

REPLACEMENT PART REFERENCE GUIDE, ZX60-5916M-S+

AN-60-099

ORIGINAL PART: ZX60-5916M-S+
 REPLACEMENT PART: ZX60-5916MA-S+

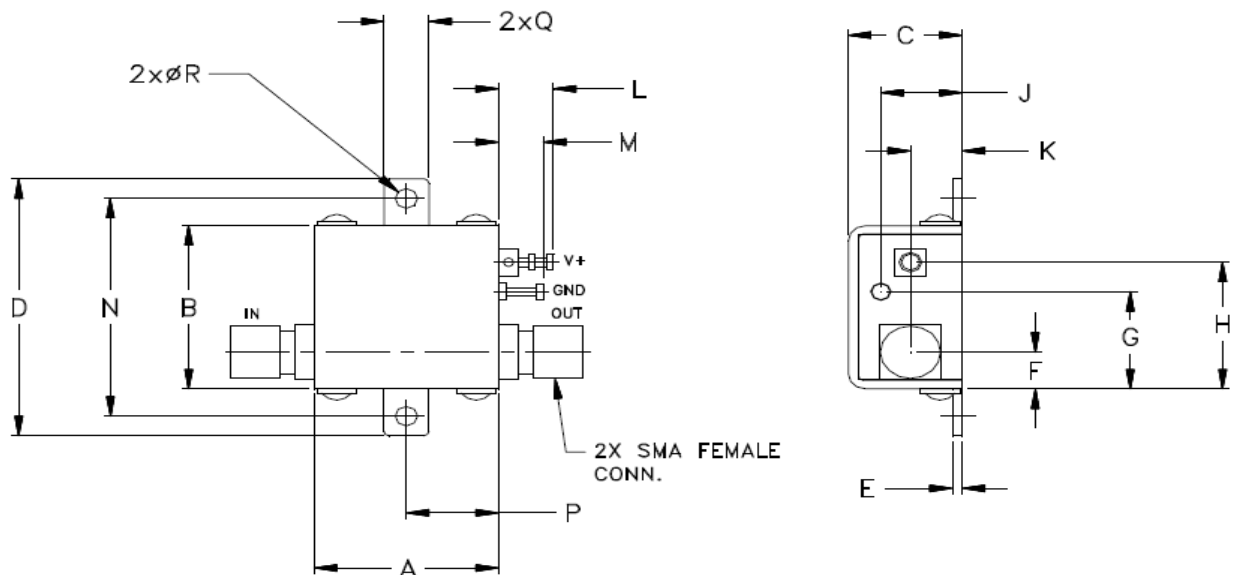


Replacement Part has been judged by Mini-Circuits Engineering as a suitable replacement to Original Part

MECHANICAL DIMENSIONS & PCB LAND PATTERN

ORIGINAL PART: ZX60-5916M-S+	REPLACEMENT PART: ZX60-5916MA-S+
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Case Style GC957 (No Change)



CASE #.	A	B	C	D	E	F	G	H	J	K	L	M	N
GC957	0.74 (18.80)	.75 (19.05)	.46 (11.68)	1.18 (29.97)	.04 (1.02)	.17 (4.32)	.45 (11.43)	.59 (14.99)	.33 (8.38)	.21 (5.33)	.22 (5.59)	.18 (4.57)	1.00 (25.40)

CASE #.	P	Q	R	WT. GRAM
GC957	.37 (9.40)	.18 (4.57)	.106 (2.69)	23.0

Dimensions are in inches (mm). Tolerances: 2Pl. ± .03; 3Pl. ± .015
Tolerance on hole size and interaxes dimensions to be ± .005.

Marking

ZX60-5916M-S+

Marking

ZX60-5916MA-S+

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.

CONCLUSION:

1) FORM-FIT-FUNCTIONAL COMPATIBLE_a:

Replacement part is Form, Fit compatible. Following is a summary of changes/improvements:

Typical performance comparison: See paragraphs 2 to 5

Min/Max Specifications - see below:

Parameter	Original Part (ZX60-5916M-S+)	Replacement Part (ZX60-5916MA-S+)
Gain-Min at 2 GHz (dB)	14.6dB(2.8V); 17.6dB (5V)	14.1dB(2.8V); 17dB (5V)

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2) PERFORMANCE COMPARISON_a (TYPICAL), DC Voltage=5V:

Parameter	Freq. MHz	ZX60-5916M-S+ Original part Data of one unit	ZX60-5916MA-S+ Replacement part Data of 10 units		
			Min	Average	Max
Gain (dB)	1500	17.2	16.8	17.1	17.7
	2000	17.6	17.0	17.2	17.6
	3500	17.0	17.2	17.4	17.7
	5000	18.0	18.4	18.5	18.6
	5900	14.0	13.1	13.4	13.6
Input Return Loss (dB)	1500	3.8	7.9	8.0	8.2
	2000	6.5	10.9	11.0	11.5
	3500	8.8	17.0	17.8	19.3
	5000	9.5	22.1	23.3	24.0
	5900	12.6	11.3	11.9	13.0
Output Return Loss (dB)	1500	14.9	30.0	37.2	56.1
	2000	16.8	27.3	29.0	31.0
	3500	21.2	17.1	18.1	18.8
	5000	23.1	23.4	25.8	28.5
	5900	17.0	14.2	15.0	15.8
Output Power at 1dB Compression (dBm)	1500	14.9	16.3	16.7	17.0
	2000	14.7	15.8	16.2	16.5
	3500	14.2	12.7	13.2	13.5
	5000	13.8	14.5	14.9	15.3
	5900	15.0	14.2	14.5	14.7
Output IP3 (dBm)	1500	-	28.1	28.4	28.6
	2000	-	27.2	27.5	27.8
	3500	-	23.6	24.1	24.4
	5000	-	25.6	25.9	26.2
	5900	-	24.9	25.1	25.4
NF (dB)	1500	8.0	6.6	6.9	7.0
	2000	6.5	5.7	5.9	6.0
	3500	5.5	4.4	4.5	4.5
	5000	5.2	3.8	3.8	3.8
	5900	5.3	4.6	4.6	4.7
Directivity (Isolation - Gain) (dB)	1500	43.1	37.6	38.4	39.5
	2000	34.1	29.5	30.2	30.8
	3500	24.9	22.1	22.4	22.7
	5000	17.4	19.5	19.7	19.9
	5900	20.1	23.6	24.0	24.3
DC Current (mA)	DC	73.0	70.1	75.0	77.8

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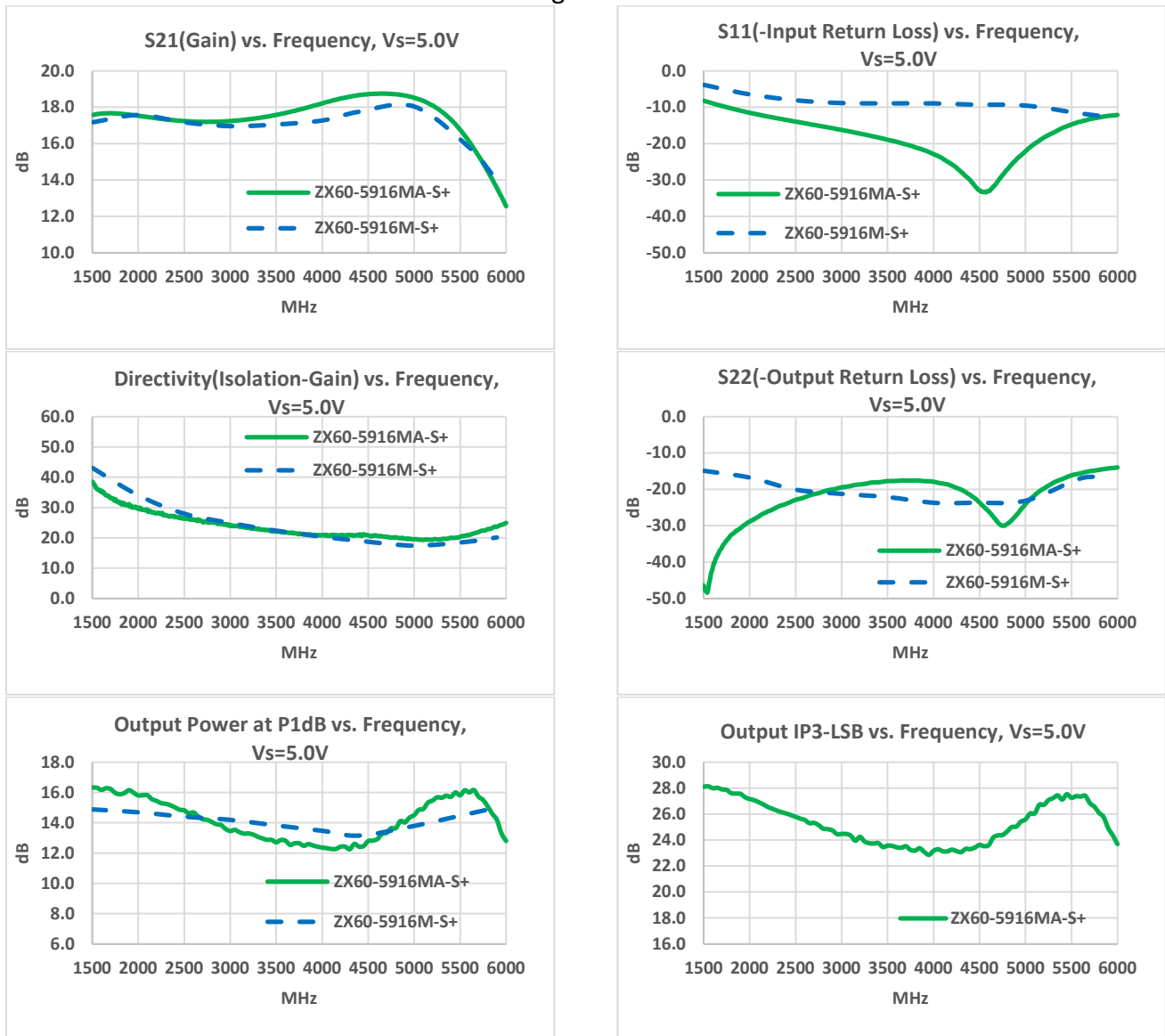
3) PERFORMANCE COMPARISON_a (TYPICAL), DC Voltage=2.8V:

Parameter	Freq. MHz	ZX60-5916M-S+ Original part Data of one unit	ZX60-5916MA-S+ Replacement part Data of 10 units		
			Min	Average	Max
Gain (dB)	1500	14.0	13.6	13.8	14.6
	2000	14.6	13.9	14.1	14.8
	3500	14.6	13.9	14.1	14.6
	5000	16.5	16.2	16.3	16.6
	5900	11.7	8.2	8.6	9.0
Input Return Loss (dB)	1500	3.7	7.8	7.9	8.1
	2000	5.9	10.2	10.4	10.7
	3500	8.2	15.1	15.6	16.7
	5000	9.4	17.6	18.8	19.9
	5900	11.4	9.9	10.4	11.5
Output Return Loss (dB)	1500	13.4	22.5	23.0	24.6
	2000	13.0	17.5	18.2	18.6
	3500	14.6	12.4	13.1	13.7
	5000	19.4	19.4	20.7	22.5
	5900	19.1	11.8	12.3	12.8
Output Power at 1dB Compression (dBm)	1500	10.7	9.2	9.7	10.6
	2000	11.2	9.7	10.1	10.9
	3500	11.0	9.3	9.5	9.6
	5000	11.4	11.7	11.9	12.1
	5900	11.3	7.2	7.7	8.1
Output IP3 (dBm)	1500	-	20.9	21.4	22.2
	2000	-	21.4	21.7	22.3
	3500	-	20.2	20.3	20.3
	5000	-	22.4	22.5	22.5
	5900	-	17.4	17.9	18.3
NF (dB)	1500	8.6	7.3	7.6	7.8
	2000	7.2	6.4	6.7	6.8
	3500	6.1	5.0	5.2	5.3
	5000	5.4	4.1	4.1	4.1
	5900	5.8	5.4	5.5	5.7
Directivity (Isolation - Gain) (dB)	1500	56.2	38.7	39.1	40.2
	2000	35.5	31.2	31.7	32.3
	3500	25.2	24.0	24.4	24.6
	5000	17.4	19.0	19.2	19.5
	5900	21.4	27.2	27.4	27.6
DC Current (mA)	DC	66.0	66.4	71.1	73.6

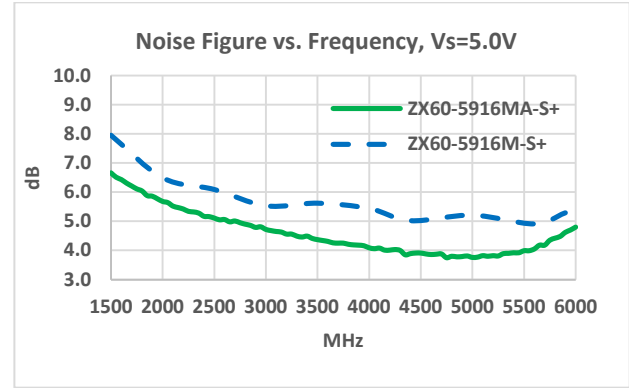
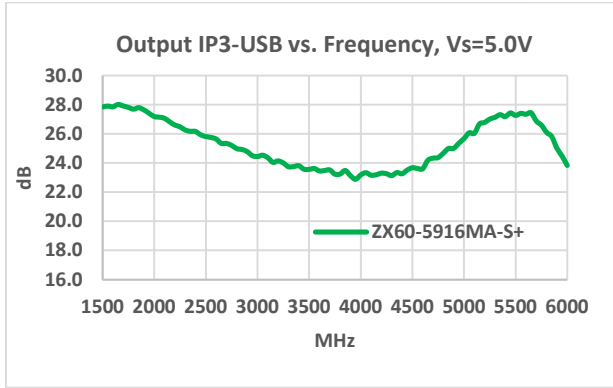
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4) PERFORMANCE COMPARISON CURVES^a (TYPICAL), DC Supply=5V:

— Data of Replacement Part
- - - Data of Original Part

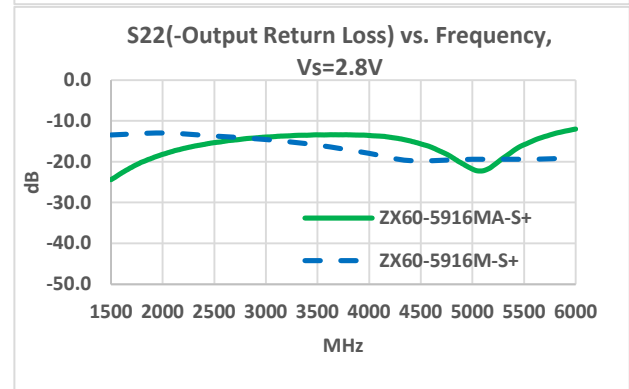
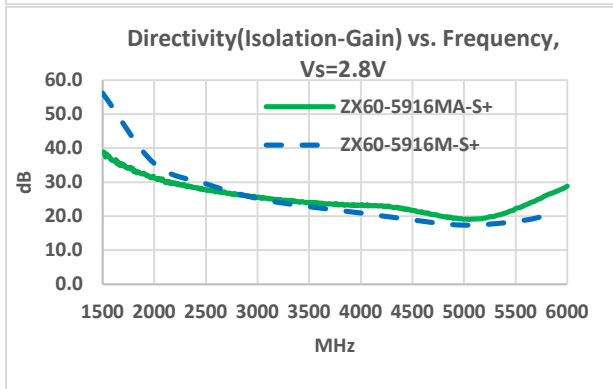
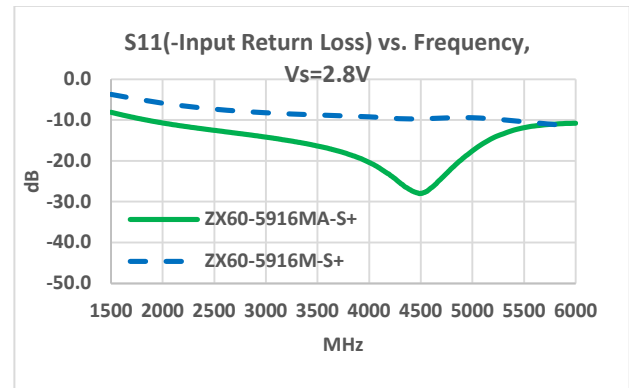
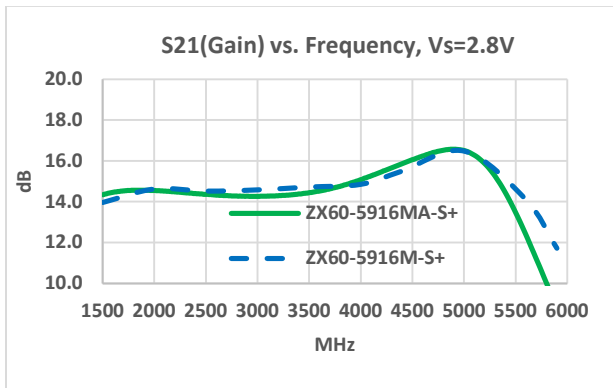


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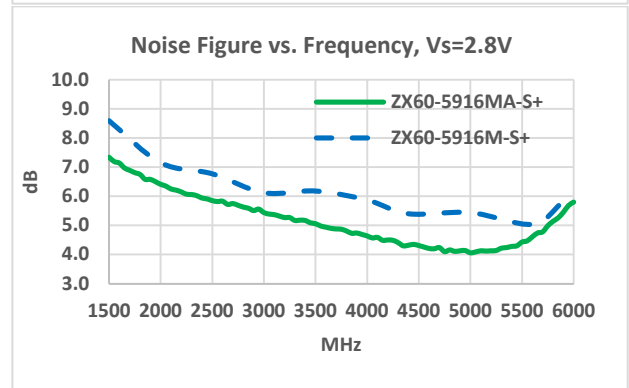
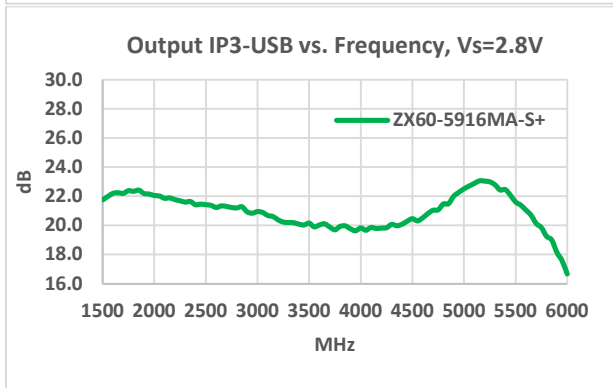
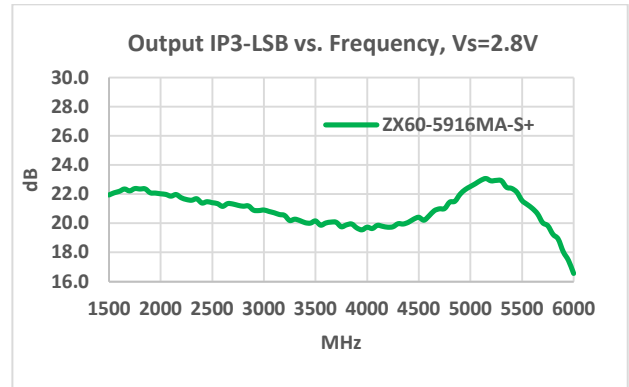
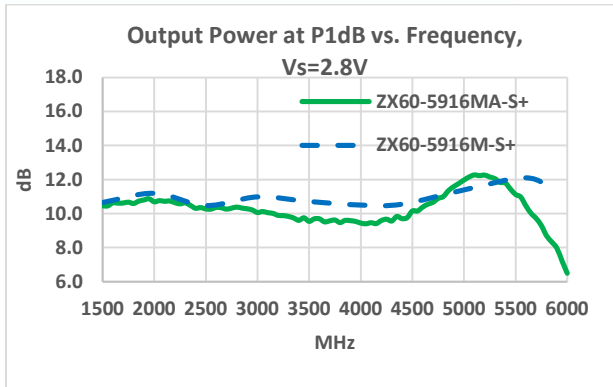


5) PERFORMANCE COMPARISON CURVES^a (TYPICAL), DC Supply=2.8V:

— Data of Replacement Part
- - - Data of Original Part



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