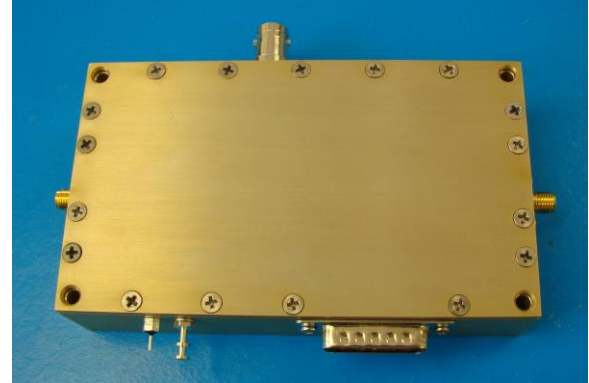


30-512MHz 8W RF Power Amplifier
Features

- Frequency Range: 30-512MHz
- Small Signal Gain: 40dB
- P_{OUT}: +37dBm (5W)
- P_{SAT}: +39dBm (8W)
- Pulse Modulation
- DC Power: 28V @ 1000mA
- RF Connector: SMA-F


Description

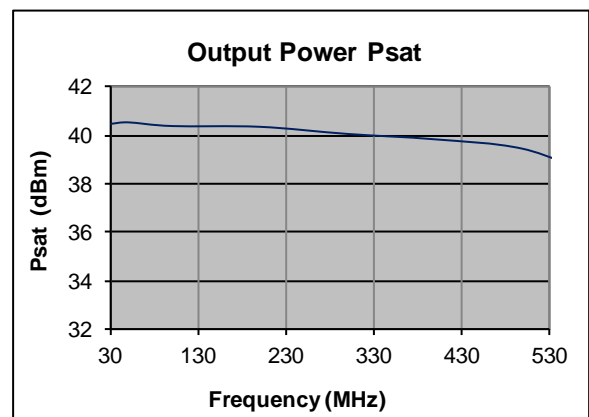
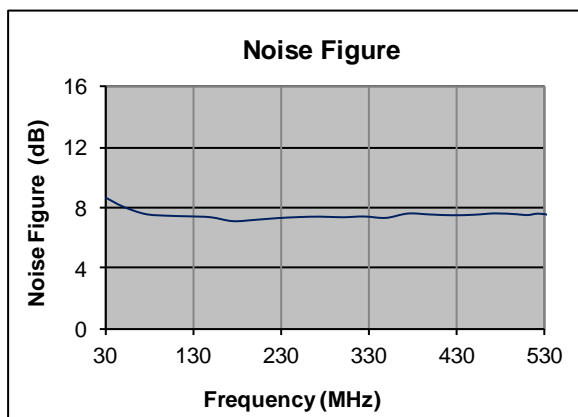
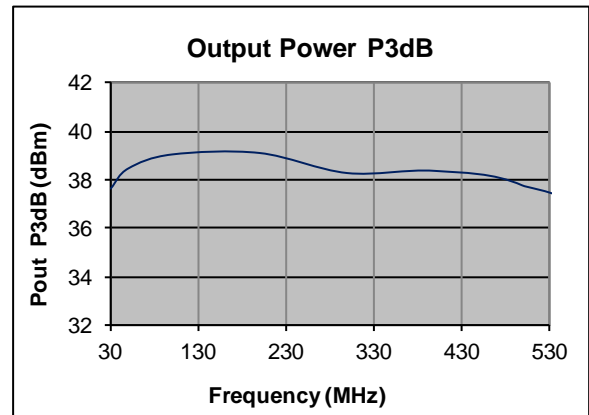
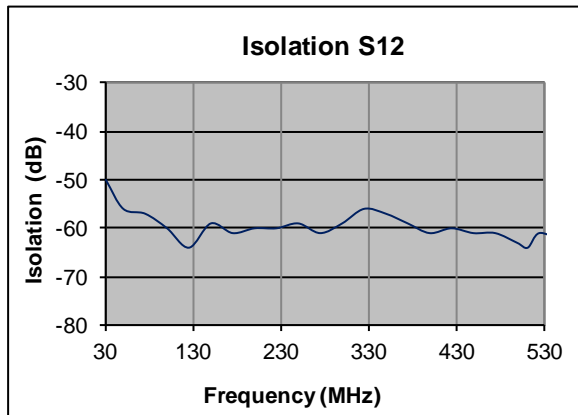
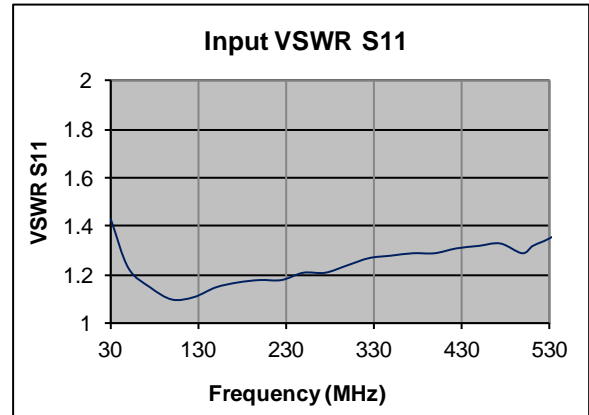
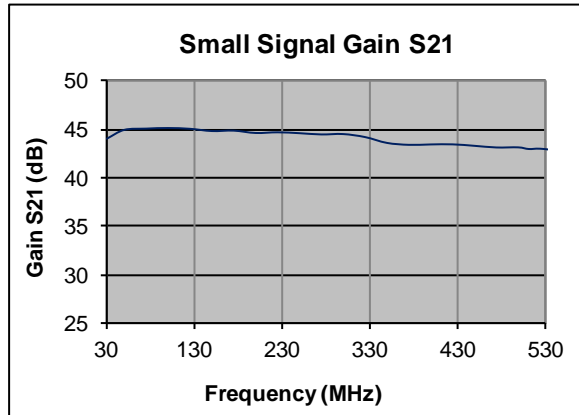
VGPA-512M-8W is a high performance RF Power Amplifier, with standard frequency range of 30MHz to 512MHz.

Electrical Specifications @+25°C, Z_{in}=Z_{out}=50 Ω, V_{supply} = +28VDC

| Parameter | Unit | Minimum | Typical | Maximum |
|---|---------|--|-----------------|---------|
| Frequency Range | MHz | 30 | | 512 |
| Gain (S21) | dB | 40 | | |
| Gain Flatness | dB | | ±1.0 | ±1.5 |
| Output Power P _{OUT} | dBm | +37 | +38 | |
| Output Power P _{SAT} | dBm | +39 | +40 | |
| Efficiency | % | | 30 | |
| Noise Figure | dB | | 8 | 9 |
| Isolation (S12) | dB | | -55 | |
| VSWR-Input (S11) | ratio:1 | | 1.5:1 | 1.7:1 |
| Pulse Modulation (BNC Input) (TTL compatible) Input Level = 5V Input Level = 0V | | | RF ON RF OFF | |
| Maximum Pulse Modulation Rate | MHz | | 15 | |
| RF Turn On Time | ns | | 15 | |
| RF Turn Off Time | ns | | 10 | |
| DC Power Supply - voltage | V | 24 | 28 | 32 |
| DC Power Supply - current | mA | | 1000 | 1200 |
| Size (RF/DC feedthru's excluded) | Inch/mm | 4.75 x 2.75 x 0.75/120 x 70 x 19 (LxWxH) | | |
| Weight | Oz | 12 (340 grams) | | |

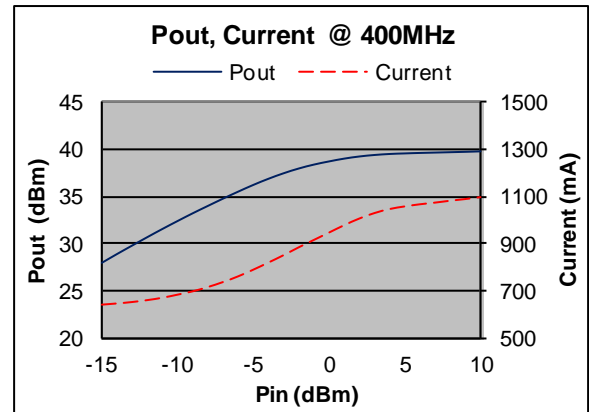
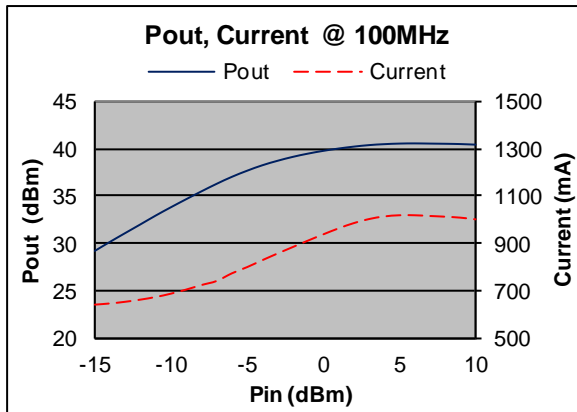
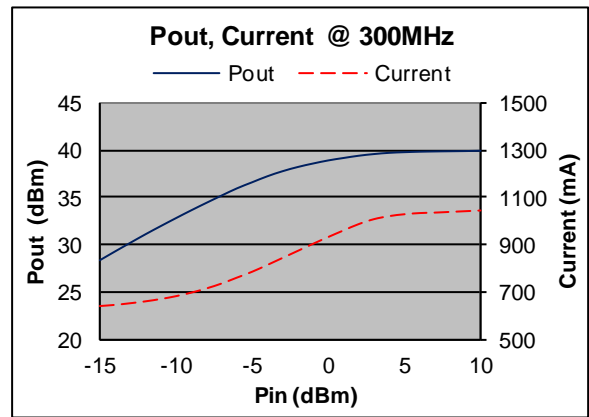
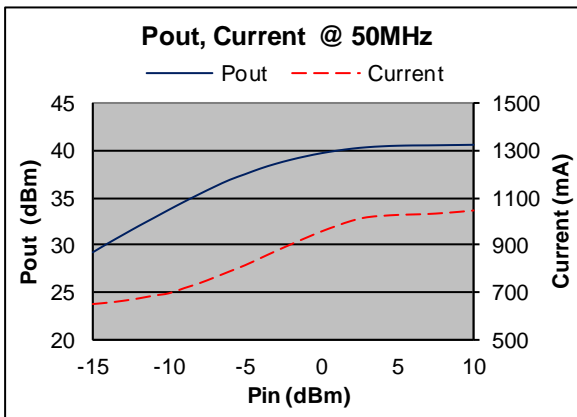
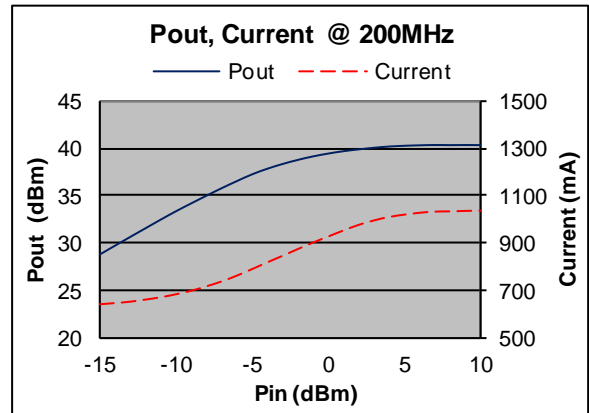
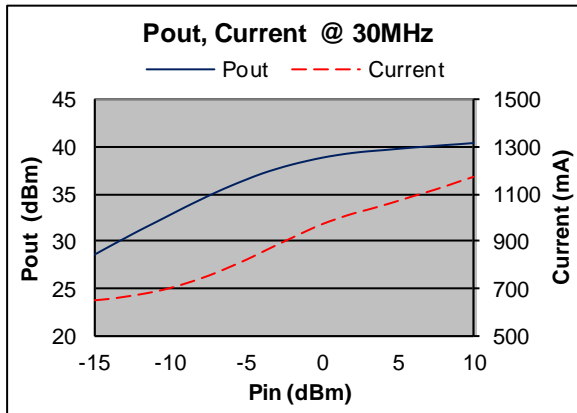
30-512MHz 8W RF Power Amplifier

Typical Performance @ +25 °C



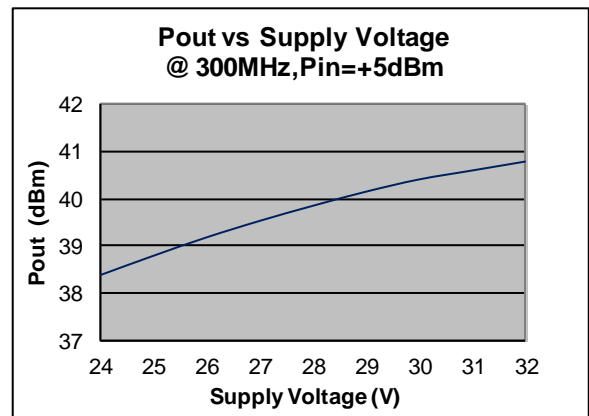
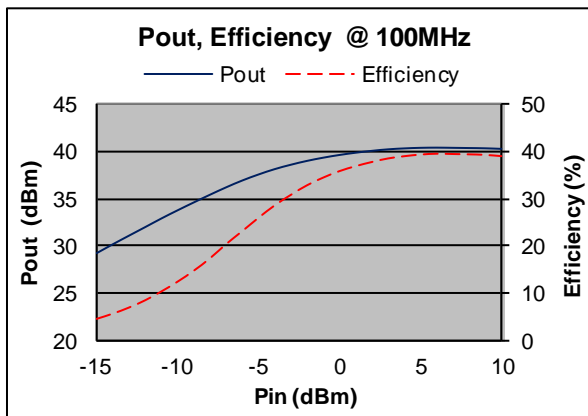
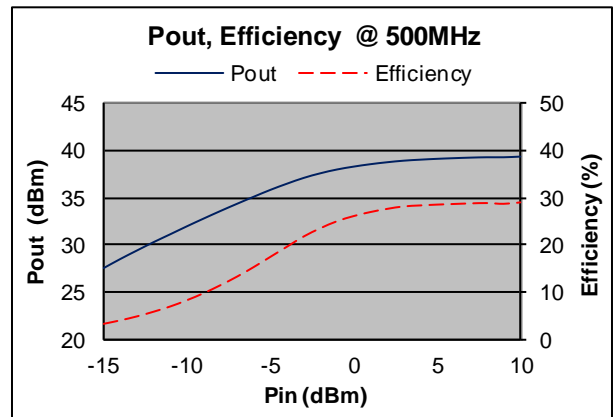
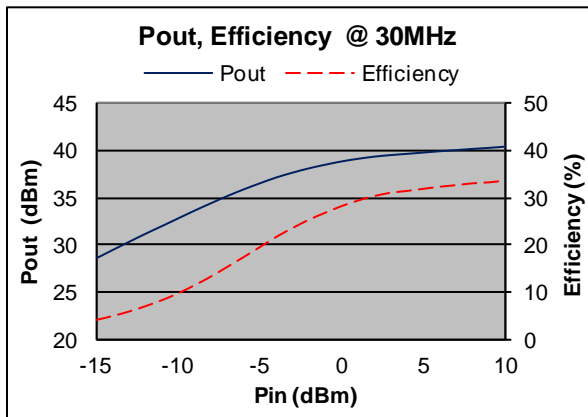
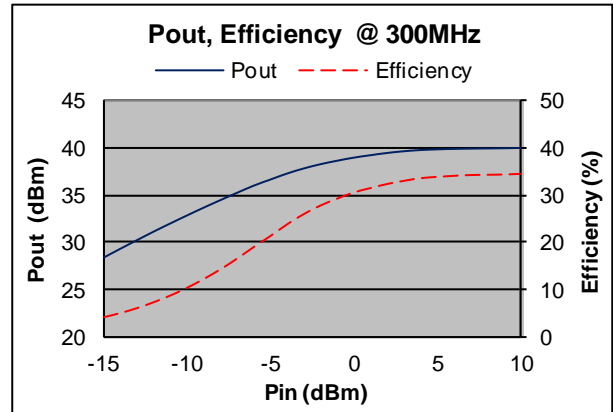
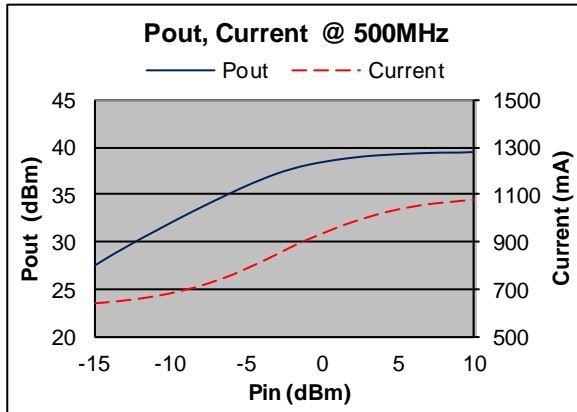
30-512MHz 8W RF Power Amplifier

Typical Performance @ +25 °C



30-512MHz 8W RF Power Amplifier

Typical Performance @ +25 °C



30-512MHz 8W RF Power Amplifier

Male 15 Pin D-Sub Amplifier Connector Control Interface

This amplifier is designed to be used as either a traditional amplifier or one with sophisticated controls allowing the customer extensive flexibility in terms of control. Without any connections to the D-Sub connector, the default state of the product is a traditional amplifier. Each amplifier is designed to allow the user the following control and sense functions across the connector interface:

- RF output signal attenuation control from 0 dB to 31.5 dB in 0.5 dB steps via a synchronous serial interface.
- RF signal pulse control from either the BNC connector or pin 12 of the DB15 connector interface
- Power Control to turn ON/OFF the amplifier
- Amplifier analog voltage temperature sensor output
- Alternate DC amplifier input bias

| DB15 Connector Pin | Name | Description |
|--------------------|--------------------|---|
| 1 | GND | Ground |
| 2 | Temperature Sensor | 0mV + 10.0mV/C (2 C to 150 C) |
| 3 | Power Control | 0V – Amplifier OFF, 5V – Amplifier ON |
| 4 | NC | |
| 5 | NC | |
| 6 | NC | |
| 7 | NC | |
| 8 | NC | |
| 9 | DC Input Bias | Alternate DC input bias |
| 10 | GND | Ground |
| 11 | Pulse Select | Selects RF amplifier pulsing signal from either BNC connector or Pin 12 |
| 12 | Pulse Input | Digital Pulse input signal (TTL Compatible) |
| 13 | LE | Latch Enable for amplifier digital attenuator (*) |
| 14 | Data | Serial 6-bit data to set digital attenuation in 0.5 dB LSB steps (*) |
| 15 | CLK | Serial synchronous clock for digital attenuator (*) |

(*) Contact to obtain technical specifications to program the amplifier's digital attenuator

**WARNING: 1) MUST USE HEAT SINK.
2) LOAD MUST BE CONNECTED TO AMPLIFIER OUTPUT AT ALL
TIMES IF DC POWER IS ON.**

30-512MHz 8W RF Power Amplifier

Absolute Maximum Ratings

| Parameter | Absolute Maximum |
|-----------------------|-------------------|
| RF Input Power | +15dBm |
| Supply Voltage | +32V |
| Operating Temperature | -40 °C to +85 °C |
| Storage Temperature | -55 °C to +125 °C |

Outline

