

# RF AMPLIFIER

## MODEL *TM6675*

Available as: TM6675, 4 Pin TO-8 (T4)  
 TN6675, 4 Pin Surface Mount (SM3)  
 FP6675, 4 Pin Flatpack (FP4)  
 BX6675, Connectorized Housing (H1)

### Features

- High Gain: 20.5 dB Typical
- Low DC Power: +65 mW @ 5V 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)                   | 20.5                 | 19.0 Min.                        |
| Power @ 1 dB<br>Comp. (dBm) | +5                   | +4.0 Min.                        |
| Reverse<br>Isolation (dB)   | -23.5                | -22.5 Max.                       |
| VSWR In                     | <1.5:1               | 2.0:1 Max.                       |
| VSWR Out                    | <1.5:1               | 2.0:1 Max.                       |
| Noise figure (dB)           | 2.3                  | 3.0 Max.                         |
| Power Vdc                   | +15                  | +15                              |
| mA                          | 15                   | 17 Max.                          |

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

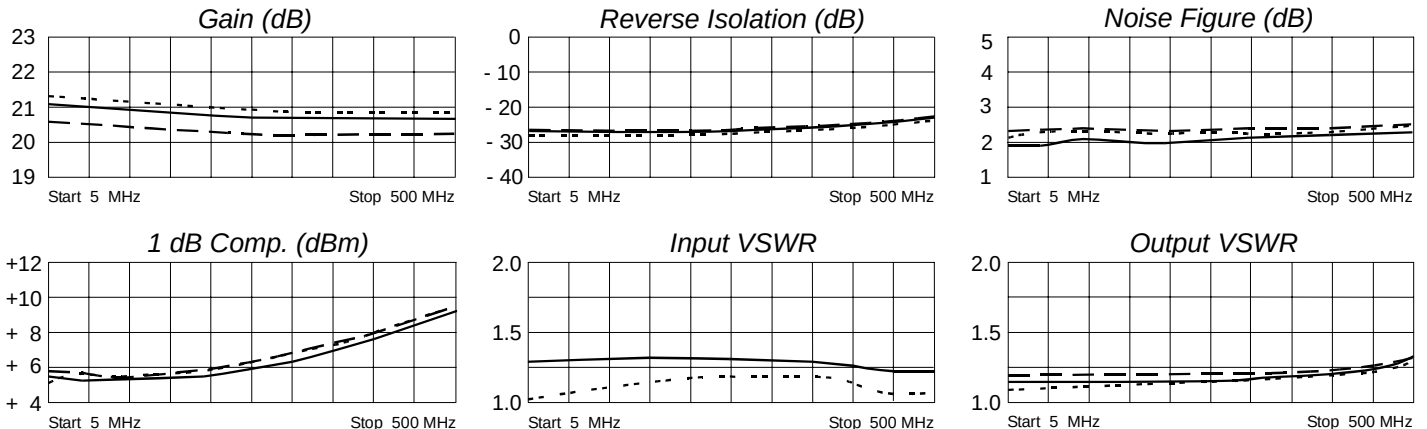
### Typical Intermodulation Performance at 25 °C

Second Order Harmonic Intercept Point ..... +26 dBm (Typ.)  
 Second Order Two Tone Intercept Point ..... +21 dBm (Typ.)  
 Third Order Two Tone Intercept Point ..... +18 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            | .14 | 0    | 11.31 | -179 | .05 | 3   | .07 | - 5  |
| 50           | .14 | - 2  | 11.19 | 168  | .05 | - 2 | .08 | - 9  |
| 100          | .15 | - 5  | 11.09 | 156  | .05 | - 1 | .08 | - 22 |
| 200          | .14 | - 17 | 10.89 | 132  | .05 | - 5 | .08 | - 51 |
| 300          | .13 | - 32 | 10.71 | 109  | .05 | - 6 | .07 | - 92 |
| 400          | .10 | - 61 | 10.68 | 84   | .06 | -10 | .08 | -154 |
| 500          | .08 | -126 | 10.64 | 58   | .06 | -14 | .15 | 148  |



Spectrum Microwave · 2144 Franklin Drive N.E. · Palm Bay, Florida 32905 · PH (888) 553-7531 · Fax (888) 553-7532 04/11/05

www.spectrummicrowave.com Spectrum Microwave (Europe) · 2707 Black Lake Place · Philadelphia, Pa. 19154 · PH (215) 464-4000 · Fax (215) 464-4001