

Coaxial

RF Instrument Amplifier

TIA-1000-4

50Ω High Power 100 to 1000 MHz

Features

- instrument model with built-in power supply, 110V/220V operation
- high power output at 3.5dB compression, 42dBm typ.
- high reverse isolation, 55 dB typ.
- 100% burn-in at +25°C, 48 hrs
- thermally self-protected, LED indicator
- protected US Patent 5,101,171



Applications

- testing
- laboratory use

CASE STYLE: AP176

| Connectors | Model | Price | Qty. |
|-----------------------------------|------------|----------------|-------|
| BNC | TIA-1000-4 | \$1,995.00 ea. | (1-9) |
| Add-2 to model for 220V operation | | | |

RF Instrument Amplifier Electrical Specifications

| MODEL NO. | FREQUENCY (MHz) | | GAIN (dB) | | MAXIMUM POWER (dBm) | | | DYNAMIC RANGE | | VSWR (:1) | | AC POWER | | |
|------------|-----------------|-------|-----------|---------------|---------------------------|------|-------------------|---------------|----------------|-----------|-----|----------|----------|---------|
| | f_L | f_U | Min. | Flatness Max. | Output (1 dB Compr.) Typ. | Min. | Input (no damage) | NF (dB) Typ. | IP3 (dBm) Typ. | In | Out | Volt (V) | Freq. Hz | VA Max. |
| TIA-1000-4 | 100 | 1000 | 19 | ±1.5 | +39 | +36 | +25 | 12 | +48 | 2.5 | 2.5 | 110 | 50/60 | 400 |

1. Gain and maximum output power specified at 25°C±5°C, over temperature, specifications degrade approximately 1dB gain flatness ±2.5 dB max.
2. VSWR specified at 350-1000 MHz
3. Open load is not recommended, potentially can cause damage. With no load derate max input power by 20 dB

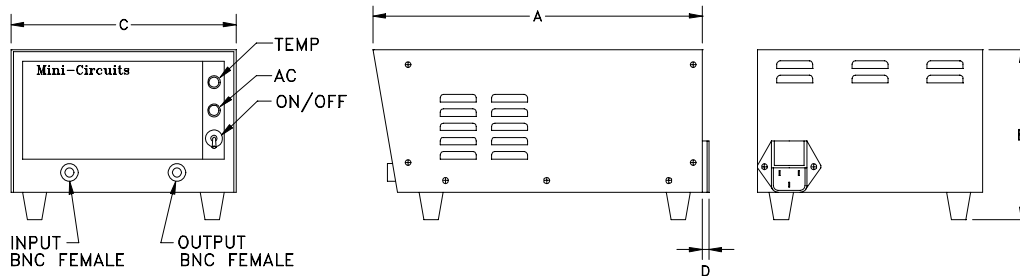
Maximum Ratings

Operating Temperature 0°C to 55°C

Storage Temperature -40°C to 70°C

Permanent damage may occur if any of these limits are exceeded.

Outline Drawing



Outline Dimensions (inch/mm)

| A | B | C | D | wt |
|--------|--------|--------|------|-------|
| 19.5 | 6.0 | 12.5 | 0.2 | grams |
| 495.30 | 152.40 | 317.50 | 5.08 | 9500 |

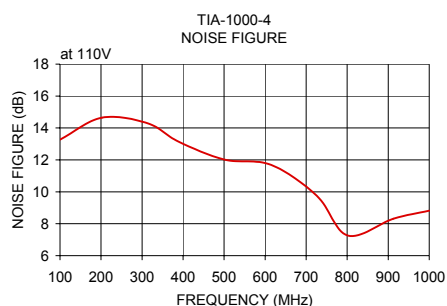
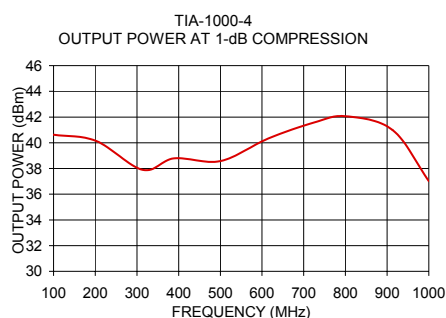
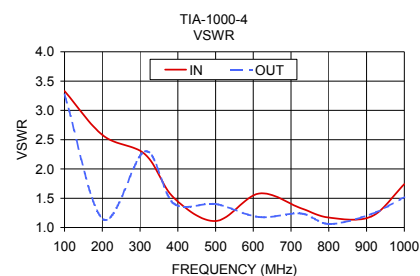
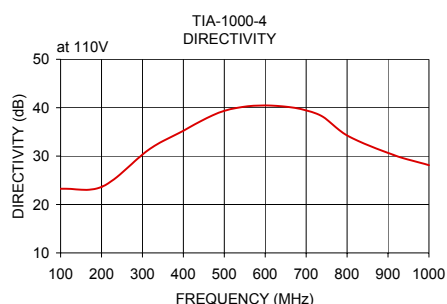
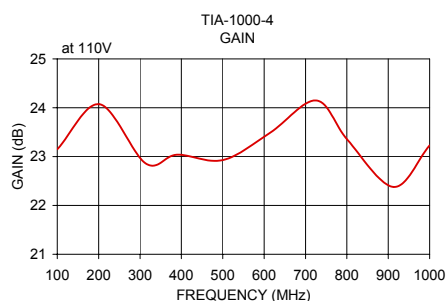
Keep area adjacent to fan and louvers clear to permit air flow to pass.
 Caution: Do not insert anything especially conductors or fingers into case opening. Physical injury, shock or death may occur.

Notes

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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| FREQUENCY (MHz) | GAIN (dB) | DIRECTIVITY (dB) | VSWR (:1) | | NOISE FIGURE (dB) | POUT at 1 dB COMPR. (dBm) |
|-----------------|-----------|------------------|-----------|------|-------------------|---------------------------|
| | 110V | 110V | IN | OUT | 110V | 110V |
| 100.00 | 23.15 | 23.27 | 3.33 | 3.27 | 13.27 | 40.63 |
| 202.20 | 24.07 | 23.74 | 2.57 | 1.14 | 14.65 | 40.14 |
| 313.40 | 22.86 | 31.20 | 2.25 | 2.30 | 14.30 | 37.90 |
| 389.30 | 23.04 | 34.78 | 1.51 | 1.41 | 13.14 | 38.79 |
| 500.50 | 22.93 | 39.37 | 1.11 | 1.40 | 12.02 | 38.58 |
| 614.50 | 23.49 | 40.43 | 1.58 | 1.18 | 11.69 | 40.33 |
| 725.70 | 24.15 | 38.75 | 1.33 | 1.24 | 9.76 | 41.58 |
| 801.60 | 23.34 | 34.20 | 1.17 | 1.06 | 7.26 | 42.06 |
| 912.80 | 22.38 | 30.28 | 1.19 | 1.23 | 8.32 | 41.00 |
| 1000.00 | 23.23 | 28.13 | 1.74 | 1.52 | 8.82 | 37.01 |



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