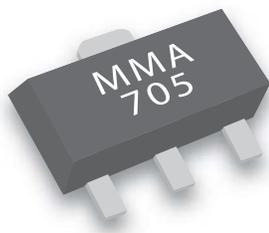


MMA705

DC to 4 GHz Amplifier



SOT89 OUTLINE

Description:

The MMA705 is a fully matched amplifier fabricated in Aeroflex / Metelics reliable InGaP HBT technology. The economical SOT89 package provides excellent wide-band performance.

Features:

- DC - 4 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	---	4	GHz
Frequency Range	f_o	DC	---	2	GHz
Gain	G_p	14	15	---	dB
Output Power	P_{1dB}	+13	+15	---	dBm
Standing Wave Ratio	VSWR	---	1.5:1	2.0:1	---
3 rd Order Intercept Point	IP3	+25	+27	---	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.

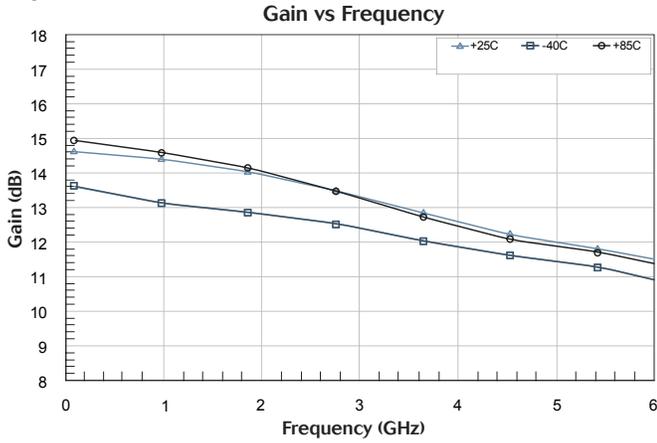


Figure 2.

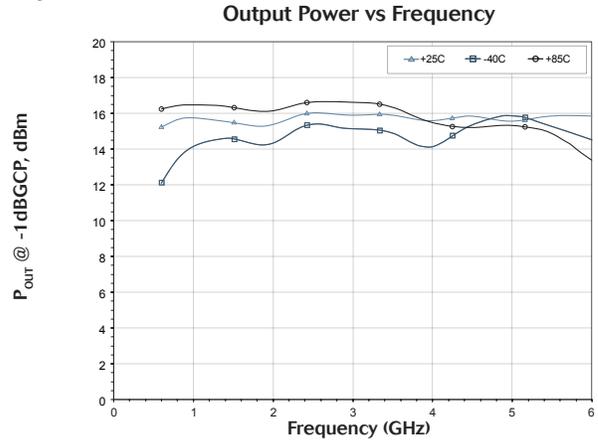


Figure 3.

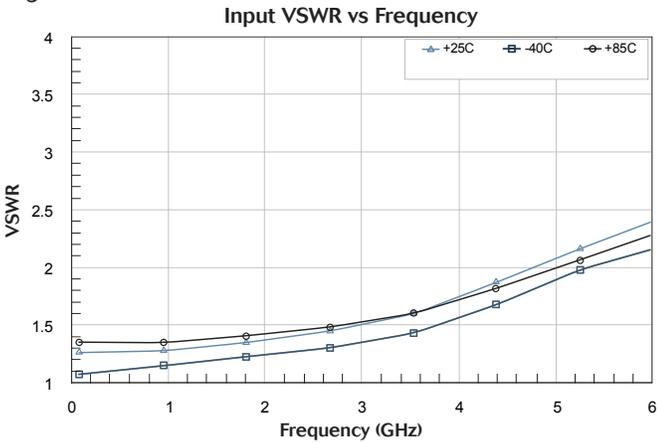


Figure 4.

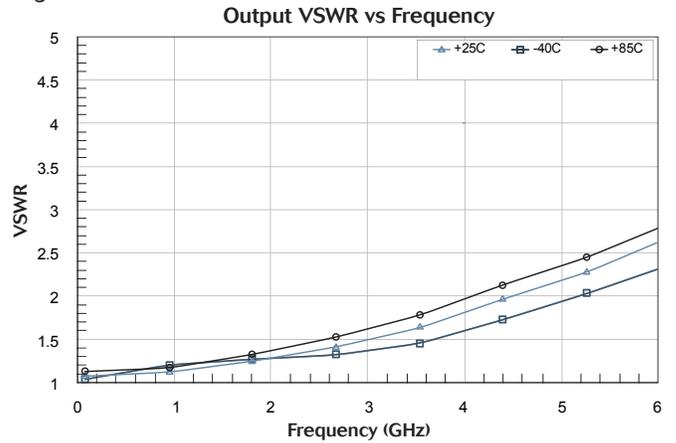


Figure 5.

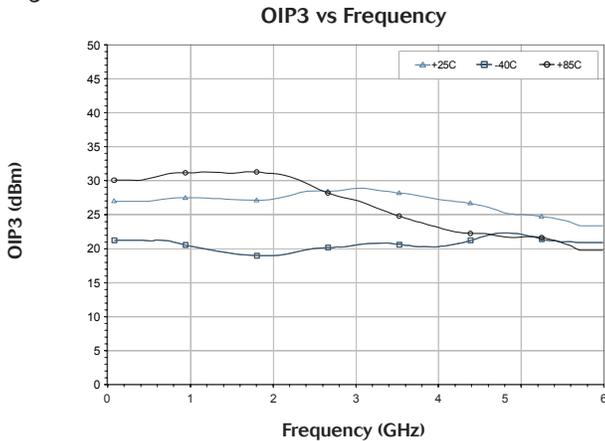
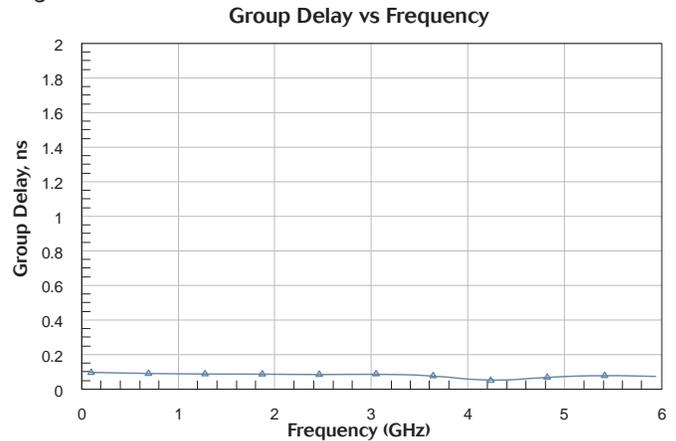


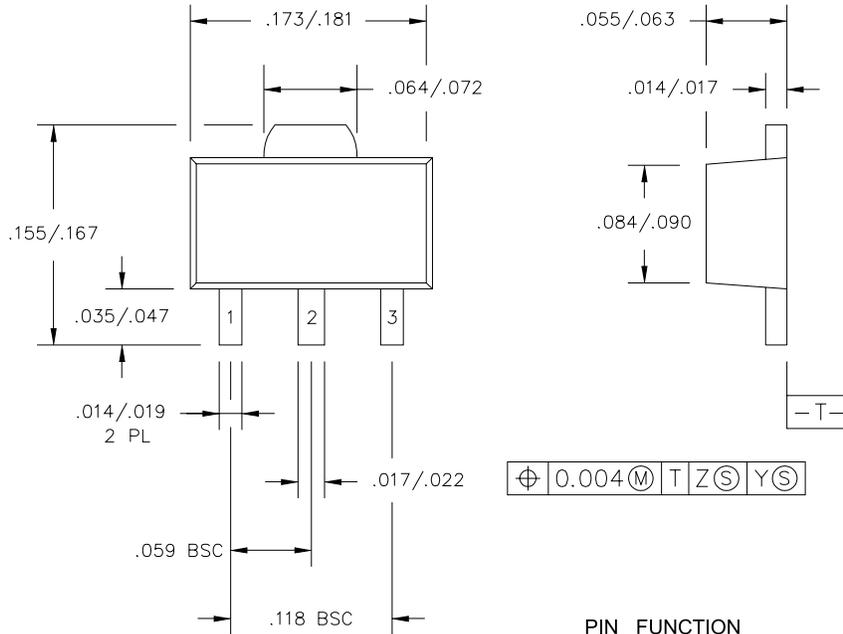
Figure 6.



MMA705 DC to 4 GHz Amplifier



SOT89 Outline Dimensions:

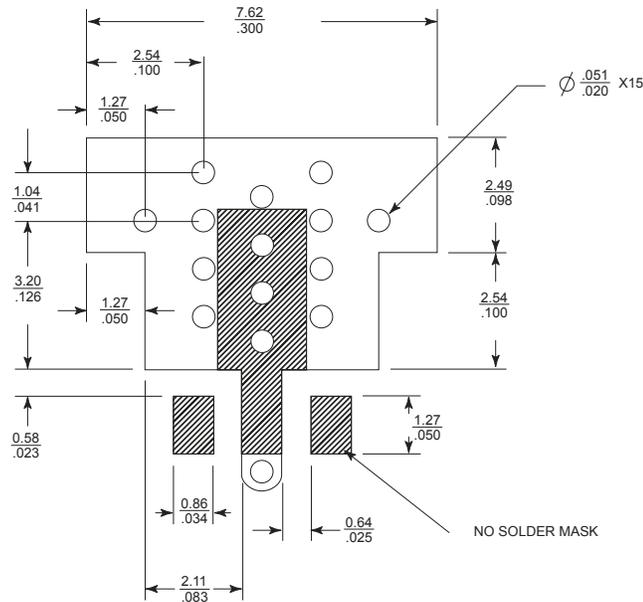


ALL DIMENSIONS ± 0.003 INCH
0.07 MM

PIN FUNCTION

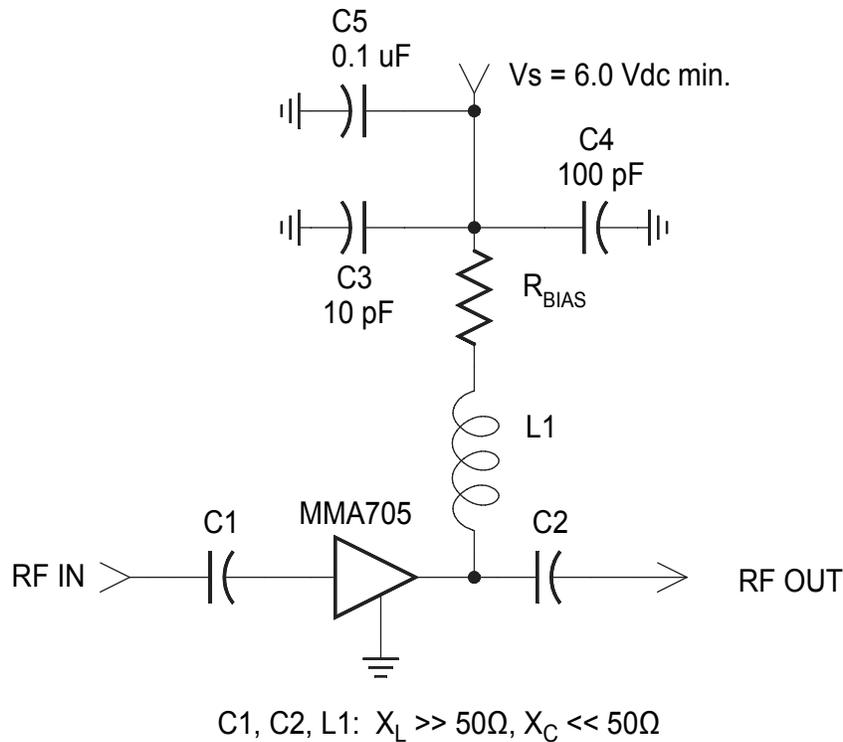
- 1 INPUT
- 2 GROUND
- 3 OUTPUT

Recommended PCB Layout:



ALL DIMENSIONS ± 0.001 INCH
0.02 MM

Application Circuit:



R_{BIAS} vs. V_S

V_S (V)	6.0	8.0	10.0	12.0	15.0
R_{BIAS} (Ω)	22	62	100	150	200
Power Dissipation (W)	0.05	0.15	0.25	0.34	0.48

Aeroflex / Metelics Inc.
 Aeroflex Microelectronic Solutions
 975 Stewart Drive, Sunnyvale, CA 94085
 TEL: 408-737-8181
 Fax: 408-733-7645

www.aeroflex-metelics.com sales@eroflex-metelics.com

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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.