

# RF AMPLIFIER

## MODEL *TM6118PM*

Available as: TM6118PM, 4 Pin TO-8 (T4)  
 TN6118PM, 4 Pin Surface Mount (SM3)  
 FP6118PM, 4 Pin Flatpack (FP4)  
 BX6118PM, Connectorized Housing (H1)

### Features

- Superior Phase Noise Performance
- High Third Order Intercept: +33 dBm Typical
- Low Noise Figure: <3.0 dB Typical
- 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 (MHz)	10 - 200 MHz	10 - 200 MHz
Gain (dB)	10	10 ± .6
Power @ 1 dB Comp. (dBm)	+18.0	+16.5 Min.
Reverse Isolation (dB)	-12.5	-12 Max.
VSWR In	1.2:1	2.0:1 Max.
Out	1.2:1	2.0:1 Max.
Noise figure (dB)	<3.0	4.0 Max.
Power Vdc	+15	+15
mA	18	20 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 ..... +59 dBm (Typ.)  
 Second Order Two Tone Intercept Point ..... +55 dBm (Typ.)  
 Third Order Two Tone Intercept Point ..... +33 dBm (Typ.)

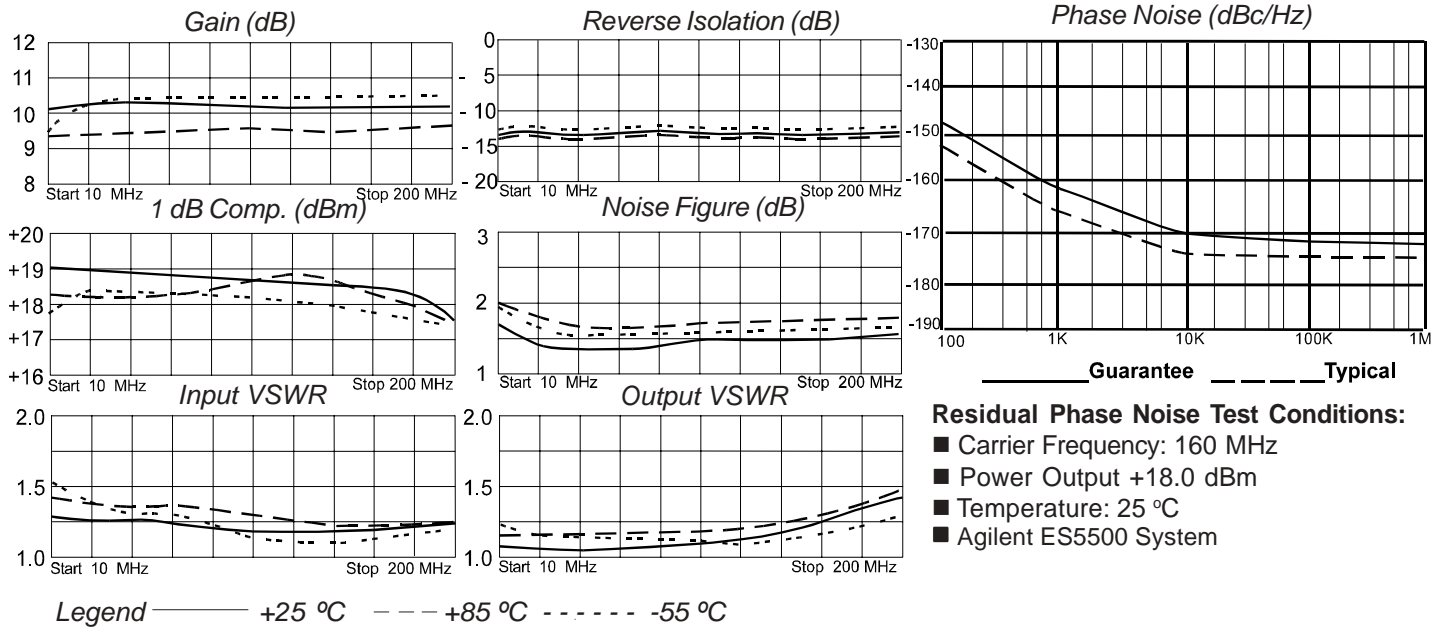
### Maximum Ratings

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 ..... +17 dBm  
 Short Term RF Input Power ..... 200 mW (1 Minute Max.)  
 Maximum Peak Power ..... 0.5 Watt (3 µsec Max.)

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

Frequency	Typical	Guarantee (min.)
100 Hz	-152	-148
1 kHz	-165	-162
10 kHz	-174	-170
100 kHz	-174	-172
1 MHz	-174	-172

### Typical Performance Data



### Residual Phase Noise Test Conditions:

- Carrier Frequency: 160 MHz
- Power Output +18.0 dBm
- Temperature: 25 °C
- Agilent ES5500 System

### Linear S-Parameters

FREQ. MHz	S11		S21		S12		S22	
	Mag	Deg	Mag	Deg	Mag	Deg	Mag	Deg
10	.14	169	3.18	4	.23	4	.05	112
25	.12	171	3.24	-5	.23	-4	.02	92
50	.12	171	3.23	-14	.23	-12	.02	108
100	.09	172	3.21	-29	.23	-27	.05	125
150	.08	-164	3.24	-44	.22	-42	.10	122
200	.12	-135	3.22	-61	.21	-57	.17	113



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