

# Fixed Coaxial Attenuators

## Model 33 Medium Power, N or SMK Connectors Bi-directional Design!

**dc to 8.5 GHz**  
**25 Watts**  




### Features

- /// Quality Connectors with special high temperature support beads.
- /// Designed to meet environmental requirements of MIL-DTL-3933.
- /// Low Intermodulation option available.
- /// Mode free operation to 10 GHz.

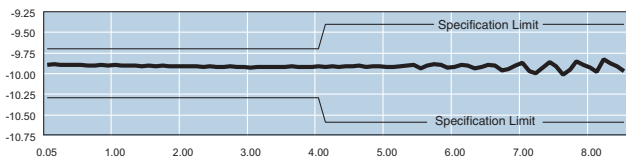
### Specifications

**NOMINAL IMPEDANCE:** 50 Ω

**FREQUENCY RANGE:** dc to 8.5 GHz

#### MAXIMUM DEVIATION OVER FREQUENCY (dB):

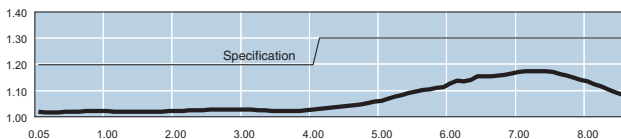
| Nominal ATTN (dB) | 33       |             | 33-LIM   |             |
|-------------------|----------|-------------|----------|-------------|
|                   | dc-4 GHz | 4 - 8.5 GHz | dc-4 GHz | 4 - 8.5 GHz |
| 3, 6              | ± 0.30   | ± 0.60      | ---      | ---         |
| 10, 20            | ± 0.30   | ± 0.60      | ± 0.40   | ± 0.70      |
| 30                | ± 0.60   | ± 1.00      | ± 0.70   | ± 1.20      |



Typical Attenuation Accuracy of a 33-10-34

#### MAXIMUM SWR:

| Frequency (GHz) | SWR  |
|-----------------|------|
| dc - 4          | 1.20 |
| 4 - 8.5         | 1.30 |



Typical SWR of a 33-10-34

**3rd ORDER INTERMODULATION (33-XX-XX-LIM Only):**  
 Reflected Levels (IM3), -100 dBc and Through Levels (IM3), -110 dBc with two input signals @ 869 MHz and 891 MHz with average carrier power levels of +41 dBm each.

**POWER RATING (mounted horizontally):** 25 watts average (bi-directional) to 25°C ambient temperature, derated linearly to 2.5 watts @ 125°C. 5 kilowatt peak (5 μsec pulse width; 0.25% duty cycle).

**POWER COEFFICIENT:** <0.0006 dB/dB/watt

**TEMPERATURE COEFFICIENT:** <0.0004 dB/dB/°C

**TEMPERATURE RANGE:** -55 °C to 125 °C

**TEST DATA:** Swept data plots of attenuation and SWR from 50 MHz to 8.5 GHz.

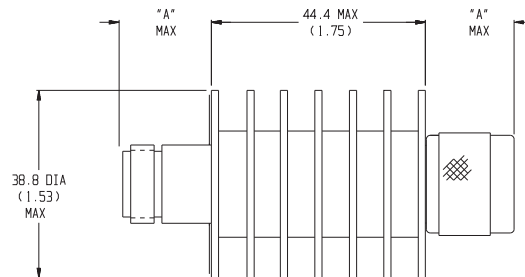
**CONNECTORS:** Type N connectors per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connectors. SMK (2.92mm) connectors - mate nondestructively with SMA per MIL-C-39012, 3.5mm, SMK, and other 2.92mm. Female 2.92mm connector NOT RoHS compliant.

| Options | Description | Options | Description    |
|---------|-------------|---------|----------------|
| 1       | SMK Female  | 3       | Type N, Female |
| 2       | SMK Male    | 4       | Type N, Male   |

**CONSTRUCTION:** Black, finned aluminum body, gold plated beryllium copper contacts.

**WEIGHT:** 170 g (6 oz.) maximum

#### PHYSICAL DIMENSIONS:

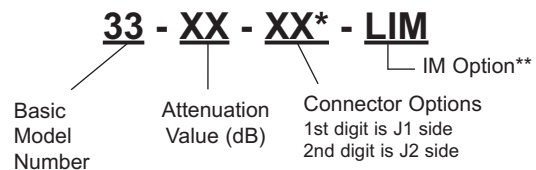


| Connector | DIM A       | Connector     | DIM A       |
|-----------|-------------|---------------|-------------|
| N Male    | 22.9 (0.90) | 2.92mm Male   | 14.0 (0.55) |
| N Female  | 15.0 (0.59) | 2.92mm Female | 12.7 (0.50) |

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

#### MODEL NUMBER DESCRIPTION:

Example:



\*Unit is bi-directional & full power may be applied to either J1 or J2.

\*\*Add -LIM to entire model number for Low Intermodulation option.

Available in only 10, 20, 30 dB and is not available through Express.