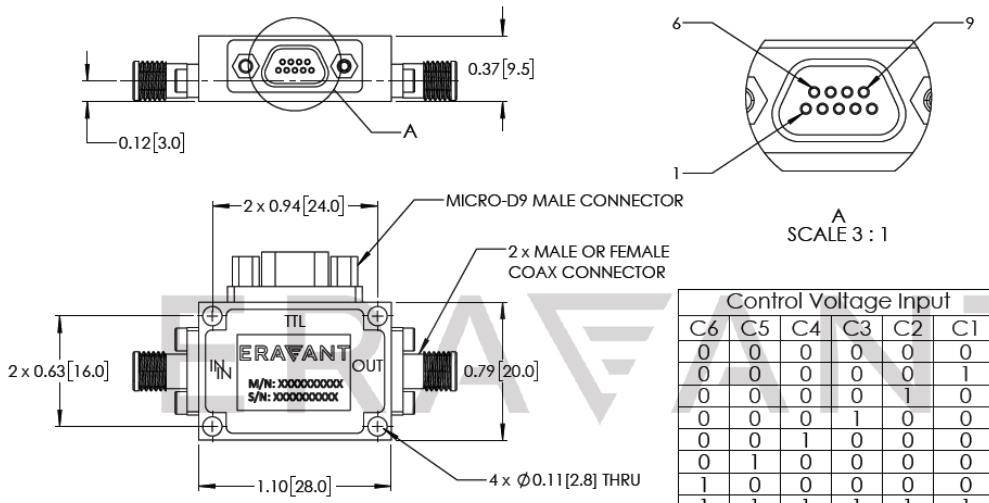
## Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])




| Control Voltage Input | | | | | | Attenuation State |
|---|---|---|---|---|---|---|
| C6 | C5 | C4 | C3 | C2 | C1 | |
| 0 | 0 | 0 | 0 | 0 | 0 | Reference IL |
| 0 | 0 | 0 | 0 | 0 | 1 | 1 dB |
| 0 | 0 | 0 | 0 | 1 | 0 | 2 dB |
| 0 | 0 | 0 | 1 | 0 | 0 | 4 dB |
| 0 | 0 | 1 | 0 | 0 | 0 | 8 dB |
| 0 | 1 | 0 | 0 | 0 | 0 | 16 dB |
| 1 | 0 | 0 | 0 | 0 | 0 | 32 dB |
| 1 | 1 | 1 | 1 | 1 | 1 | 63 dB |
| LOW (0)= 0 TO +0.8 VDC<br>HIGH (1)=+2.0 TO +5.0 VDC | | | | | | |

MICRO-D9 Male Pin Configuration

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|
| +5 V | GND | NC | C1 | C2 | C3 | C4 | C5 | C6 |

**Note:**

- Other mechanical configurations are available under different model numbers.
- Eravant reserves the right to change the information presented without notice.

**Caution:**

- Exceeding absolute maximum ratings shown will damage the device.
- The attenuator is a static sensitive device. Always follow ESD rules when working with the attenuator.
- Any foreign objects in the waveguide will cause performance degradation and possible device damage.
- Proper torque, 8.0 ± 0.15 inch-pounds (0.92 ± 0.05 Nm), should be applied. **Eravant torque wrench, model SCH-08008-S1, is highly recommended.**



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