

# RF AMPLIFIER

## MODEL QBH-5695

Available as: QBH-5695PM, 4 Pin Surface Mount (SM3)

### Features

- Superior Phase Noise Performance
- Operating Temp. - 55 °C to +85 °C
- Environmental Screening Available

### Specifications

CHARACTERISTIC	TYPICAL Ta= 25 °C	MIN/MAX Ta =-55 °C to +85 °C
Frequency	10 - 600 MHz	10 - 600 MHz
Gain (dB)	13.0	12.0 Min.
Power @ 1 dB Comp. (dBm)	+27.0	+26.0 Min
Reverse Isolation (dB)	-17	-15 Max.
VSWR In	1.5:1	2.0:1 Max.
Out	1.5:1	2.0:1 Max.
Noise figure (dB)	7.0	9.0 Max.
Power Vdc	+15	+15
mA	195	205 Max.

### Typical Intermodulation Performance at 25°C

Second Order Harmonic Intercept Point ..... +48 dBm (Typ.)  
 Second Order Two Tone Intercept Point ..... +42 dBm (Typ.)  
 Third Order Two Tone Intercept Point ..... +40 dBm (Min.)

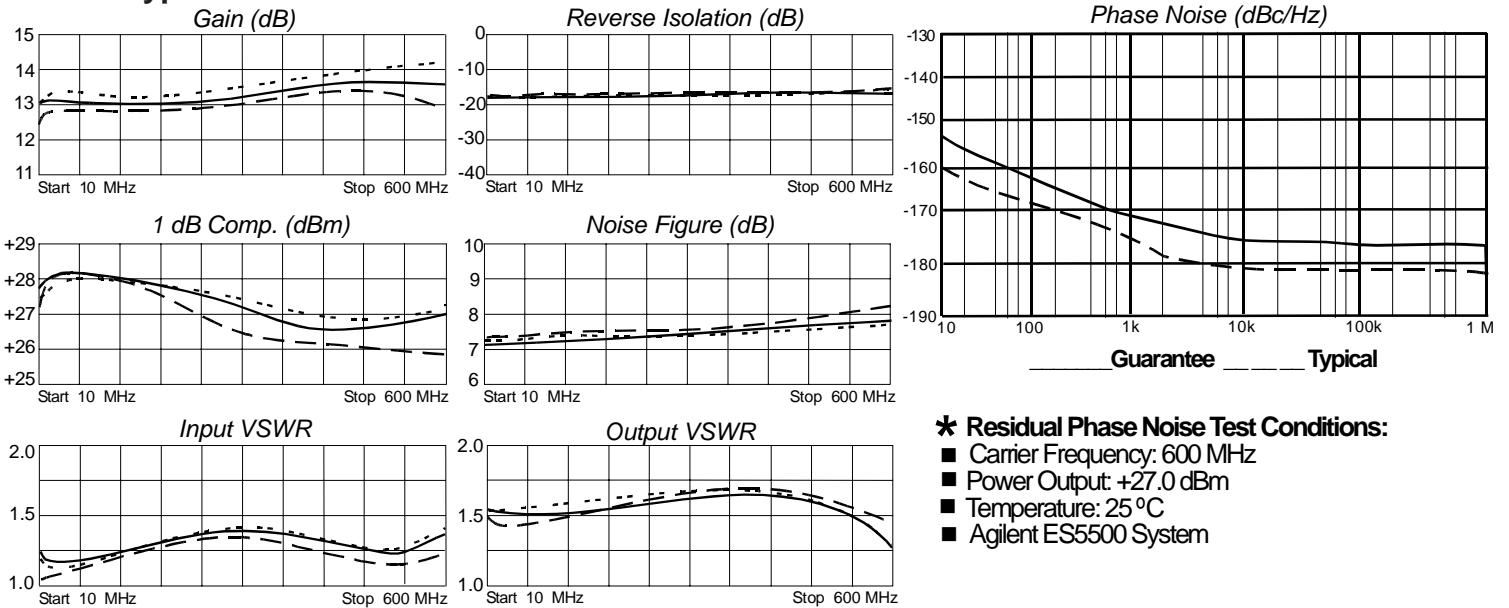
### Maximum Ratings

Ambient Operating Temperature ..... -55 °C to +100 °C  
 Storage Temperature ..... -65 °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.)

### Guaranteed Phase Noise Performance (dBc/Hz)

Frequency	Typical	Guarantee
10 Hz	-160	-155
100 Hz	-167	-162
1 kHz	-176	-171
10 kHz	-181	-176
100 kHz	-182	-177
1 MHz	-182	-177

### Typical Performance Data



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

### \* Residual Phase Noise Test Conditions:

- Carrier Frequency: 600 MHz
- Power Output: +27.0 dBm
- Temperature: 25 °C
- Agilent ES5500 System

### Linear S-Parameters Data

FREQ. MHz	-- S11 --		-- S21 --		-- S12 --		-- S22 --	
	Mag	Ang	Mag	Ang	Mag	Ang	Mag	Ang
10	0.11	-61.9	4.70	-172.3	0.11	8.8	0.23	151.8
250	0.02	-83.6	4.66	116.7	0.11	-34.4	0.14	148.5
500	0.01	-171.7	4.55	54.5	0.12	-70.5	0.14	124.8
750	0.02	126.7	4.49	-7.5	0.13	-109.3	0.15	97.0
1000	0.05	15.7	4.51	-70.8	0.14	-151.2	0.13	40.7
1200	0.12	-44.2	4.58	-123.8	0.15	173.5	0.13	-25.7
1300	0.16	-70.8	4.60	-151.8	0.15	155.1	0.14	-68.5

