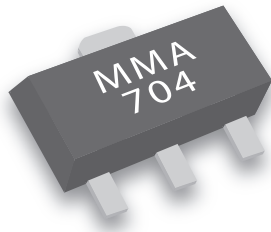


MMA704

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
- ± 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 rd 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, $R_{BIAS} = 22$ Ω
 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 (θ_{JC})	125 °C/W

Typical RF Performance:

Figure 1.

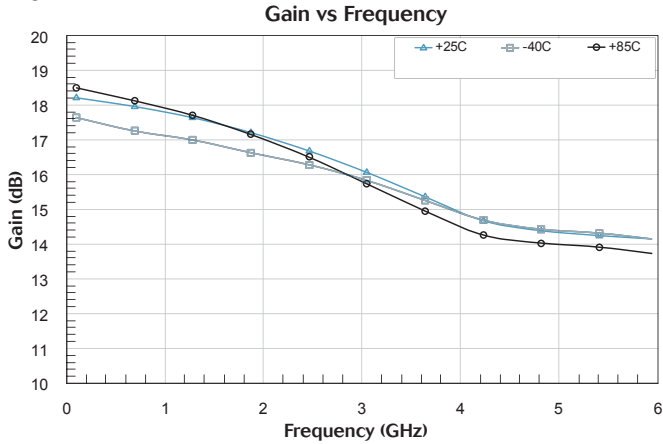


Figure 2.

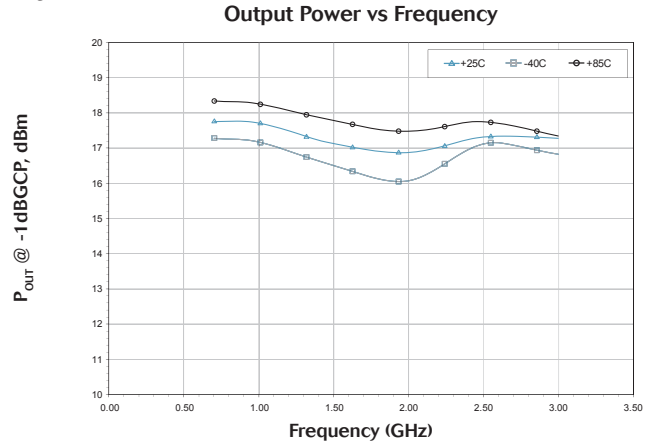


Figure 3.

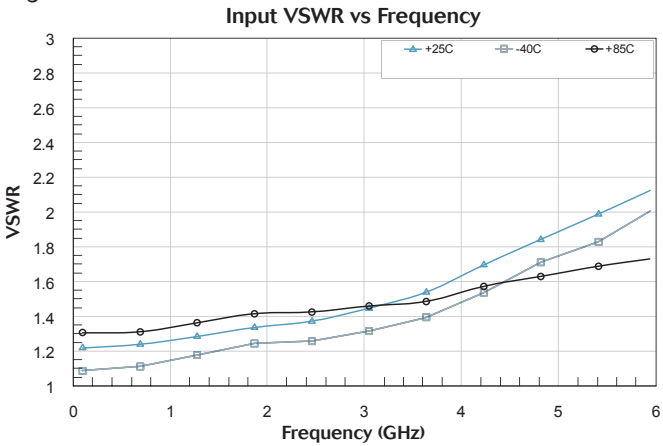


Figure 4.

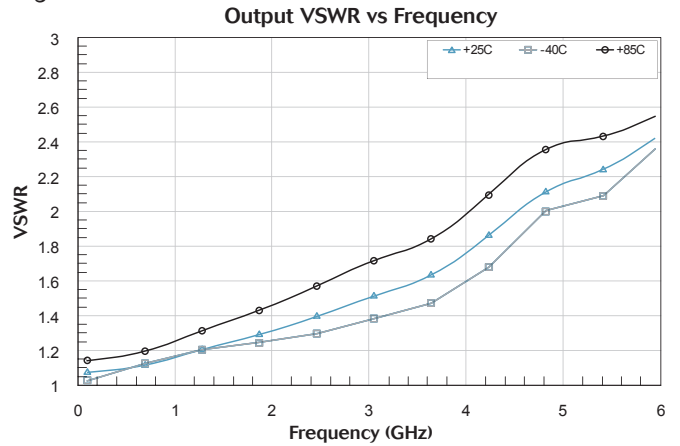


Figure 5.

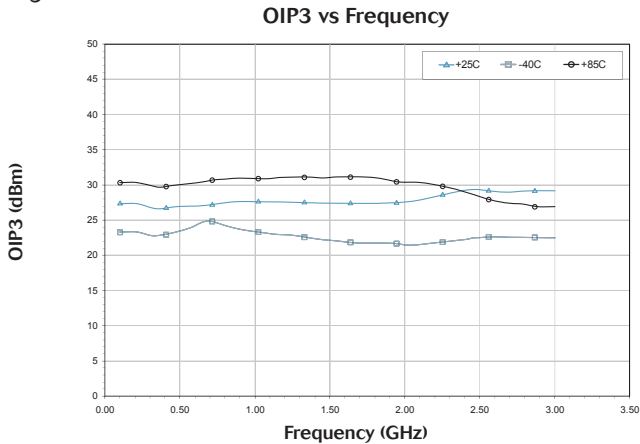
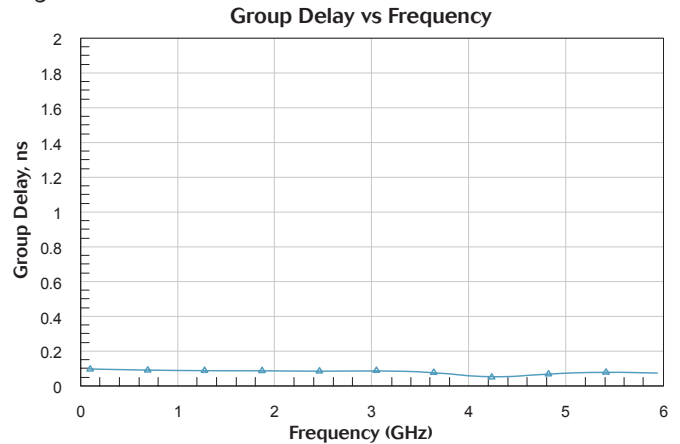


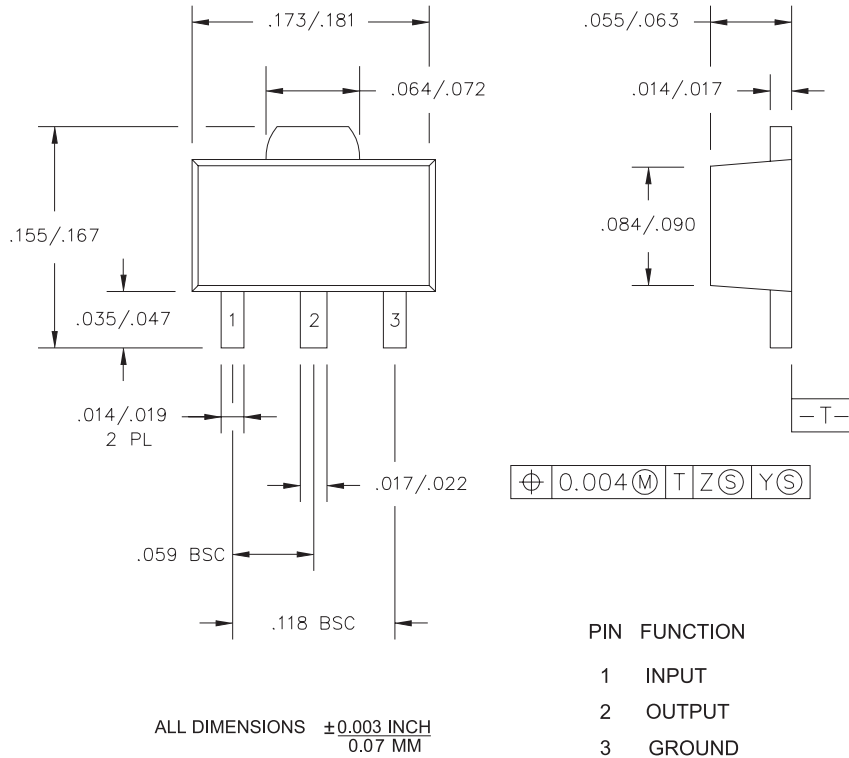
Figure 6.



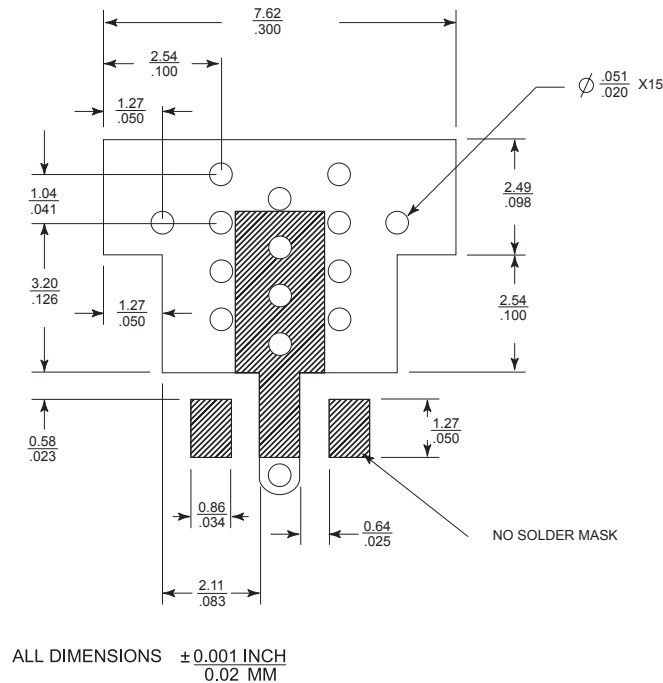
MMA704 DC to 3.7 GHz Amplifier



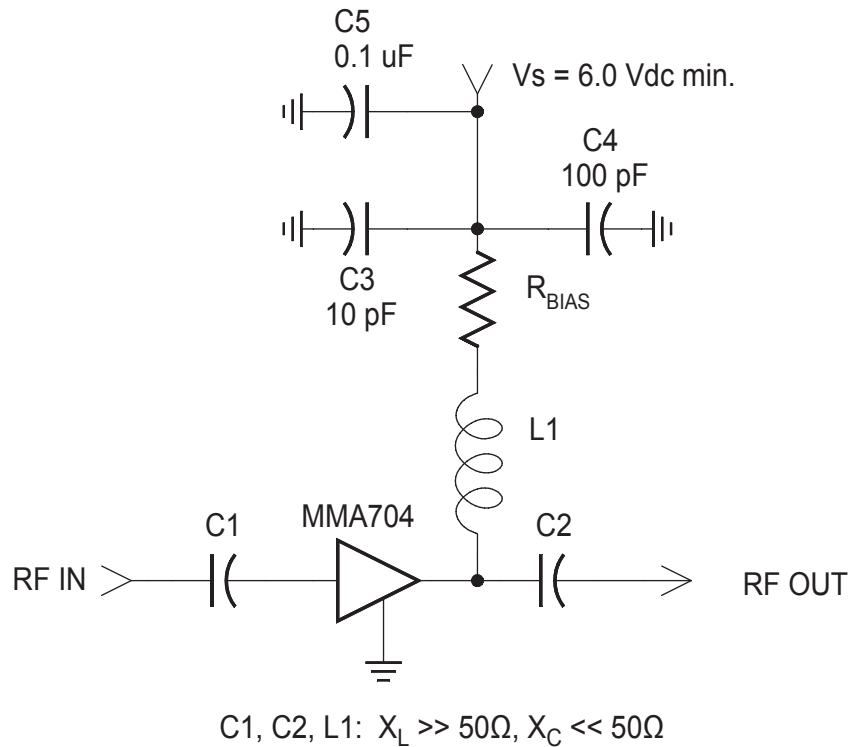
SOT89 Outline Dimensions:



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} (Ω)	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.