



Applications:

- AGC Control
- RF Power level control
- Instrumentation and Bench Testing

Features:

- Low Insertion Loss
- High Attenuation
- Waveguide Bands from K to W-Band
- Coax Connectors available up to 67 GHz



Descriptions:

3J Microwave, Inc. offers a complete line of electrically controlled pin attenuators in the frequency range of 2 to 110 GHz. The electrically controlled attenuators feature low insertion loss and high attenuation in 8 waveguide bands. Coax connectors are available in the frequency range of 2 to 67 GHz. The coaxial PIN diode attenuators come up with SMA, 2.92 mm, 2.4 mm and

1.85 mm RF connectors. The PIN diode attenuators are excellent choices for applications of AGC loops, RF power level control, instrumentation and bench testing. The electrically controlled PIN diode attenuators are sorted in two categories: 1) **PINA** PIN diode waveguide attenuators. 2) **PINAC** coax PIN diode attenuators.

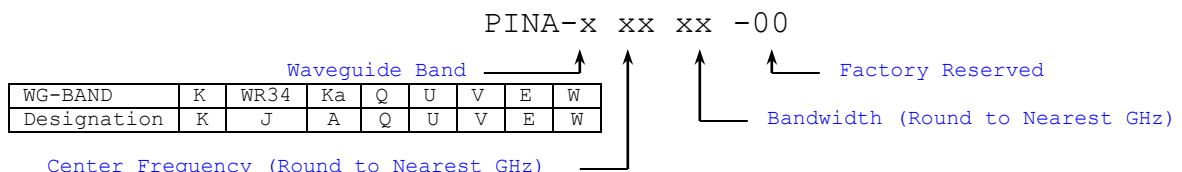
PINA Waveguide PIN Diode Attenuator Specifications:

| Model Number** | PINA-xxxxx-00 | | | | | | | |
|--------------------------|-------------------------------|-----------|----------|----------|-----------|----------|----------|-----------|
| Waveguide bands | WR-42 | WR-34 | WR-28 | WR-22 | WR-19 | WR-15 | WR-12 | WR-10 |
| Frequency Range* (GHz) | 18-26.5 | 22-33 | 26.5-40 | 33-50 | 40-60 | 50-75 | 60-90 | 75-110 |
| Bandwidth (GHz) | 2 to Full-Band Waveguide Band | | | | | | | |
| I.L. (dB) @ 0V DC Bias | 1.0 | 1.2 | 1.3 | 1.5 | 1.8 | 2.0 | 2.5 | 3.0 |
| Maximum Attenuation (dB) | -25.0 | | | | | | | |
| Return Loss (dB) | - 10.0 (Typical @ I.L. state) | | | | | | | |
| Voltage Control | 0 to +10 V | | | | | | | |
| RF Connectors | UG-595/U | UG-595/UM | UG-599/U | UG-383/U | UG-383/NM | UG-385/U | UG-387/U | UG-387/UM |
| Outline | | | | | | | | |

* Center Frequency can be chosen in the specified frequency range

** Please see "how to order" for the model number details

How to Order:





Section 6-3: Electrically Controlled PIN Diode Attenuators
www.3jmicrowave.com Frequency Coverage: 2 to 110 GHz

Model Number Example:

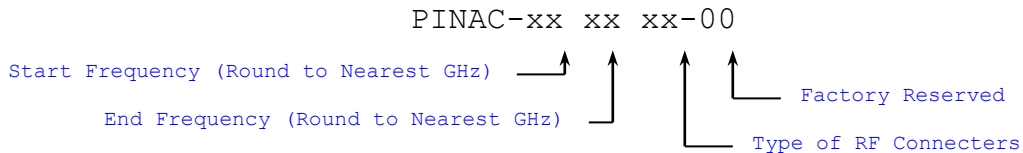
Model Number of an Electrically controlled Full-band Waveguide PIN Attenuator at W-band:
PINA-W9335-00

PINAC Coax PIN Diode Attenuator Specifications:

| | | | | | | |
|---------------------------------|---------------------------|------------|------------|------------|----------|----------|
| Model Number*** | PINAC-xxxxxx-00 | | | | | |
| Frequency Range* (GHz) | 2 to 18.0 | 18 to 26.5 | 26.5 to 40 | 40 to 50 | 50 to 60 | 50 to 67 |
| Bandwidth (GHz) | Full | 3 to Full | | 5 and Full | | |
| I.L. (dB) @ 0V DC Bias | 1.0 | 1.0 | 1.5 | 2.0 | 3.0 | 4.0 |
| Maximum Attenuation (dB) | -25 | | | | | |
| Return Loss (dB) | - 10.0 @ I.L. state (Typ) | | | | | |
| Voltage Control | 0 to +10 V | | | | | |
| RF Connectors | SMA | SMA | 2.92 mm | 2.4 mm | 1.85 mm | 1.85 mm |
| Outline | | | | | | |

- * Center frequency can be chosen in the specified frequency range
- ** Please see "how to order" for the model number details

How to Order:



| | | | | | | | | |
|----------------|------|--------|------|--------|------|--------|------|--------|
| Connector Type | SMA | | 2.92 | | 2.4 | | 1.85 | |
| | Male | Female | Male | Female | Male | Female | Male | Female |
| Designation | SM | SF | KM | KF | 2M | 2F | VM | VF |

Model No. Example:

Model Number of a Coaxial Electrically Controlled PIN Attenuator at Frequency Range of 2 to 18 GHz (Center Frequency: 10 GHz, Bandwidth: 16 GHz, SMA Female Connectors): **PINAC-1016SF-00**

Outlines:

Please see Section 6-4, Page 6-7 for the outlines