



Power RF Amplifiers

Power = 100.0 Watts

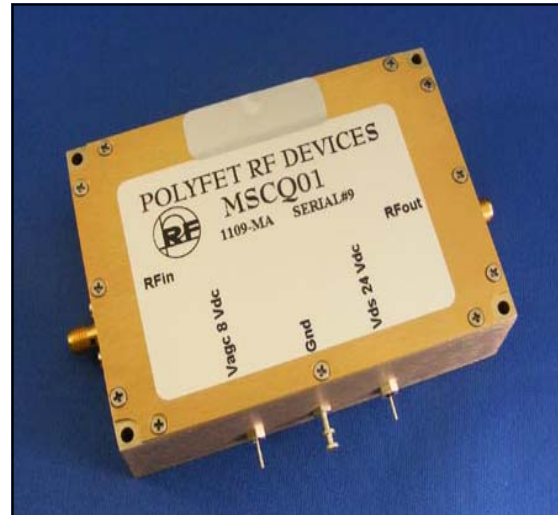
Bandwidth = 30 to 512 Mhz

Gain = 8.0 dB Vdd = 26.0 Volts

50 ohms Input/Output Impedance

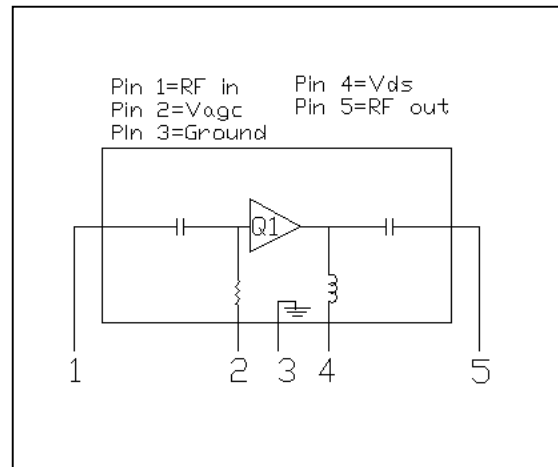
Description

The MSCQ01 is a 100 Watt, single stage amplifier module covering a bandwidth of 30-512 Mhz. This compact module design is suitable for military applications in a rugged environment. An ALC pin is provided to control the output power, gain and blanking of the module.



Absolute Maximum Ratings (T=25 °C)

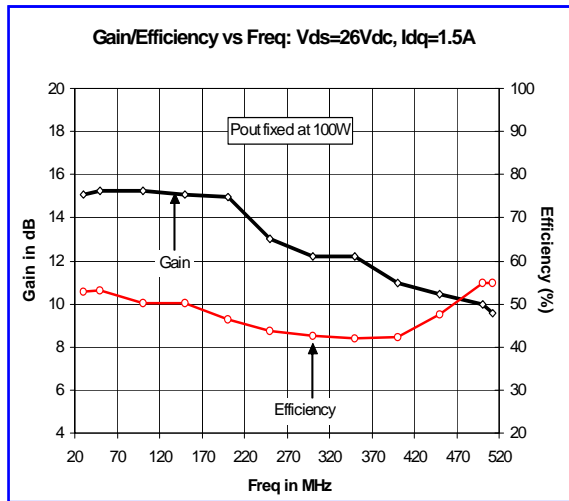
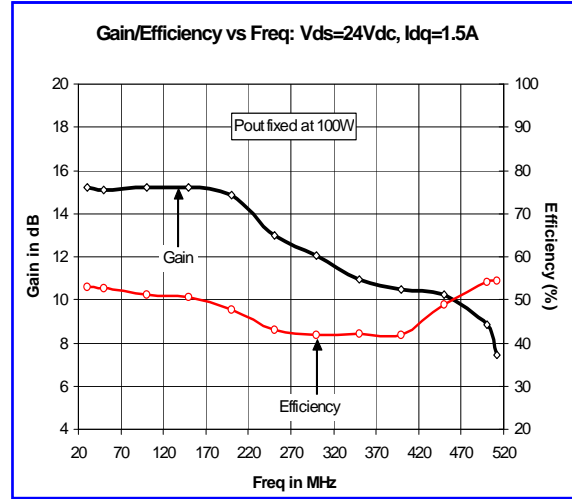
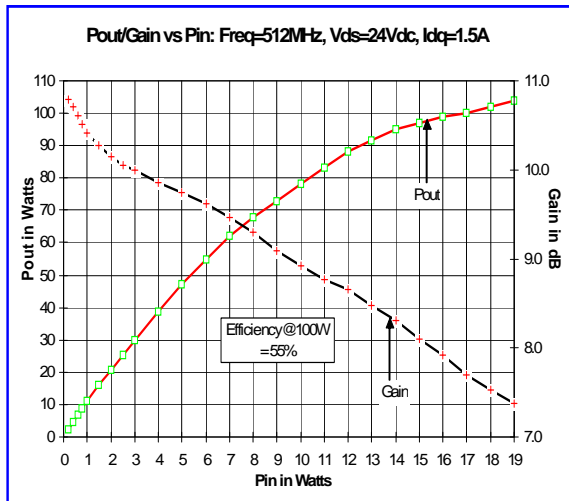
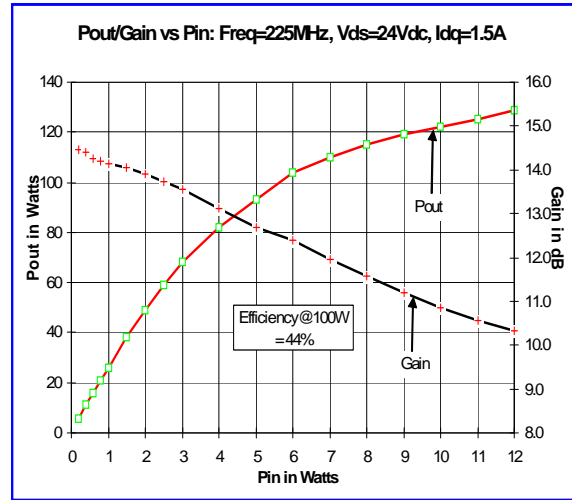
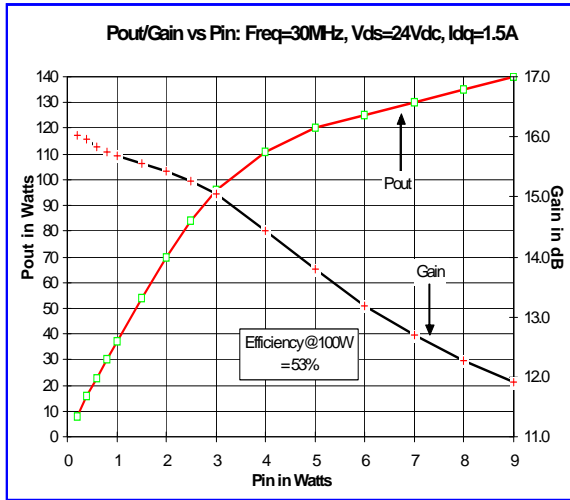
| Parameter | Symbol | Value | Unit |
|----------------------|--------|-------------|------|
| DC supply Voltage 1 | VDD1 | 32.0 | V |
| DC supply Voltage 2 | VDD2 | | V |
| AGC Voltage | VAGC | 8.5 | V |
| AGC Current | VAGCI | 2.50 | mA |
| Input Power | Pin | 20.000 | W |
| Output Power | Pout | 150.0 | W |
| Operating Case Temp. | Tc | -40 to +85 | °C |
| Storage Temperature | Tstg | -55 to +100 | °C |



Electrical Characteristics: (T=25 °C Zs=Zl=50 ohms, Vdd = 26.0 Volts, Idq = 1.5 Amps)

| Parameter | Symbol | Min | Typical | Max | Unit | Test Conditions |
|-------------------------|--------|--------|---------|------|----------|------------------------------------|
| Frequency Range | BW | 30 | | 512 | Mhz | 50 ohm load |
| Output Power | Po | 100.0 | | | Watts | Pin = 42.0 dbm Vagc = 8.0 V |
| Power Gain | PG | 8.0 | | | dB | Pout =100.0 Watts Vagc = 8.0 V |
| Total Efficiency | η | | 45 | | % | Pout =100.0 Watts |
| 2nd Harmonics | dso | | | | dBc | Pout = 0.0 Watts @ Mhz |
| Intermod - 2 tone | Im3 | -25.00 | | | dBc | AvePwr= 50.0 Watts |
| Load Mismatch Tolerance | VSWR | 5:1 | | | Relative | All Phase Angles Pout =100.0 Watts |
| Vagc Voltage | VAGC | | | 8.0 | V | Pin = 42.0 dBm, Pout = 100.0 W |
| Pulse Response Time | Pr | | | 40.0 | μ S | Pulse source: RFin |

MSCQ01

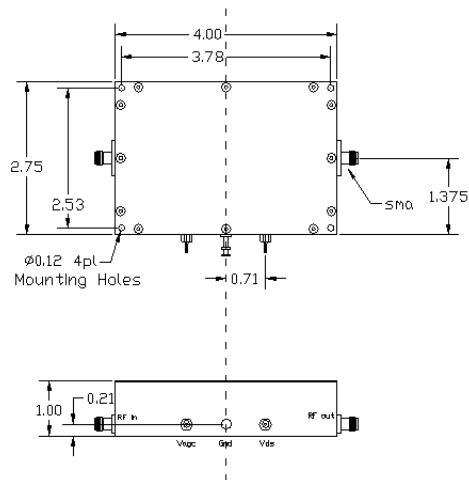
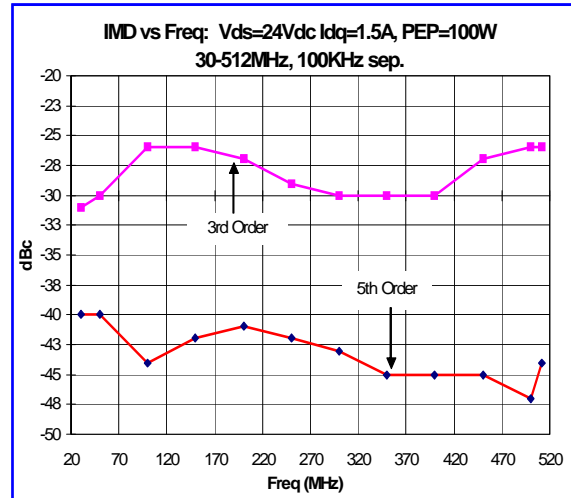
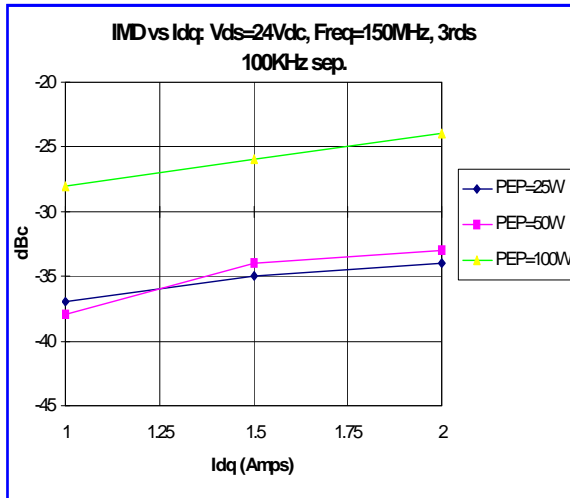


POLYFET RF DEVICES

REVISION 08/25/2011

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