

## REPLACEMENT PART REFERENCE GUIDE:

**AN-60-059**

ORIGINAL PART: MAV-11SM+ & MSA-1105 (Avagotech)

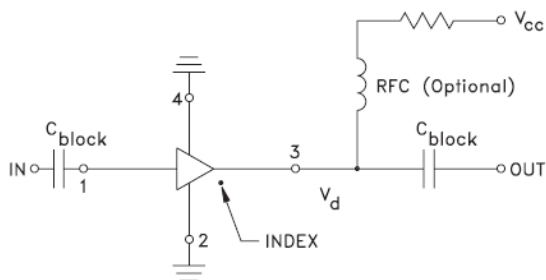
REPLACEMENT PART: MAV-11BSM+

*This replacement part has been judged by Mini-Circuits Engineering as a suitable replacement part<sub>a,b</sub>*

## APPLICATION CIRCUITS

### ORIGINAL PART:

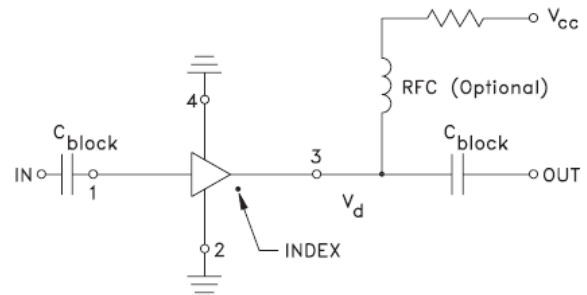
**MAV-11SM+ & MSA-1105 (Avagotech)**



R BIAS	
Vcc	"1%" Res. Values (ohms) for Optimum Biasing
7	28.0
8	45.3
9	61.9
10	78.7
11	95.3
12	113
13	127
14	143
15	158

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## CONCLUSION:

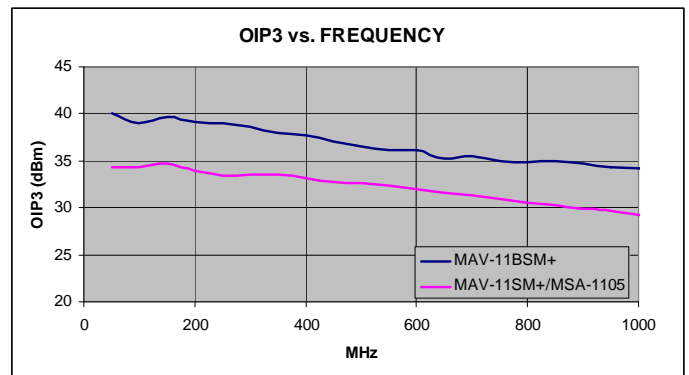
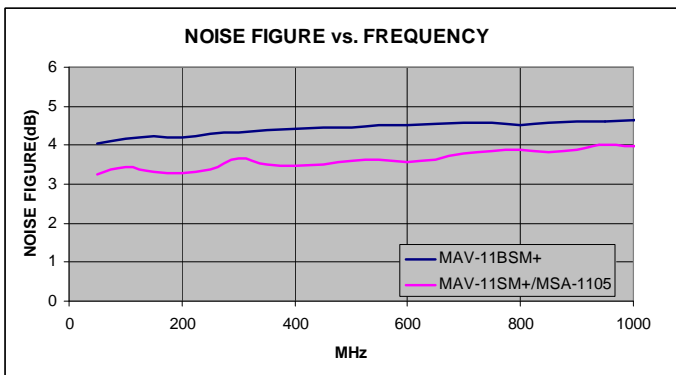
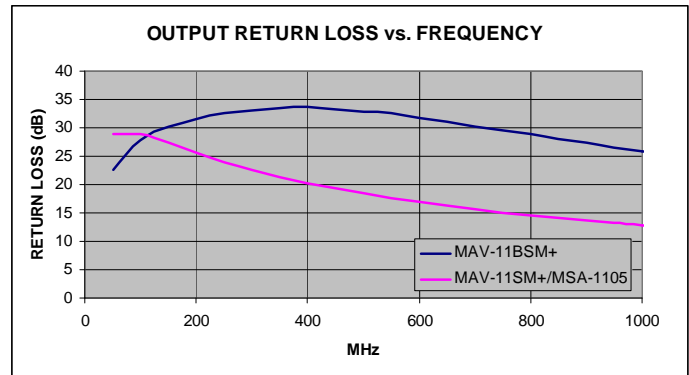
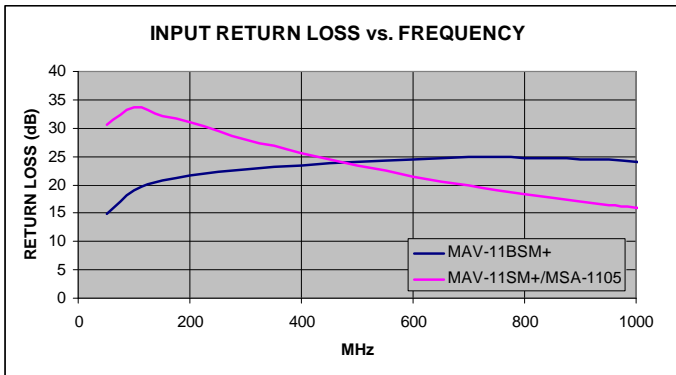
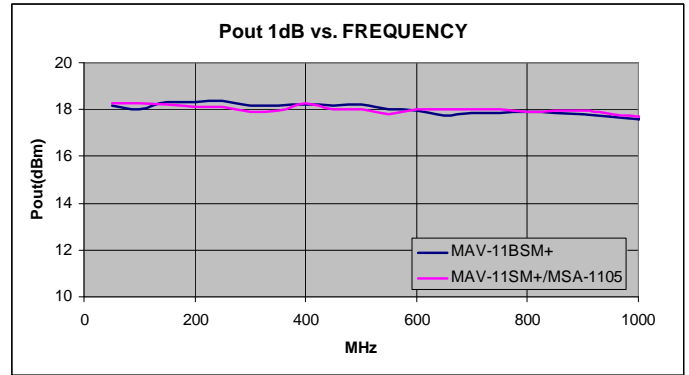
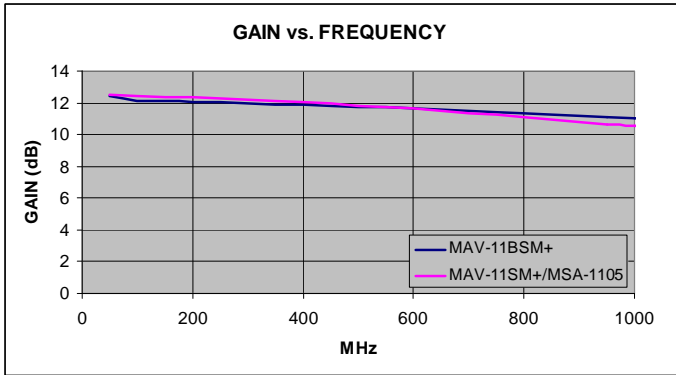
- 1) **FORM-FIT-FUNCTIONAL COMPATIBLE:** Same Circuit and PCB Layout and external components
- 2) Typical Performance Comparison<sub>a,b</sub>:

Performance	Condition(GHz)	MAV-11SM+/MSA-1105	MAV-11BSM+
Gain (dB)	1.0	10.5	11.3
Noise Figure (dB)	0.5	3.6	4.4
Pout 1dB (dBm)	0.5	17.5	18.2
Output IP3 (dBm)	0.5	+30	+36.5
Input Return Loss (dB)	0.05-1	14	14-24
Output Return Loss (dB)	0.05-1	11.5	22
Operating Voltage (V)	---	See table above	See table above
Operating Current (mA)	---	60	60
Status	---	Qualified, last time buy	Qualified, in production

Notes:

- a. Suitability 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-1105 part number is used for identification and comparison purposes only.

## COMPARISON PERFORMANCE CURVES:



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  - The MSA-1105 part number is used for identification and comparison purposes only.

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