

REPLACEMENT PART REFERENCE GUIDE:

AN-60-062

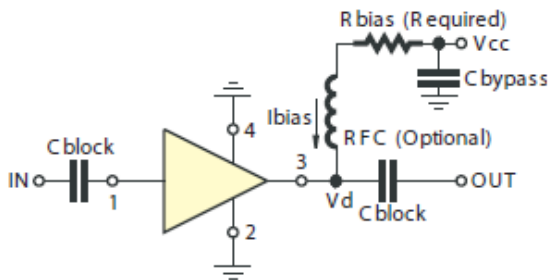
ORIGINAL PART: RAM-6+ & MSA-0636 (Avago Technologies)

REPLACEMENT PART: RAM-6A+

This replacement part has been judged by Mini-Circuits Engineering as a suitable replacement part

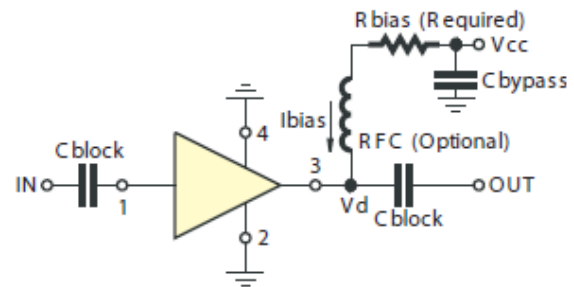
APPLICATION CIRCUITS

ORIGINAL PART:
RAM-6+ & MSA-0636 (Avago Technologies)



R BIAS	
Vcc	"1%" Res. Values (ohms) for Optimum Biasing
6	154
7	215
8	290
9	340
10	402
11	464
12	536
13	590
14	665

REPLACEMENT PART:
RAM-6A+



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CONCLUSION:

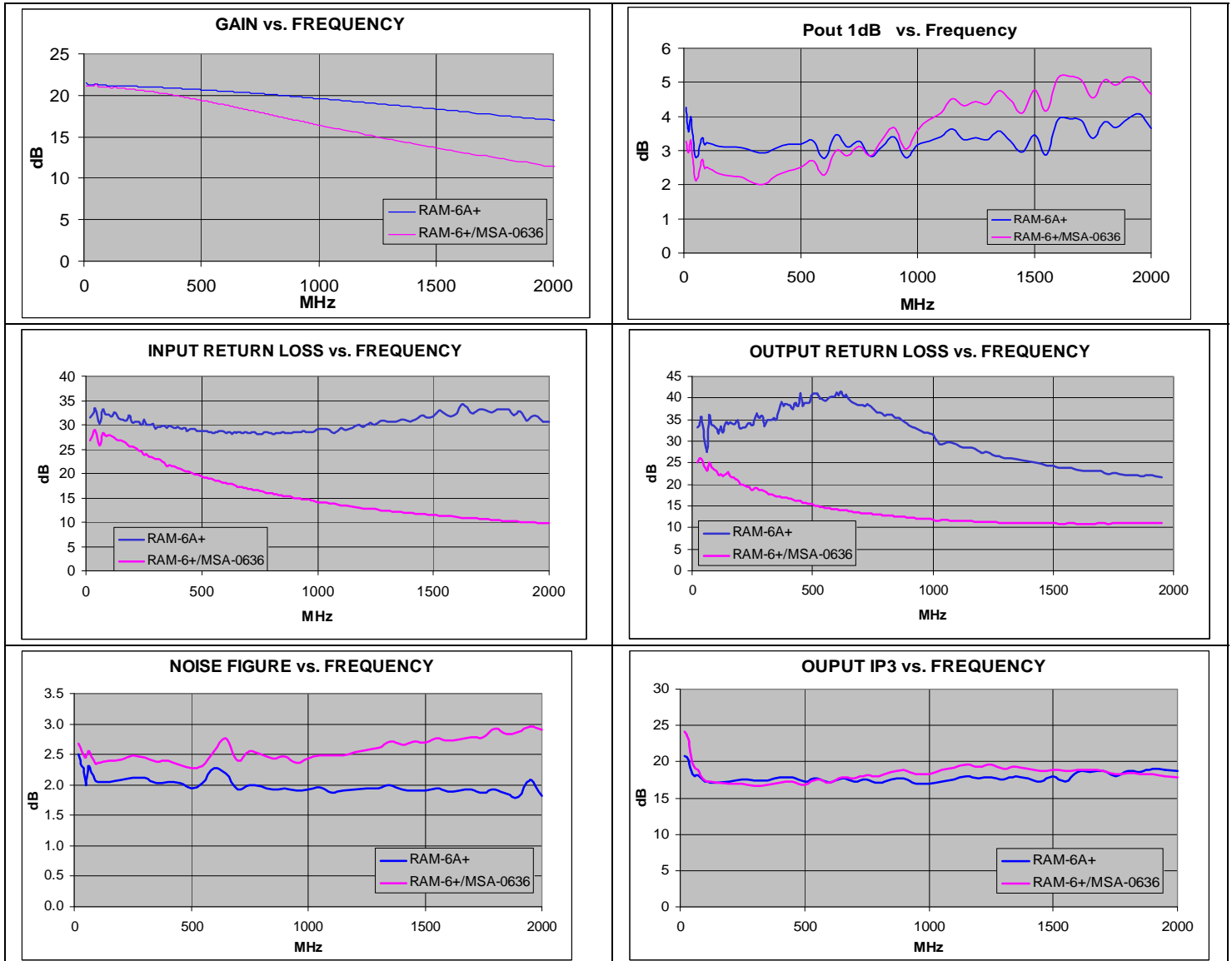
- 1) **FORM-FIT-FUNCTIONAL COMPATIBLE:** RAM-6A+ is Form, Fit compatible, utilizes same bias circuit, however has higher gain at higher frequency, better return loss, better Noise Figure, see graphs on Page 2.
- 2) Typical Performance Comparison:

Performance	Condition (GHz)	RAM-6+	MSA-0636	RAM-6A+
Frequency Range (GHz)		DC to 2	0.1-1.5	DC to 2
Gain (dB)	0.1	21.0	20.5	21.2
	1	16.4		19.6
	2	11.4		17.0
Input Return Loss (dB)	0.1 to 2 (to 1.5 GHz for MSA)	17	15.6	30
Output Return Loss (dB)	0.1 to 2 (to 1.5 GHz for MSA)	14	17.7	33
Output Power at P1dB (dBm)	0.5	2.5	2.0	3.3
Output IP3	0.5	16.9	14.5	17.3
Noise Figure (dB)	0.5	2.3	2.8	1.9
Operating Voltage (V)	---	See Table above	See Table above	See Table above
Device Operating Current (mA)	---	16	16	16
Status	---	Qualified, last time buy	Obsolete	Qualified, in production

General Notes:

- a. The RAM-6A+ part number is a potential replacement for the MSA-0636 part number based on a comparison of data and characterization information available for the MSA-0636 versus similar data and the measured performance of RAM-6A+; the final determination of whether this RAM-6A+ part number is suitable for model replacement within a particular system must be determined by and is solely the responsibility of the customer based on, among other things, electrical performance criteria, stimulus conditions, application, compatibility with other components, and environmental conditions and stresses.
- b. The MSA-0636 part number is used for identification and comparison purposes only.
- c. Avago Technologies is a registered trademark of Avago Technologies and is in no way affiliated with Mini-Circuits.
- d. Data in Table for the MSA-0636 was taken from Avago Technologies published datasheet April 12, 2007 and is used solely for informational purposes to identify MSA-0636

COMPARISON PERFORMANCE CURVES:



General Notes:

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