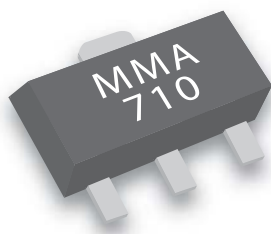


MMA710

DC to 4 GHz Amplifier



SOT89 OUTLINE



Description:

The MMA710 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	---	4	GHz
Gain	G_p	12	13	---	dB
Output Power	P_{1dB}	+18	+20	---	dBm
Input Standing Wave Ratio	VSWR	---	1.5:1	2.0:1	---
Output Standing Wave Ratio	VSWR	---	2.0:1	3.6:1	---
3 rd Order Intercept Point	IP3	+34	+37	---	dBm
Noise Figure	NF	---	5.0	6.0	dB
Device Current	I_c	85	95	110	mA

- NOTES:
1. $T_A = +25^\circ\text{C}$.
 2. $V_S = 8.0\text{ Vdc}$, $R_{BIAS} = 11\ \Omega$
 3. IP3 measured with two tones offset 10 MHz at 0 dBm per tone.

Absolute Maximum Ratings:

Parameters	Rating
Device Current (I_c)	150 mA
RF Input Power, continuous	+13 dBm
Operating Temperature	-40 to +85 $^\circ\text{C}$
Storage Temperature	-55 to +125 $^\circ\text{C}$
Thermal Resistance (θ_{JC})	70 $^\circ\text{C/W}$



Typical RF Performance:

Figure 1.

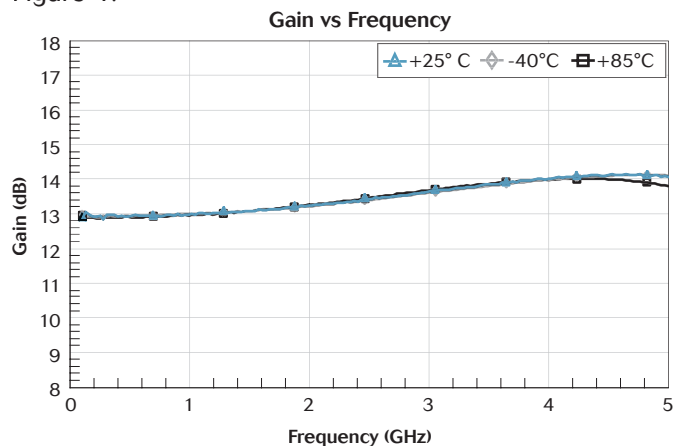


Figure 2.

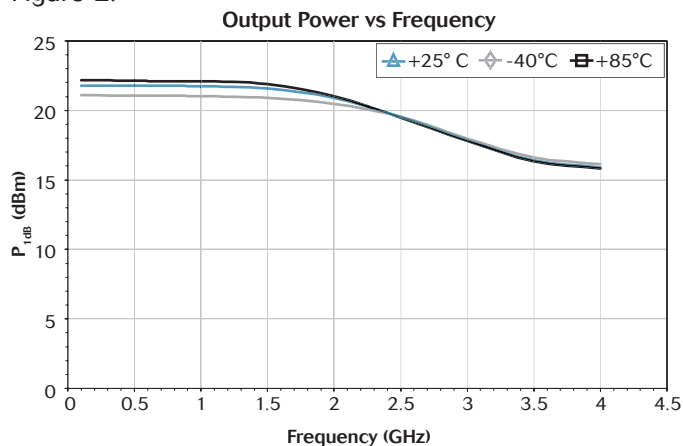


Figure 3.

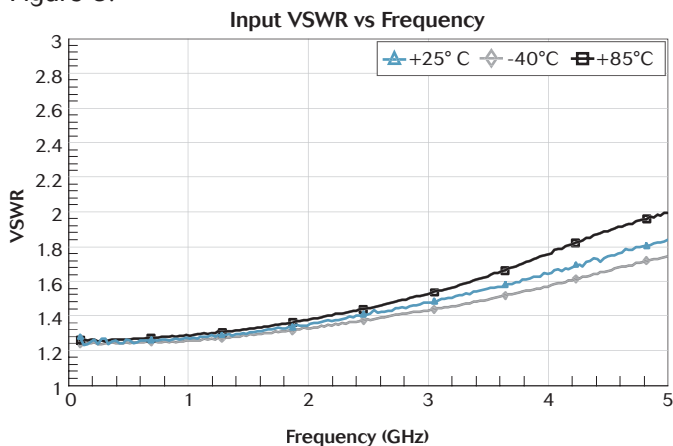


Figure 4.

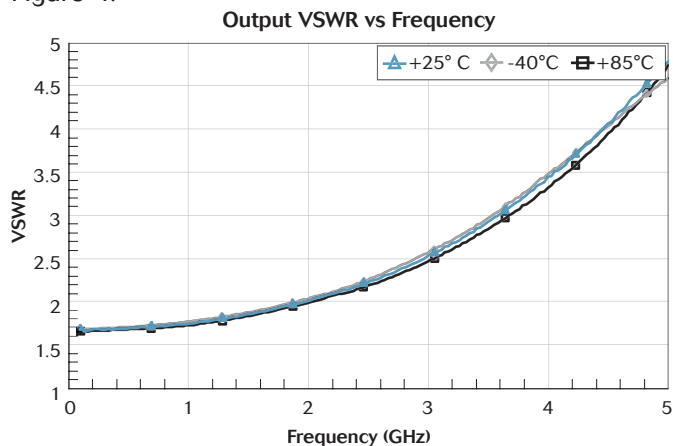


Figure 5.

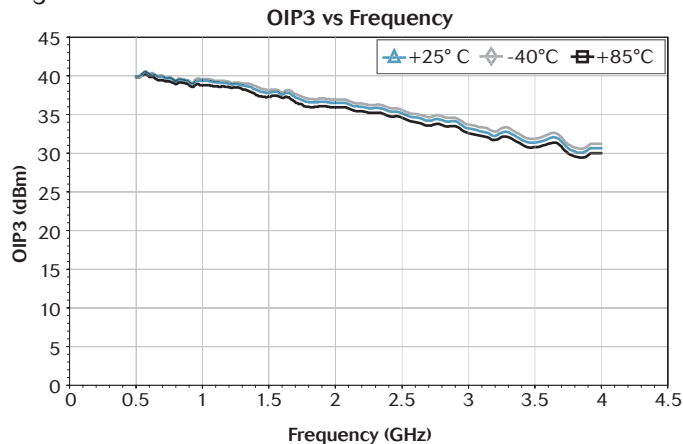
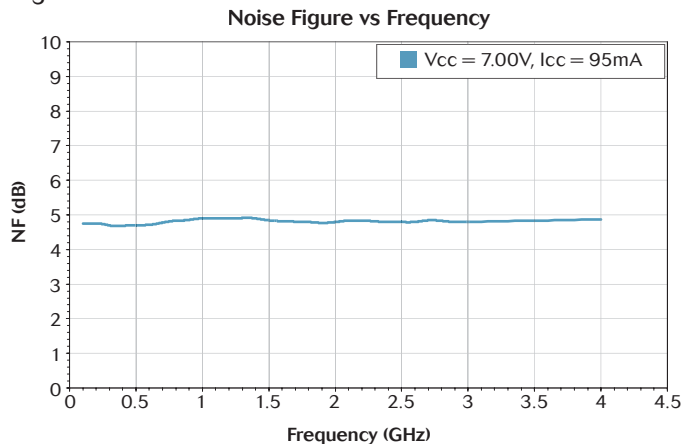


Figure 6.

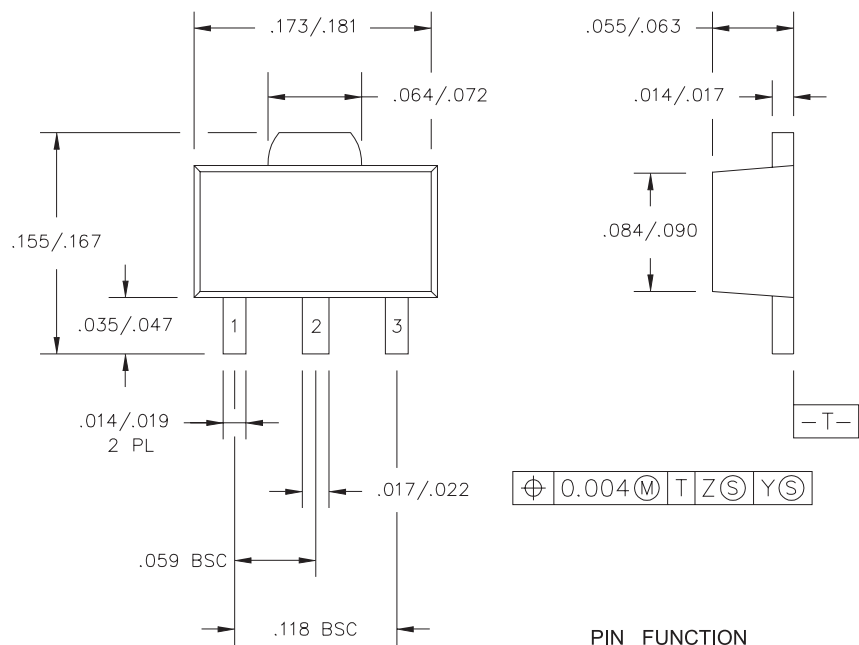


MMA710

DC to 4 GHz Amplifier



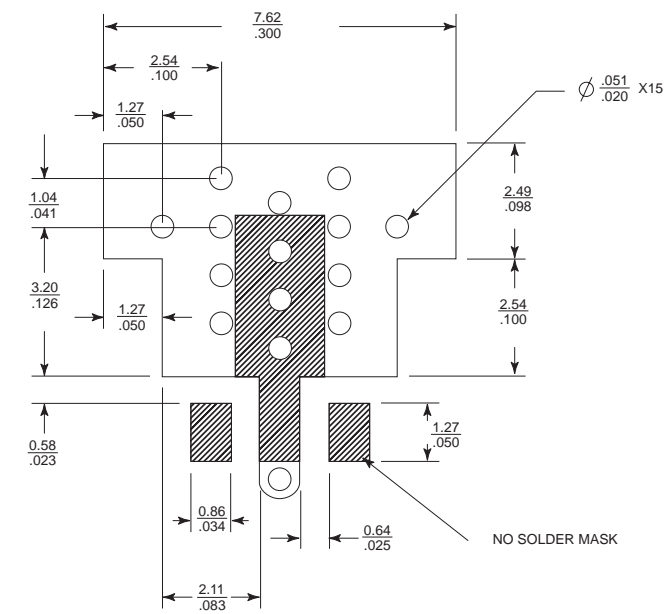
SOT89 Outline Dimensions:



ALL DIMENSIONS $\pm 0.003 \text{ INCH}$
0.07 MM

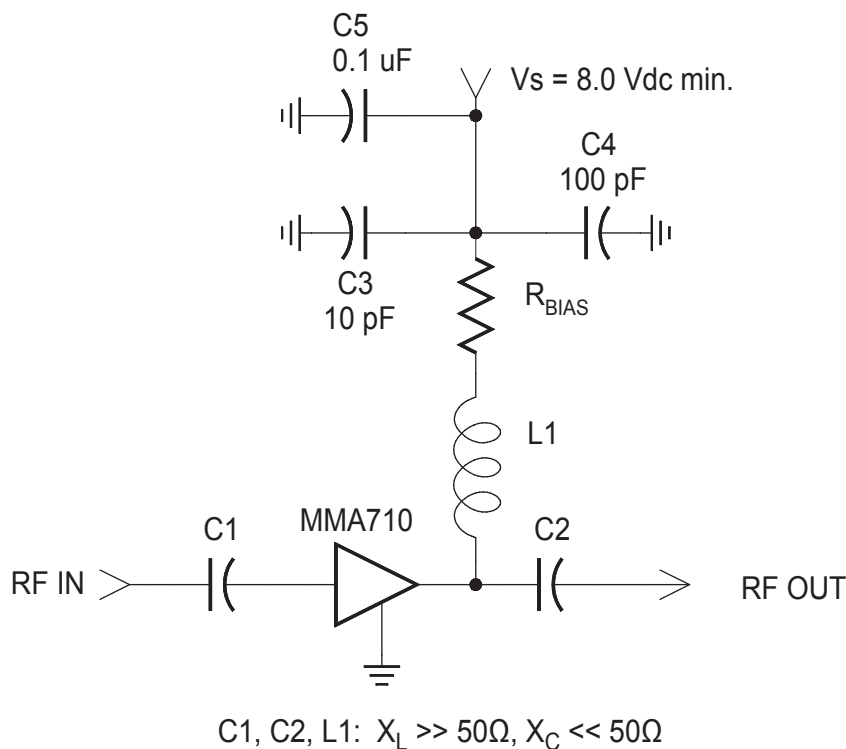
PIN	FUNCTION
1	INPUT
2	GROUND
3	OUTPUT

Recommended PCB Layout:



ALL DIMENSIONS $\pm 0.001 \text{ INCH}$
0.02 MM

Application Circuit:



R_{BIAS} vs. V_S

V_S (V)	8.0	10.0	12.0	15.0
R_{BIAS} (Ω)	11	30	51	86
Power Dissipation (W)	0.1	0.3	0.5	0.8

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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.