

# RF AMPLIFIER

## MODEL QBS-158

Available as: QBS-158, Housing (E52-19250)

### Features

- High Gain: 21.5 dB Typical
- High Power: +33 dBm Typical
- Operating Temp. - 40 °C to +85 °C
- Environmental Screening Available

### Specifications

| CHARACTERISTIC                      | TYPICAL<br>Ta= 25 °C | MIN/MAX<br>Ta = -40 °C to +85 °C |
|-------------------------------------|----------------------|----------------------------------|
| Frequency                           | 800 - 960 MHz        | 800 - 960 MHz                    |
| Gain (dB)                           | 21.5 ± 0.5           | —                                |
| Gain vs. Temperature                | —                    | +0.5/ -0.2 Max.                  |
| Gain Flatness                       | 1.0                  | 1.0 Max.                         |
| Reverse Isolation (dB)              | 24                   | —                                |
| VSWR In                             | 1.5:1                | 1.5:1 Max.                       |
| VSWR Out                            | 1.5:1                | 1.5:1 Max.                       |
| 1 dB Compression (dBm)              | +33                  | +33 Min.                         |
| Output Intercept point<br>3rd Order | +50                  | +50 Min.                         |
| 2nd Order                           | —                    | —                                |
| Noise Figure (dB)                   | 2.5                  | 3.0 Max.                         |
| Power Vdc                           | 14-28                | 14-28                            |
| mA                                  | 790                  | —                                |

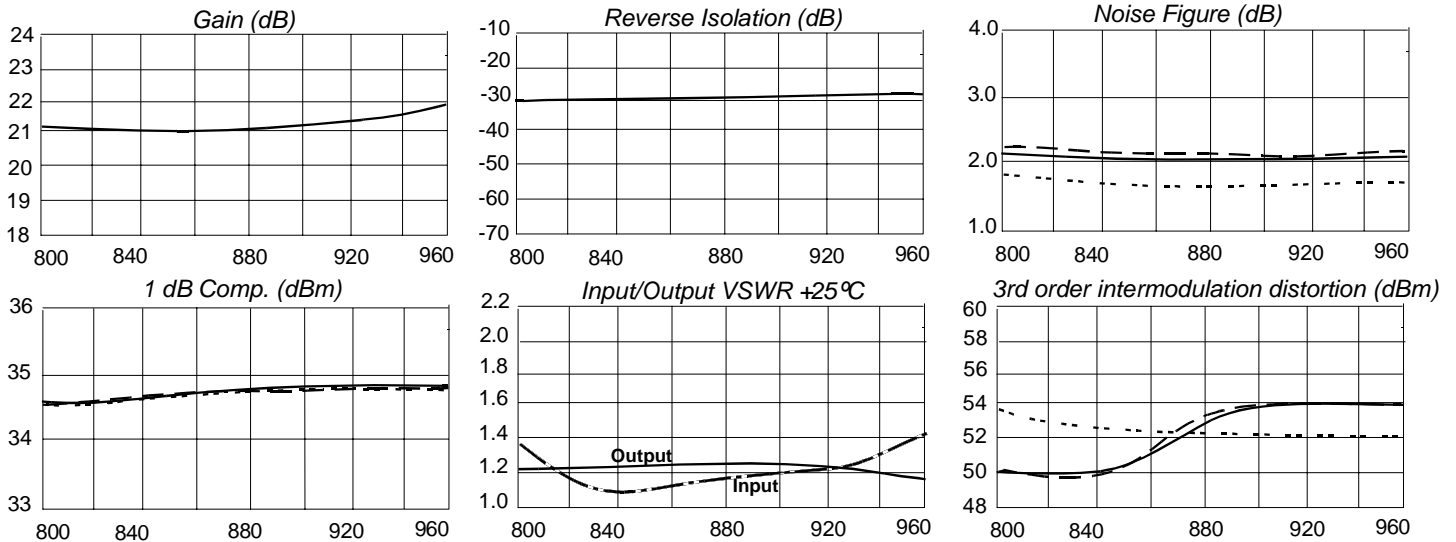
### Maximum Ratings

Ambient Operating Temperature ..... -40 °C to +85 °C  
 Storage Temperature ..... -55 °C to + 125 °C  
 Case Temperature ..... + 125 °C  
 DC Voltage ..... + 28 Volts  
 Continuous RF Input Power ..... + 13 dBm  
 Short Term RF Input Power ..... 50 Milliwatts (1 Minute Max.)  
 Maximum Peak Power ..... 0.5 Watt (3 µsec Max.)

#### Note:

1. Specifications are guaranteed when tested in a 50 Ohm system. Specifications indicated as typical are not guaranteed.

### Typical Performance Data



Legend ——— + 25 °C    - - - - + 85 °C    ······ -40 °C

### Linear S-Parameters Data

| FREQ.<br>MHz | -- S11--<br>dB    Ang | -- S21--<br>dB    Ang | -- S12--<br>dB    Ang | -- S22--<br>dB    Ang |
|--------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 800          | -17.1    12.0         | 21.2    79.7          | -29.5    16.9         | -20.1    14.1         |
| 840          | -27.0    -74.8        | 21.0    51.4          | -28.8    -11.5        | -18.6    4.0          |
| 880          | -20.9    179.8        | 21.1    21.9          | -28.4    -40.8        | -17.9    -12.7        |
| 920          | -19.5    158.2        | 21.4    -9.8          | -27.7    -71.3        | -18.5    -37.9        |
| 960          | -15.1    -159.8       | 22.0    -47.8         | -26.7    -108.6       | -22.2    -96.6        |



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