

# RF AMPLIFIER

## MODEL *TM6516*

Available as: TM6516, 4 Pin TO-8 (T4)  
 TN6516, 4 Pin Surface Mount (SM3)  
 FP6516, 4 Pin Flatpack (FP4)  
 BX6516, Connectorized Housing (H1)

### Features

- Medium Gain: +14.5 dB Typical
- Medium Output Power: +14 dBm Typical
- Operating Temp. - 55 °C to +85 °C
- Environmental Screening Available

### Specifications

| CHARACTERISTIC              | TYPICAL<br>Ta= 25 °C | MIN/MAX<br>Ta = -55 °C to +85 °C |
|-----------------------------|----------------------|----------------------------------|
| Frequency                   | 5 - 500 MHz          | 5 - 500 MHz                      |
| Gain (dB)                   | 14.5                 | 13.5 Min.                        |
| Power @ 1 dB<br>Comp. (dBm) | +14                  | +12.0 Min.                       |
| Reverse<br>Isolation (dB)   | -17.5                | -17 Max.                         |
| VSWR In                     | <1.4:1               | 2.0:1 Max.                       |
| Out                         | <1.25:1              | 2.0:1 Max.                       |
| Noise figure (dB)           | <4.0                 | 4.5 Max.                         |
| Power Vdc                   | +15                  | +15                              |
| mA                          | 35                   | 38 Max.                          |

Note: Care should always be taken to effectively ground the case of each unit.

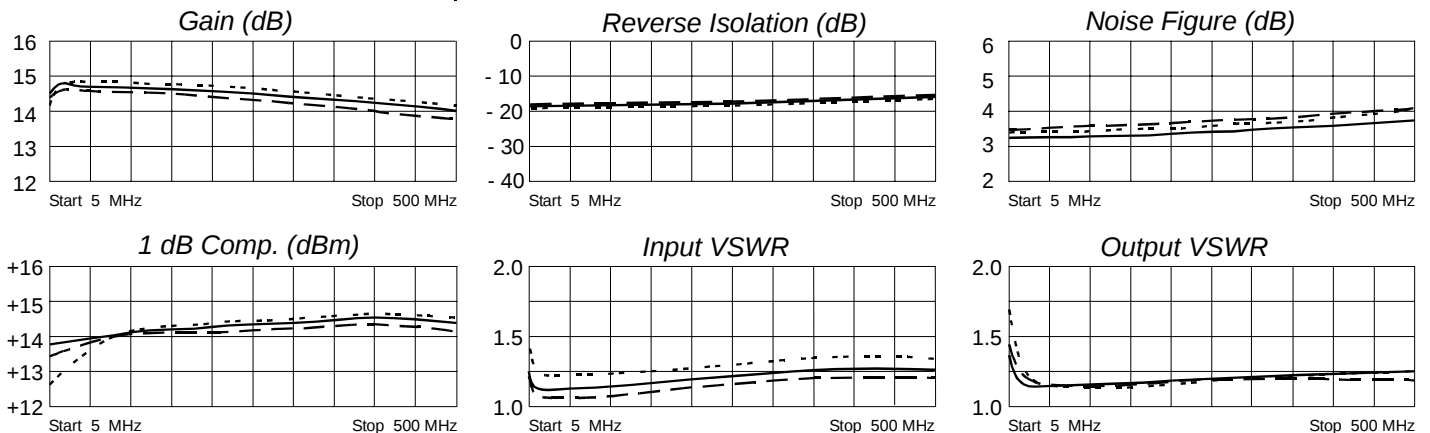
### Typical Intermodulation Performance at 25 °C

Second Order Harmonic Intercept Point ..... +44 dBm (Typ.)  
 Second Order Two Tone Intercept Point ..... +38 dBm (Typ.)  
 Third Order Two Tone Intercept Point ..... +28 dBm (Typ.)

### Maximum Ratings

Ambient Operating Temperature ..... -55°C to + 100 °C  
 Storage Temperature ..... -62°C to + 125 °C  
 Case Temperature ..... + 125 °C  
 DC Voltage ..... + 18 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.)

### Typical Performance Data



Legend ——— + 25 °C    - - - + 85 °C    . . . . . -55 °C

### Linear S-Parameters

| FREQ.<br>MHz | S11 |      | S21  |      | S12 |     | S22 |      |
|--------------|-----|------|------|------|-----|-----|-----|------|
|              | Mag | Deg  | Mag  | Deg  | Mag | Deg | Mag | Deg  |
| 5            | .11 | -101 | 5.26 | -170 | .11 | 11  | .17 | 137  |
| 50           | .06 | 168  | 5.45 | 172  | .12 | 0   | .07 | 167  |
| 100          | .06 | 135  | 5.44 | 162  | .12 | - 2 | .07 | 179  |
| 200          | .09 | 103  | 5.34 | 144  | .12 | - 5 | .07 | -175 |
| 300          | .11 | 84   | 5.22 | 126  | .12 | - 8 | .09 | -172 |
| 400          | .12 | 71   | 5.09 | 109  | .13 | -12 | .10 | 178  |
| 500          | .11 | 65   | 4.97 | 91   | .14 | -17 | .11 | 166  |
| 600          | .10 | 68   | 4.83 | 73   | .15 | -23 | .10 | 142  |



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