

Features:

- Broad band, low noise
- Low VSWR, unconditional stable
- Small size, low cost
- SMA female connector RF I/O
- Single DC power supply required
- Operating temperature -40~+85°C, storage temperature -55~+85°C



General Description

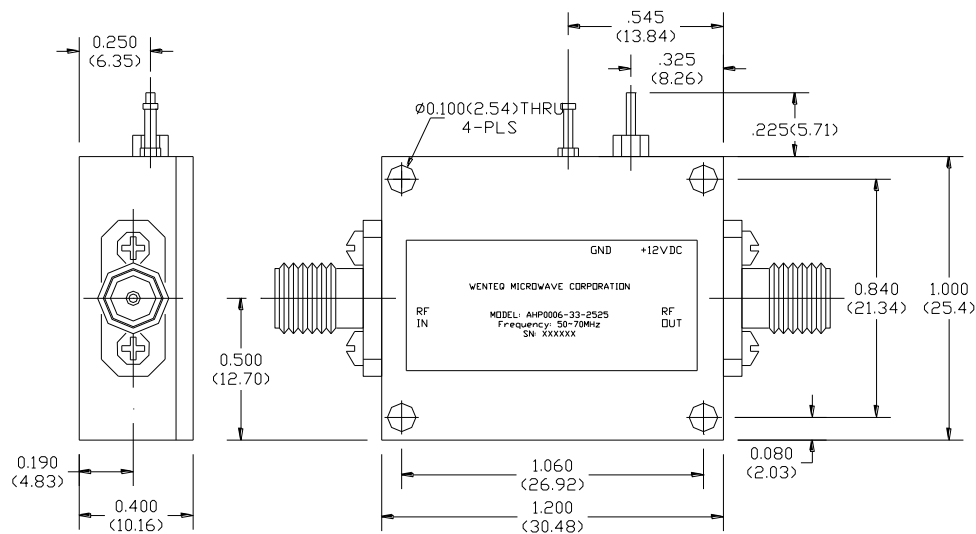
ABL1800-01-1930 is a single stage GaAs pHEMT MMIC based broadband low noise amplifier module operating in the frequency from 0.1 to 18.0GHz. The amplifier provides 19dB of small signal gain with 3.0dB typical noise figure. It requires only a single positive DC power supply. Its built-in voltage regulator allows the amplifier to functional at different DC supply voltages without affecting the RF performances.

Electrical Specifications

| Parameters | Units | Specifications | | |
|---|-------|----------------|---------|---------|
| | | Minimum | Typical | Maximum |
| Frequency Range | GHz | 0.1 | | 18.0 |
| Nominal Gain @25°C base plate temperature | dB | 17.0 | 19.0 | 22.0 |
| Noise Figure @25°C base plate temperature | dB | | | |
| 0.1~1.0GHz | | | 5.0 | 7.0 |
| 1.0~3.0GHz | | | 4.0 | 5.5 |
| 3.0~18.0GHz | | | 3.0 | 4.5 |
| P-1dB Compression Point | dBm | | | |
| 0.1~8.0GHz | | 23.0 | 25.0 | |
| 8.0~14.0GHz | | 22.0 | 24.0 | |
| 14.0~18.0GHz | | 19.0 | 21.0 | |
| Psat at Output | dBm | 23.0 | 26.0 | |
| Output IP3 | dB m | 25.0 | 33.0 | |
| Gain flatness | dB | | +/-1.25 | +/-1.5 |
| Gain Variation over Temperature Range | dB | | +/-1.5 | |
| Reverse Isolation | dB | 28.0 | 40.0 | |
| Input VSWR | - | | 1.8:1 | 2.5:1 |
| Output VSWR | - | | 1.8:1 | 2.5:1 |
| Spurious | dBc | | | -60.0 |
| Operating Temperature | °C | -40.0 | | +85.0 |

| | | | | |
|-------------------------|--------|-------------------|-------|--------|
| Survival Temperature | °C | -45.0 | | +125.0 |
| DC Power Supply Voltage | V | +10.0 | +12.0 | +15.0 |
| DC Power Supply Current | mA | 160.0 | 200.0 | 250.0 |
| RF In/Out connectors | | 50 ohm SMA female | | |
| DC Input Connector | | Feedthru Pin | | |
| Size | inches | 1.20×1.00×0.40 | | |

Mechanical Structure:



Note: All units in inches.

Absolute Maximum Ratings

| | |
|-----------------------|------------|
| DC Voltage | +18V |
| RF Input Power | +10 dBm |
| Storage Temperature | -55~+125°C |
| Operating Temperature | -40~+85°C |