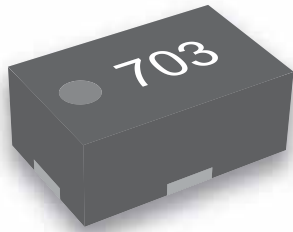


# MMA703

## DC to 6 GHz Amplifier



2012 PACKAGE

### Description:

The MMA703 is a fully matched amplifier fabricated in Aeroflex / Metelics reliable InGaP HBT technology. The economical, low parasitic molded package provides state-of-the-art wideband performance.

### Features:

- DC - 6 GHz Broadband Gain Block
- $\pm 0.5$  dB Typical Gain Flatness
- 50 Ohms Input/Output Impedances

### RF Specifications:

Parameter	Term	Minimum	Typical	Maximum	Units
3dB Bandwidth	BW	DC	- - -	9	GHz
Frequency Range	$f_0$	DC	- - -	6	GHz
Gain	$G_p$	17	18	- - -	dB
Output Power	$P_{1dB}$	+16	+17	- - -	dBm
Standing Wave Ratio	VSWR	1.5:1	2.0:1	- - -	- - -
3 <sup>rd</sup> Order Intercept Point	IP3	+23	+25	- - -	dBm
Noise Figure	NF	- - -	3.8	4.2	dB
Device current	$I_c$	42	48	55	mA

- NOTES:
1.  $T_A = +25$  °C.
  2.  $V_S = 6.0$  Vdc,  $R_{BIAS} = 22$   $\Omega$
  3. IP3 measured with two tones offset 10 MHz at 0 dBm per tone.

### Absolute Maximum Ratings:

Parameters	Rating
Device Current ( $I_c$ )	80 mA
RF Input Power, continuous	+10 dBm
Operating Temperature	-40 to +85 °C
Storage Temperature	-55 to +125 °C
Thermal Resistance ( $\theta_{JC}$ )	125 °C/W

## Typical RF Performance:

Figure 1.

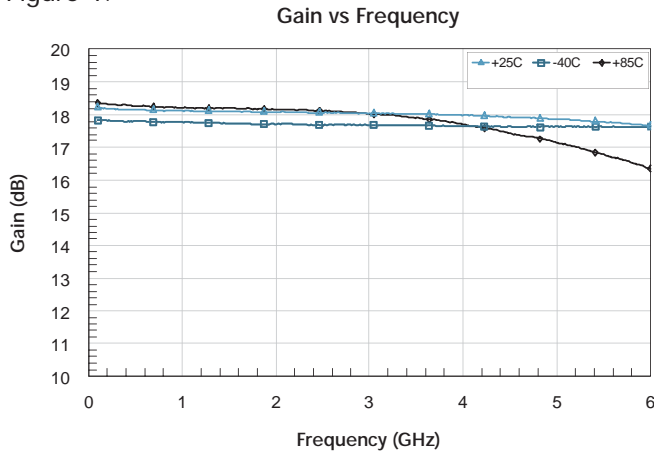


Figure 2.

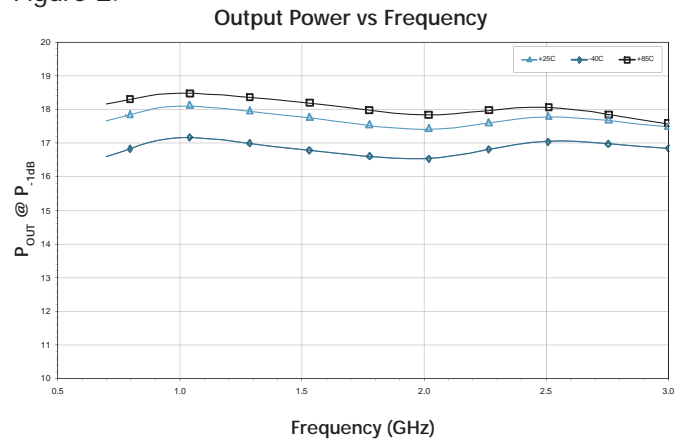


Figure 3.

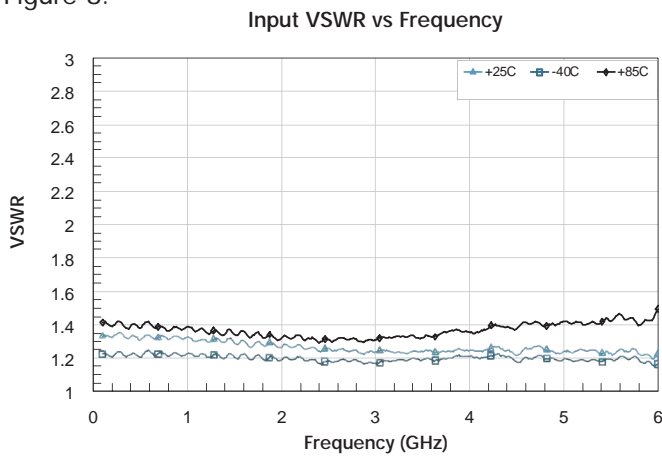


Figure 4.

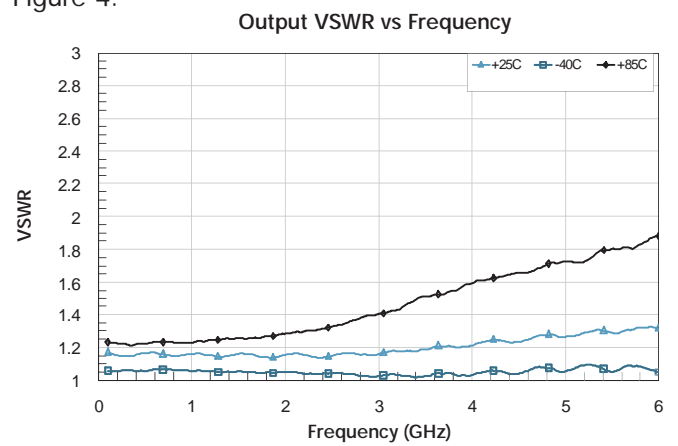


Figure 5.

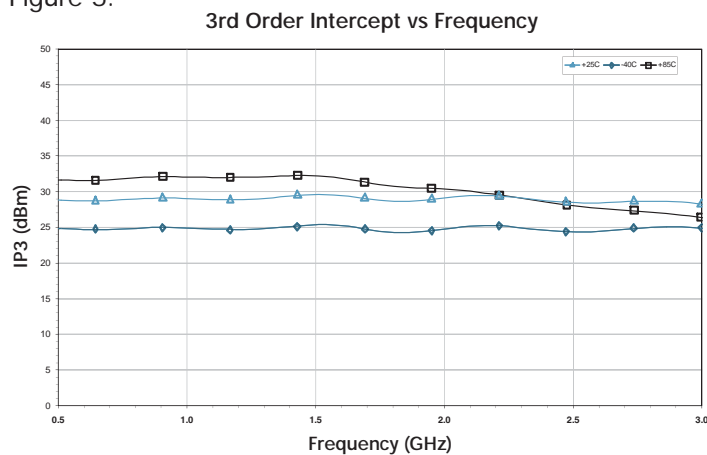
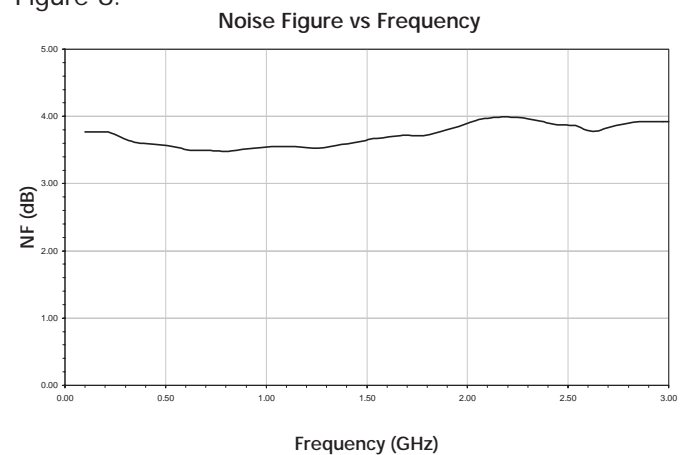


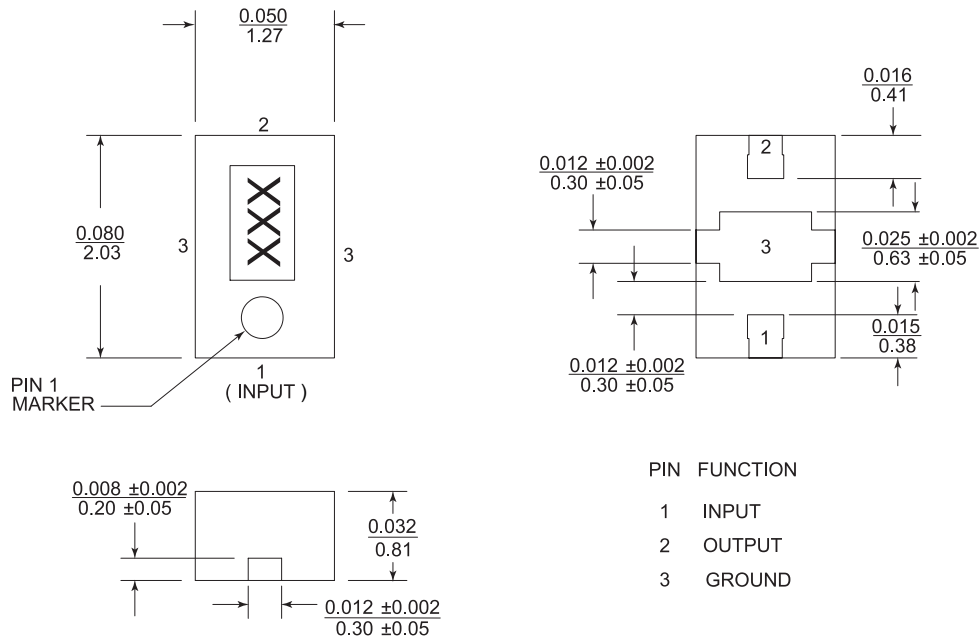
Figure 6.



# MMA703 DC to 6 GHz Amplifier



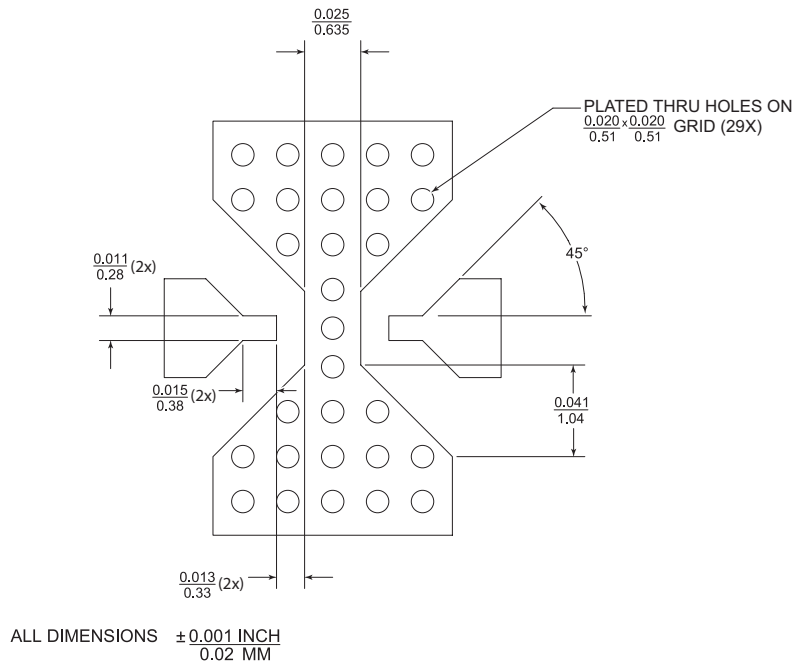
## 2012 Package Dimensions:



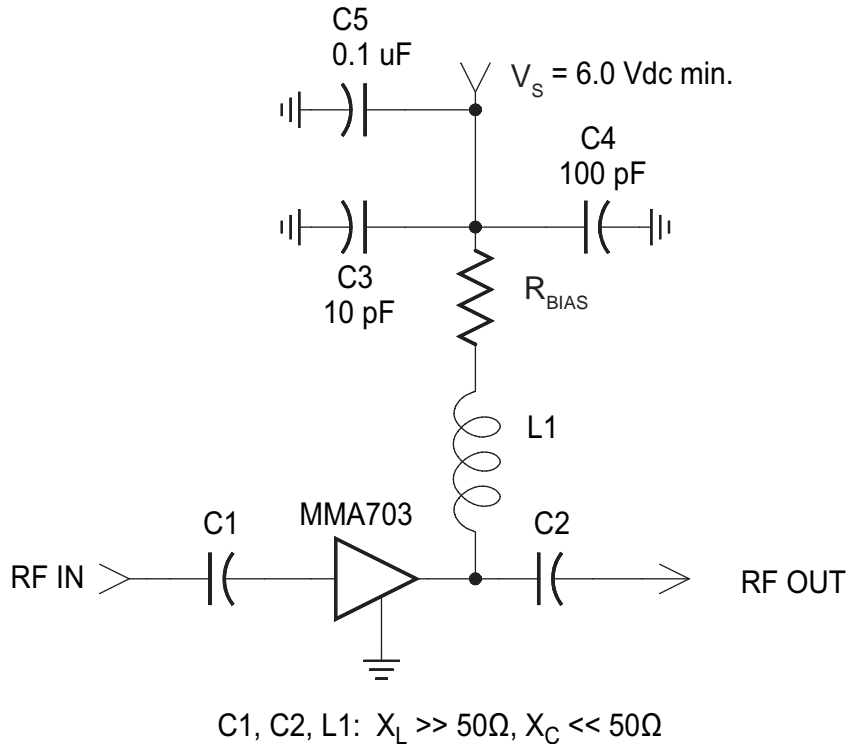
PIN	FUNCTION
1	INPUT
2	OUTPUT
3	GROUND

ALL DIMENSIONS ±0.003 INCH  
0.07 MM

## Recommended PCB Layout:



### Application Circuit:



$R_{BIAS}$  vs.  $V_s$

$V_s$ (V)	6.0	8.0	10.0	12.0	15.0
$R_{BIAS}$ ( $\Omega$ )	22	43	86	130	200
Power Dissipation (W)	0.10	0.2	0.5	1	2

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Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.