RF AMPLIFIER
MODEL *TM6670PM*

Available as: TM6670PM, 4 Pin TO-8 (T4)
TN6670PM, 4 Pin Surface Mount (SM3)
FP6670PM, 4 Pin Flatpack (FP4)
BX6670PM,Connectorized Housing (H1)

Features

- Superior Phase Noise Performance
- Low Noise Figure: 1.8 dB Typical
- Operating Temp. -55 ºC to +85 ºC
- Environmental Screening Available

Specifications

CHARACTERISTIC	TYPICAL Ta= 25 ºC	MIN/MAX Ta = -55 ºC to +85 ºC
Frequency	10 - 300 MHz	10 - 300 MHz
Gain (dB)	8	6 Min.
Power @ 1 dB Comp. (dBm)	20	18 Min.
Reverse Isolation (dB)	-11	-10 Max.
VSWR In Out	<1.5:1 <1.5:1	2.5:1 Max. 2.5:1 Max.
Noise Figure (dB)	1.8	3 Max.
Power Vdc mA	+15 25	+15 30 Max.

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

Typical Intermodulation Performance at 25 ºC

Second Order Harmonic Intercept Point ..... +52 dBm (Typ.)
Second Order Two Tone Intercept Point ..... +46 dBm (Typ.)
Third Order Two Tone Intercept Point ..... +36 dBm (Typ.)

Maximum Ratings

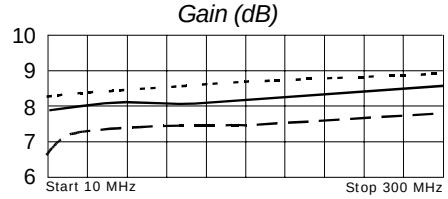
Ambient Operating Temperature ..... -55ºC to +100 ºC
Storage Temperature ..... -62ºC to +125 ºC
Case Temperature ..... +125 ºC
DC Voltage ..... +18 Volts
Continuous RF Input Power ..... +13 dBm
Short Term RF Input Power ..... 50 Milliwatts (1 Minute Max.)
Maximum Peak Power ..... 0.5 Watt (3 µsec Max.)

Guaranteed Phase Noise Performance (dBc/Hz)

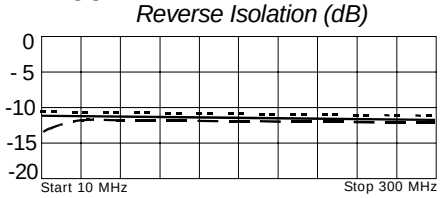
Frequency	Typical	Guarantee
100 Hz	-169	-166
1 kHz	-171	-168
10 kHz	-172	-169
100 kHz	-176	-173
1 MHz	-177	-174

Typical Performance Data

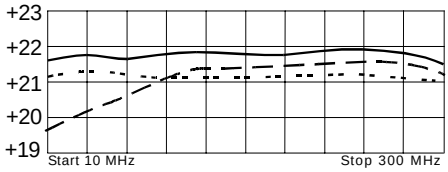
Gain (dB)



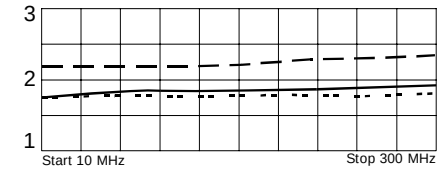
Reverse Isolation (dB)



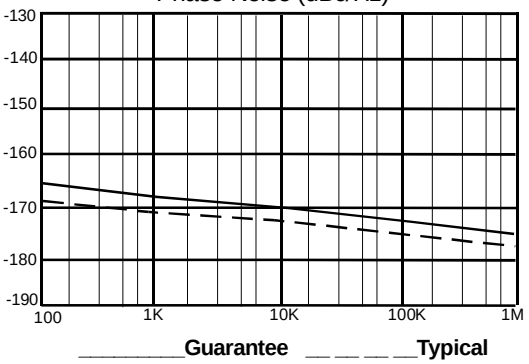
1 dB Compression (dBm)



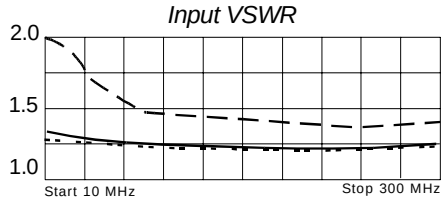
Noise Figure (dB)



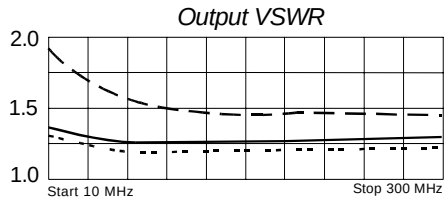
Phase Noise (dBc/Hz)



Input VSWR



Output VSWR



Legend ——— *+25 ºC* – – – *+85 ºC* - - - - - - *-55 ºC*

*** Residual Phase Noise Test Conditions**
Carrier Frequency: 160 MHz
Power Output: +20 dBm
Temperature: 25 C
Agilent ES5500 System

Linear S-Parameters

FREQ. MHz	S11 Mag	S11 Deg	S21 Mag	S21 Deg	S12 Mag	S12 Deg	S22 Mag	S22 Deg
5	.19	138	2.48	17	.28	18	.21	141
10	.12	146	2.56	8	.29	8	.13	144
20	.09	160	2.58	1	.29	2	.10	159
50	.08	-179	2.60	- 7	.29	- 7	.08	173
100	.11	-164	2.60	- 18	.29	- 17	.08	-171
150	.14	-164	2.62	- 27	.28	- 27	.09	-160
200	.19	-167	2.64	- 37	.27	- 37	.11	-149
250	.25	-175	2.67	- 48	.26	- 47	.16	-149
300	.32	177	2.67	- 59	.25	- 58	.21	-152

Spectrum Microwave · 2144 Franklin Drive N.E. · Palm Bay, Florida 32905 · PH (888) 553-7531 · Fax (888) 553-7532 3/31/04
www.SpectrumMicrowave.com *Spectrum Microwave · 2707 Black Lake Place · Philadelphia, Pennsylvania 19154 · PH (215) 464-4000 · Fax (215) 464-4001*