

RF AMPLIFIER

MODEL TM9512PM

Available as: TM9512PM, 4 Pin TO-8 (T4)
 TN9512PM, 4 Pin Surface Mount (SM3)
 FP9512PM, 4 Pin Flatpack (FP4)
 BX9512PM, Connectorized Housing (H1)

Features

- Superior Phase Noise Performance
- Higher Power: +21 dBm Typical
- Lower +12 volt supply
- Environmental Screening Available

Specifications

CHARACTERISTIC	TYPICAL Ta= 25 °C	MIN/MAX Ta = -55 °C to +85 °C
Frequency	10 - 1000 MHz	10 - 1000 MHz
Gain (dB)	13	11 Min.
Power @ 1 dB Comp. (dBm)	+21	+19 Min.
Reverse Isolation (dB)	-15	-13 Max.
VSWR In	1.5:1	2.0:1 Max.
Out	1.5:1	2.0:1 Max.
Noise Figure (dB)	4.5	6.5 Max.
Power Vdc	+12	+12 Min.
mA	90	100 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 +50 dBm (Typ.)
 Second Order Two Tone Intercept Point +45 dBm (Typ.)
 Third Order Two Tone Intercept Point +35 dBm (Typ.)

(Absolute) Maximum Ratings

Ambient Operating Temperature -55°C to +100 °C
 Storage Temperature -62°C to +125 °C
 Case Temperature +125 °C
 DC Voltage +15 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.)

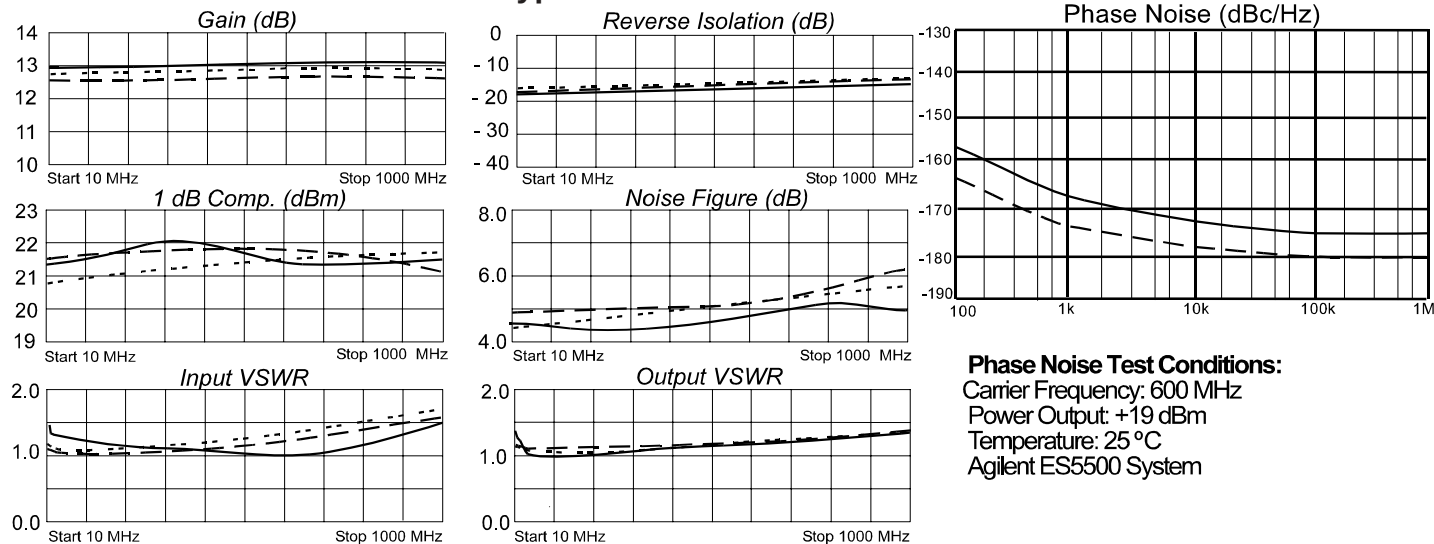
MTBF Calculation for Ground Benign Environment

@ 25 °C 4,269,871.84 hrs

Guaranteed Phase Noise Performance (dBc/Hz)

Frequency	Typical	Guarantee (Max.)
100 Hz	-164	-158
1 kHz	-174	-168
10 kHz	-178	-173
100 kHz	-180	-175
1 MHz	-180	-175

Typical Performance Data



Phase Noise Test Conditions:

Carrier Frequency: 600 MHz
 Power Output: +19 dBm
 Temperature: 25 °C
 Agilent ES5500 System

Linear S-Parameters

FREQ. MHz	--- S11 --- Mag Deg	--- S21 --- Mag Deg	--- S12 --- Mag Deg	--- S22 --- Mag Deg
10	.09 -56	4.45 -173	.11 10	.09 116
100	.04 14	4.53 166	.11 0	.04 120
200	.05 33	4.49 152	.12 1	.04 103
300	.06 50	4.50 139	.12 -1	.06 88
400	.07 54	4.51 125	.12 -3	.07 78
500	.10 59	4.50 111	.13 -7	.08 75
600	.12 63	4.51 98	.13 -7	.09 68
700	.15 61	4.47 84	.14 -10	.11 62
800	.18 58	4.43 70	.15 -14	.11 57
900	.22 54	4.32 56	.15 -19	.12 52
1000	.25 48	4.24 41	.16 -23	.13 47



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