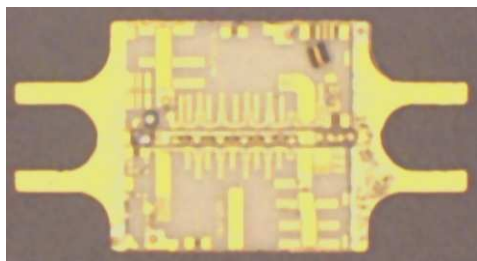




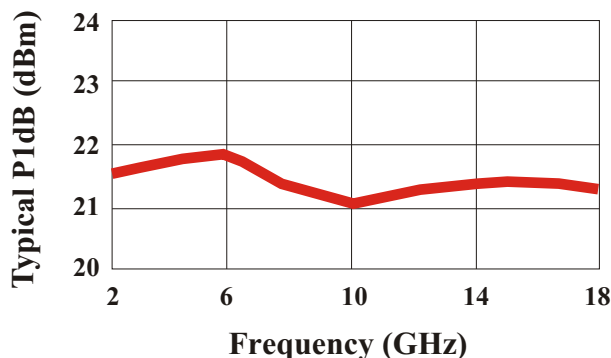
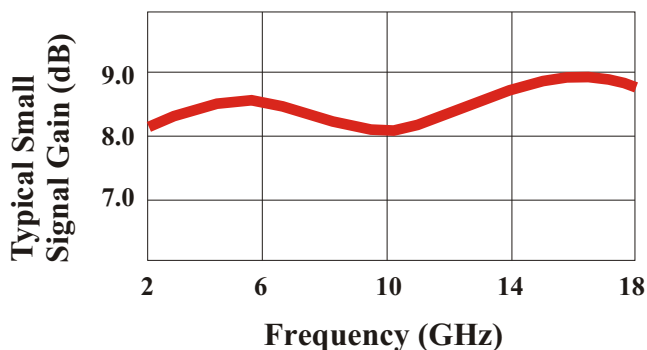
Distributed Amplifier Module 2.0 - 18.0 Ghz



Features

- 21 dBm P1dB
- 8.0 dB Small Signal Gain
- 10.0 dB Input/Output Return Loss
- Uses four MwT-7 FET devices

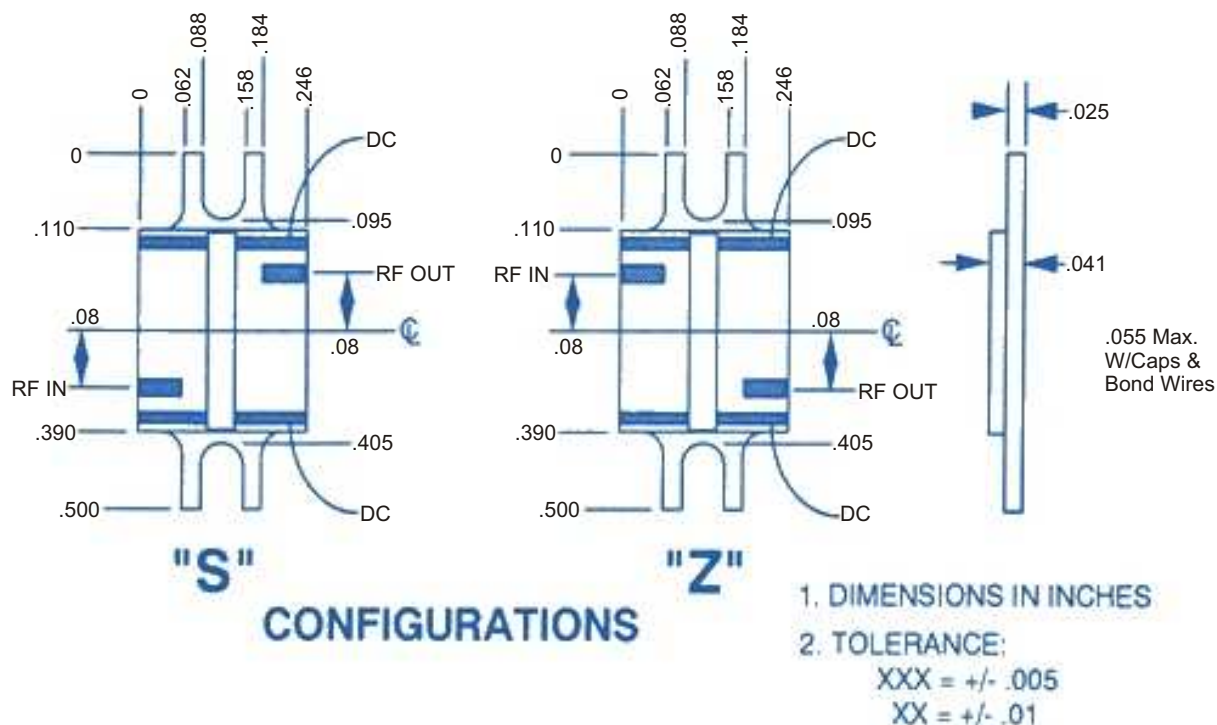
This amplifier module is an ideal building block for broadband(2-18 GHz), medium-power (+21 dBm) microwave assemblies and amplifiers. The miniature drop-in design with low VSWR characteristics makes it convenient to integrate mechanically and easy to cascade electrically. This module requires only a single DC voltage.



Electrical Specifications (at Ta=25°C)

| SYMBOL | PARAMETERS | UNITS | MIN | TYP | MAX |
|---------------------|----------------------------------|-------|------|--------|-------|
| FREQ | Frequency Range | GHz | 2.0 | | 18.0 |
| SSG | Small Signal Gain | dB | 7.0 | 8.0 | |
| $\Delta G/\Delta F$ | SSG Flatness | +/-dB | | 0.6 | 1.0 |
| $\Delta G/\Delta T$ | SSG Variation over Temperature | dB/°C | | -0.012 | |
| P1dB | Output Power at 1dB Compression | dBm | 20.0 | 21.0 | |
| Psat | Output Power at 6dB Compression | dBm | | 23.0 | |
| $\Delta P/\Delta T$ | P_1dB Variation over Temperature | dB/°C | | -0.008 | |
| IP3 | Third Order Intercept Point | dBm | | 31.0 | |
| NF | Noise Figure | dB | | 6.2 | |
| VSWR, IN | Input VSWR | ----- | | 2.0:1 | 2.2:1 |
| VSWR, OUT | Output VSWR | ----- | | 2.0:1 | 2.2:1 |
| ISO | Reverse Isolation | dB | | -20.0 | |
| VDD | Power Supply Voltage | +V | 7.9 | 8.0 | 8.1 |
| IDD | Small Signal Module Current | mA | | 170 | 220 |
| Rth* | Thermal Resistance Including FET | °C/W | | 196 | |

*When calculating T_{ch}, use FET V_{ds}=5.0volts and I_{ds}=40mA



Construction

The 15 mil alumina substrates and 10 mil copper FET ridge are brazed onto the 25 mil carrier using AuGe preform. The GaAs FETs are attached to the Cu ridge using AuSn preform. All capacitors are attached using AuSn preforms. The flanges are designed to accommodate 0-80 UNF-2A socket or Fillister head screws on 0.400" center-to-center hole spacing. The modules are mechanically and electrically designed to be cascaded.

Notes

1. Custom module specifications and/or custom module mechanical configurations are available.
2. Operating Temperature Range is -55 degrees Celsius to +105 degrees Celsius.
3. All modules are serialized and shipped with data measured at 25 degrees Celsius. Data includes swept small signal gain, swept input and output return loss. P1dB are measured in 1 GHz increments. Special module testing is available.
4. Test Fixtures are available.
5. MicroWave Technology reserves the right to ship modules with performance above the typical specifications.