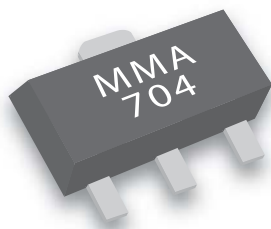


# MMA704

## DC to 3.7 GHz Amplifier



SOT89 OUTLINE

### Description:

The MMA704 is a fully matched amplifier fabricated in Aeroflex / Metelics reliable InGaP HBT technology. The economical SOT89 package provides excellent wide-band performance.

### Features:

- DC - 3.7 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	---	3.7	GHz
Frequency Range	$f_o$	DC	---	1.5	GHz
Gain	$G_p$	16	17	---	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	---	4	4.5	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.

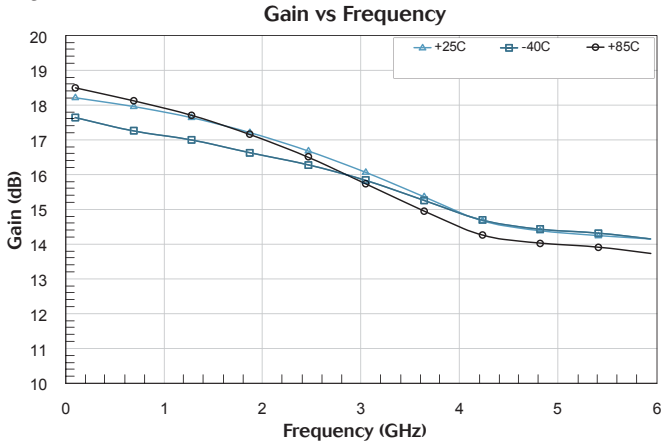


Figure 2.

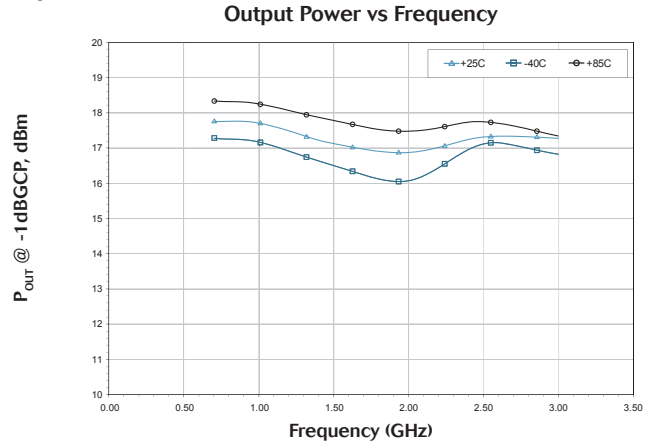


Figure 3.

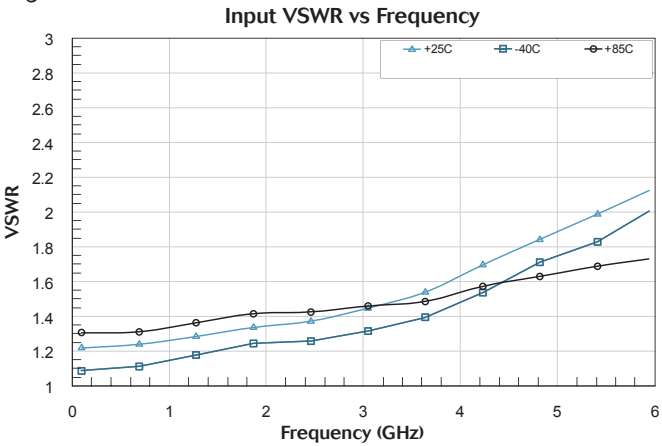


Figure 4.

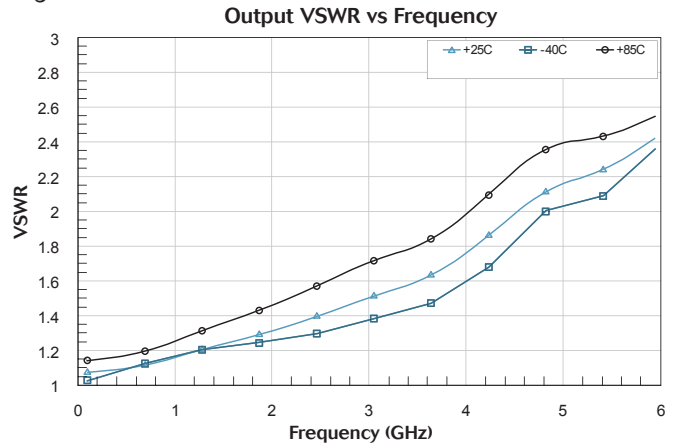


Figure 5.

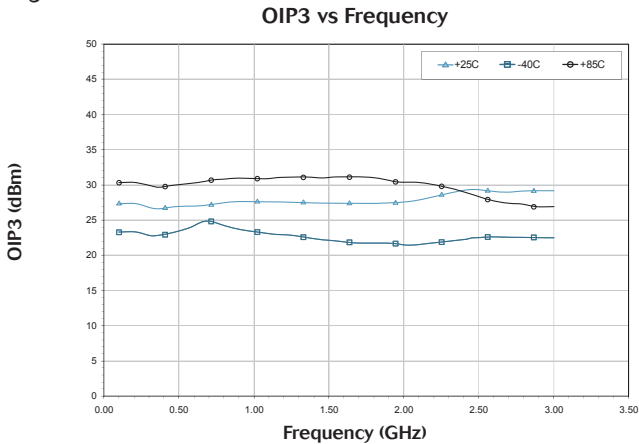
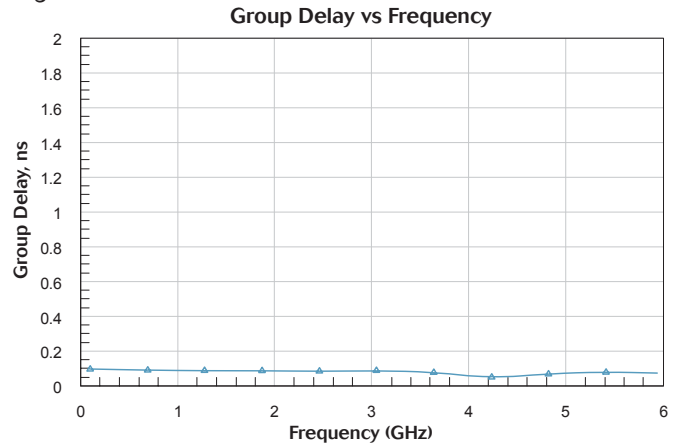


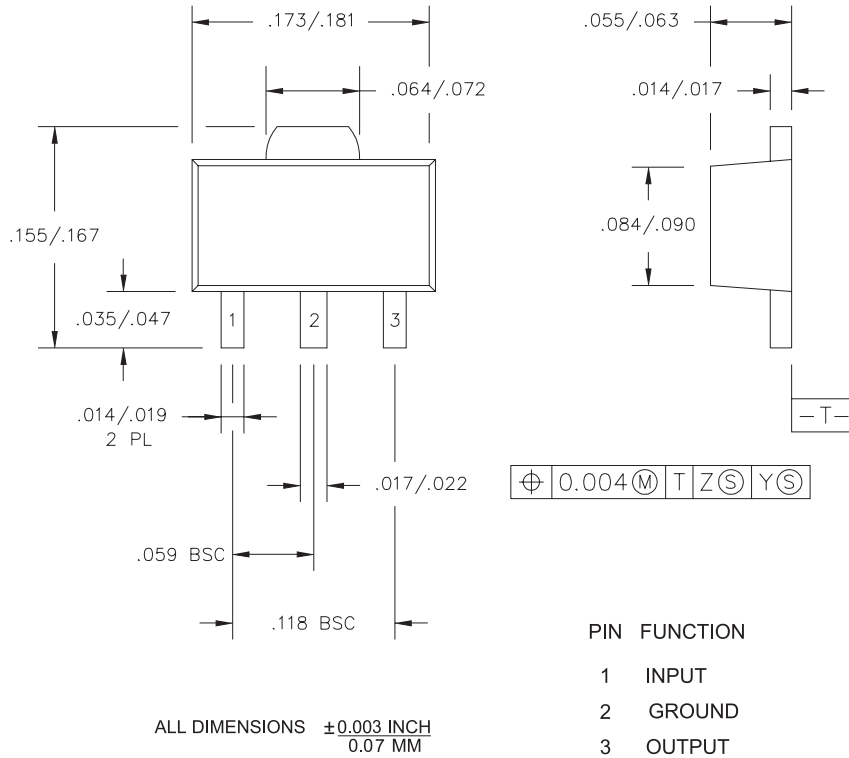
Figure 6.



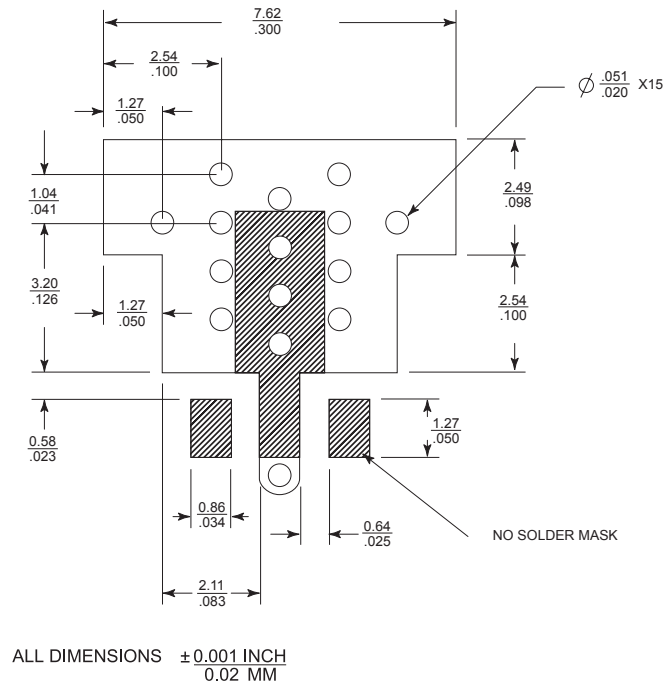
# MMA704 DC to 3.7 GHz Amplifier



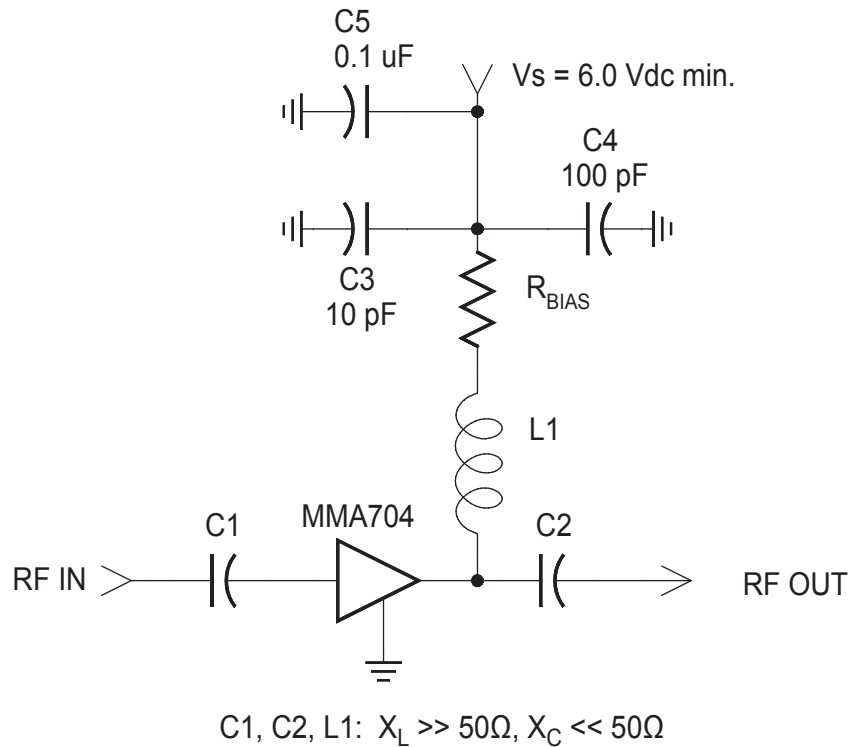
## SOT89 Outline Dimensions:



## 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	62	100	150	200
Power Dissipation (W)	0.05	0.15	0.25	0.34	0.48

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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.