

Fixed Attenuators (N,BNC,TNC)

AT-400, AT-500, and AT-600 Series



AT-403(40)

AT-503(40)

AT-603(40)

■Features

1.Connector Coupling Portion Variations

| Coupling Portion | | HRS Series Name |
|------------------|--------------|-----------------|
| N Type | Plug - Jack※ | AT-400 Series |
| BNC Type | Plug - Jack | AT-500 Series |
| TNC Type | Plug - Jack | AT-600 Series |

※Can also be mated with an S type connector.

2.Small Size and Economical

Value engineering has been liberally applied to the design and construction to make these attenuators small and very economical.

3.High Reliability

These attenuators show stable characteristics for environments of varying temperature, humidity, and gases.

■Product Specifications

| | | | | | |
|---------|--------------------------|---------------|-------------|--|----------------------------|
| Ratings | Frequency range | AT-400 Series | DC ~ 13 GHz | Operating temperature range Operating relative humidity | -10°C to +65°C 95% Max. |
| | | AT-500 Series | DC ~ 4 GHz | | |
| | | AT-600 Series | DC ~ 6 GHz | | |
| | Characteristic impedance | 50 ohms | | | |
| | Maximum Input Power | 2W | | | |

| Item | Standard | Conditions |
|---------------------|--|---|
| 1.Vibration | No electrical discontinuity of 1 μs or more No damage, cracks, or parts dislocation | Frequency of 10 to 2000 Hz, overall amplitude of 1.52 mm, acceleration of 98 m/s ² for 2 hours in each of 3 directions |
| 2.Shock | | Acceleration of 490 m/s ² , sine half-wave waveform, 3 cycles in each of the 3 axis |
| 3.Temperature cycle | No damage, cracks, or parts dislocation | Temperature: -55°C → +15°C to +35°C → +85°C → +15°C to +35°C Time: 30 → 15 max. → 30 → 15 max. (Minutes) 100 cycles |

●The test method conforms to MIL-STD-202.

■Materials

| Part | Material | Finish |
|---------------------|------------------|----------------|
| Connector Body | Brass | Nickel plating |
| Insulator | PTFE | — |
| Male contacts | Brass | Gold plating |
| Female contacts | Beryllium copper | Gold plating |
| Attenuation element | Metal film | — |

■Ordering Information

AT - 4 01 (40)

① ② ③ ④

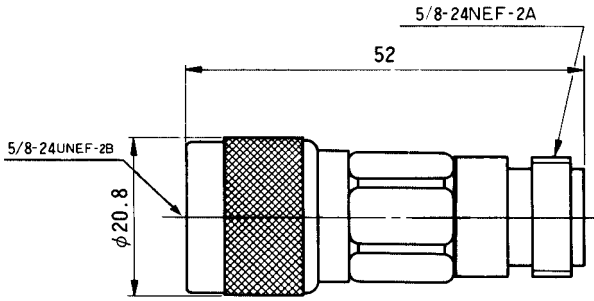
| | |
|--|---------------------------------------|
| ① AT: Indicates a fixed attenuator | ③ Attenuation 01 : 1dB 06 : 6dB |
| ② Indicates the Series Name (Coupling Portion) 4: N plug - jack 5: BNC plug - jack 6: TNC plug - jack | ④ (40): RoHS compliant |

Specifications

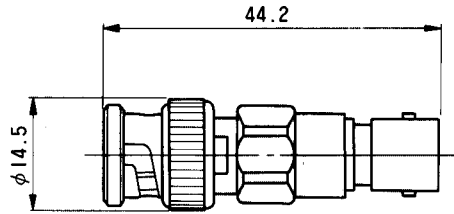
| Part Number | Frequency Range (MHz) | V.S.W.R.(Max) | Attenuation (dB) | Power (W) _c | Connectors | Weight (g) | RoHS | | | |
|-------------|-----------------------|---------------|------------------------------------|------------------------|------------|------------|------|---|---------|----|
| AT-401(40) | DC~2000 | 1.15 | 1±0.3 | 2 | N-P·J | 77 | YES | | | |
| | 2000~4000 | 1.20 | 1 ^{+0.5} _{-0.3} | | | | | | | |
| | 4000~13000 | 1.25 | 1 ^{+0.6} _{-0.3} | | | | | | | |
| AT-402(40) | DC~2000 | 1.15 | 2±0.3 | | | | | | | |
| | 2000~4000 | 1.20 | 2 ^{+0.5} _{-0.3} | | | | | | | |
| | 4000~13000 | 1.25 | 2 ^{+0.6} _{-0.3} | | | | | | | |
| AT-403(40) | DC~2000 | 1.15 | 3±0.3 | | | | | | | |
| | 2000~4000 | 1.20 | 3 ^{+0.5} _{-0.3} | | | | | | | |
| | 4000~13000 | 1.25 | 3 ^{+0.7} _{-0.3} | | | | | | | |
| AT-406(40) | DC~2000 | 1.15 | 6±0.3 | | | | | | | |
| | 2000~4000 | 1.20 | 6 ^{+0.5} _{-0.3} | | | | | | | |
| | 4000~13000 | 1.25 | 6 ^{+0.7} _{-0.3} | | | | | | | |
| AT-410(40) | DC~2000 | 1.15 | 10±0.5 | | | | | | | |
| | 2000~4000 | 1.20 | 10 ^{+0.8} _{-0.5} | | | | | | | |
| | 4000~13000 | 1.25 | 10 ^{+1.0} _{-0.5} | | | | | | | |
| AT-420(40) | DC~2000 | 1.15 | 20±0.5 | | | | | | | |
| | 2000~4000 | 1.20 | 20 ^{+0.8} _{-0.5} | | | | | | | |
| | 4000~13000 | 1.25 | 20 ^{+1.2} _{-0.7} | | | | | | | |
| AT-501(40) | DC~1000 | 1.15 | 1±0.3 | | | | | 2 | BNC-P·J | 25 |
| | 1000~2000 | 1.25 | 1±0.3 | | | | | | | |
| | 2000~4000 | 1.25 | 1 ^{+0.5} _{-0.3} | | | | | | | |
| AT-503(40) | DC~1000 | 1.15 | 3±0.3 | | | | | | | |
| | 1000~2000 | 1.25 | 3±0.3 | | | | | | | |
| | 2000~4000 | 1.25 | 3 ^{+0.5} _{-0.3} | | | | | | | |
| AT-506(40) | DC~1000 | 1.15 | 6±0.3 | | | | | | | |
| | 1000~2000 | 1.25 | 6±0.3 | | | | | | | |
| | 2000~4000 | 1.25 | 6 ^{+0.5} _{-0.3} | | | | | | | |
| AT-510(40) | DC~1000 | 1.15 | 10±0.5 | | | | | | | |
| | 1000~2000 | 1.25 | 10±0.5 | | | | | | | |
| | 2000~4000 | 1.25 | 10 ^{+0.8} _{-0.5} | | | | | | | |
| AT-520(40) | DC~1000 | 1.15 | 20±0.5 | | | | | | | |
| | 1000~2000 | 1.25 | 20±0.5 | | | | | | | |
| | 2000~4000 | 1.25 | 20 ^{+0.8} _{-0.5} | | | | | | | |
| AT-601(40) | DC~1000 | 1.15 | 1±0.3 | 2 | TNC-P·J | 29 | | | | |
| | 1000~2000 | 1.20 | 1±0.3 | | | | | | | |
| | 2000~6000 | 1.35 | 1 ^{+0.5} _{-0.3} | | | | | | | |
| AT-603(40) | DC~1000 | 1.15 | 3±0.3 | | | | | | | |
| | 1000~2000 | 1.20 | 3±0.3 | | | | | | | |
| | 2000~6000 | 1.35 | 3 ^{+0.5} _{-0.3} | | | | | | | |
| AT-606(40) | DC~1000 | 1.15 | 6±0.3 | | | | | | | |
| | 1000~2000 | 1.20 | 6±0.3 | | | | | | | |
| | 2000~6000 | 1.35 | 6 ^{+0.7} _{-0.3} | | | | | | | |
| AT-610(40) | DC~1000 | 1.15 | 10±0.5 | | | | | | | |
| | 1000~2000 | 1.20 | 10±0.5 | | | | | | | |
| | 2000~6000 | 1.35 | 10 ^{+1.0} _{-0.5} | | | | | | | |
| AT-620(40) | DC~1000 | 1.15 | 20±0.5 | | | | | | | |
| | 1000~2000 | 1.20 | 20±0.5 | | | | | | | |
| | 2000~6000 | 1.35 | 20 ^{+1.0} _{-0.5} | | | | | | | |

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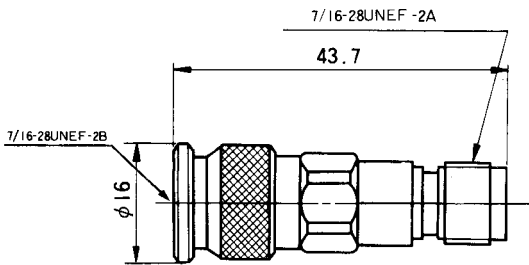
External Dimensions



AT-400 Type



AT-500 Type



AT-600 Type

Typical Data

