REPLACEMENT PART REFERENCE GUIDE, ZX60-2534M-S+

AN-60-104

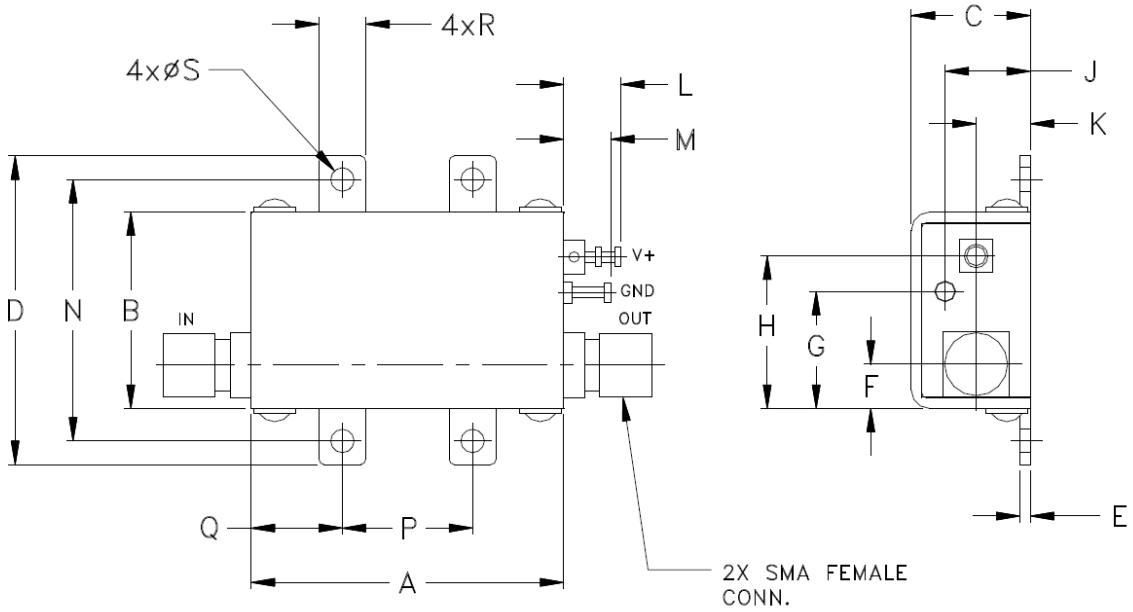
ORIGINAL PART: ZX60-2534M-S+
REPLACEMENT PART: ZX60-2534MA-S+

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

MECHANICAL DIMENSIONS & PCB LAND PATTERN

ORIGINAL PART: ZX60-2534M-S+	REPLACEMENT PART: ZX60-2534MA-S+

Case Style GA955 (No Change)



CASE #	A	B	C	D	E	F	G	H	J	K	L	M	N
GA955	1.20 (30.48)	.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	S	WT, GRAM
GA955	.50 (12.70)	.35 (8.89)	.18 (4.57)	.106 (2.69)	35.0

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

Marking	Marking
ZX60-2534M-S+	**ZX60-2534MA-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 (ZX60-2534M-S+)	Replacement Part (ZX60-2534MA-S+)
Gain-Min at 2 GHz (dB)	34.4dB(2.8V); 38.2dB (5V)	35.8dB(2.8V); 41.2dB (5V)

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2) **PERFORMANCE COMPARISON[a] (TYPICAL), DC Voltage=5V**:

Parameter	Freq. MHz	ZX60-2534M-S+ Original part Data of one unit	ZX60-2534MA-S+ Replacement part Data of 10 units		
			Min	Average	Max
Gain (dB)	500	31.3	37.8	38.5	38.9
	1000	39.3	43.2	43.6	43.8
	1500	39.2	43.3	43.6	43.8
	2000	38.2	41.2	41.4	41.7
	2500	35.3	39.2	39.4	39.7
Input Return Loss (dB)	500	8.2	6.5	6.6	6.8
	1000	16.1	10.7	11.2	11.6
	1500	25.7	13.8	14.9	16.3
	2000	21.2	19.1	20.3	21.8
	2500	14.7	23.0	24.8	28.6
Output Return Loss (dB)	500	5.8	12.8	13.1	13.5
	1000	16.3	21.2	23.2	27.2
	1500	24.3	18.4	19.4	22.4
	2000	18.5	21.9	23.3	25.7
	2500	12.3	15.1	17.0	19.2
Output Power at 1dB Compression (dBm)	500	17.5	19.9	20.1	20.1
	1000	18.2	20.5	20.6	20.7
	1500	16.8	19.9	20.1	20.2
	2000	16.3	19.1	19.4	19.6
	2500	15.6	18.4	18.8	18.9
Output IP3 (dBm)	500	-	29.6	30.3	30.5
	1000	-	25.9	27.3	27.9
	1500	-	25.3	26.8	27.3
	2000	-	26.1	27.6	28.1
	2500	-	25.6	27.1	27.5
NF (dB)	500	3.5	2.9	2.9	3.0
	1000	3.1	2.2	2.3	2.3
	1500	3.0	2.2	2.2	2.2
	2000	3.0	1.9	2.0	2.0
	2500	3.2	1.9	1.9	2.0
Directivity (Isolation - Gain) (dB)	500	43.0	31.1	37.0	55.1
	1000	27.9	21.8	23.3	24.7
	1500	20.2	16.3	18.2	20.2
	2000	20.8	16.6	17.9	19.4
	2500	21.2	17.2	18.2	19.1
DC Current (mA)	DC	153.0	163.8	171.7	177.4

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3) **PERFORMANCE COMPARISON[a] (TYPICAL), DC Voltage=2.8V**:

Parameter	Freq. MHz	ZX60-2534M-S+ Original part Data of one unit	ZX60-2534MA-S+ Replacement part Data of 10 units		
			Min	Average	Max
Gain (dB)	500	28.2	34.2	34.7	35.0
	1000	34.6	38.5	38.8	39.3
	1500	34.6	37.8	38.1	38.6
	2000	34.4	35.8	36.2	36.6
	2500	32.3	33.8	34.2	34.6
Input Return Loss (dB)	500	7.6	6.8	6.8	7.0
	1000	14.6	11.9	12.2	12.6
	1500	34.2	15.6	16.4	17.4
	2000	24.3	19.5	20.5	22.4
	2500	15.6	19.4	20.9	22.9
Output Return Loss (dB)	500	5.4	12.0	12.4	13.4
	1000	12.1	11.6	12.3	14.0
	1500	15.7	10.8	11.4	12.9
	2000	15.4	12.5	13.1	14.8
	2500	9.2	13.5	14.1	15.2
Output Power at 1dB Compression (dBm)	500	13.6	10.6	10.8	11.1
	1000	15.2	11.7	11.9	12.2
	1500	14.7	12.0	12.1	12.3
	2000	14.3	12.4	12.6	12.8
	2500	13.8	12.0	12.2	12.4
Output IP3 (dBm)	500	-	19.4	19.7	20.6
	1000	-	19.7	20.0	21.0
	1500	-	19.8	20.1	21.1
	2000	-	20.7	21.0	21.9
	2500	-	21.2	21.4	21.8
NF (dB)	500	3.6	3.1	3.1	3.2
	1000	3.1	2.6	2.6	2.7
	1500	3.0	2.4	2.5	2.5
	2000	3.1	2.5	2.6	2.6
	2500	3.3	2.6	2.7	2.8
Directivity (Isolation - Gain) (dB)	500	48.0	36.8	45.9	56.8
	1000	29.8	24.2	26.2	28.9
	1500	23.1	20.5	22.5	25.1
	2000	22.6	21.0	21.9	22.9
	2500	23.1	21.3	22.1	23.0
DC Current (mA)	DC	141.0	153.9	160.8	165.6

Notes:
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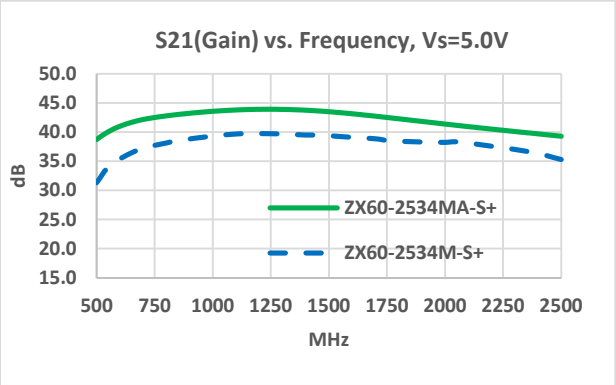
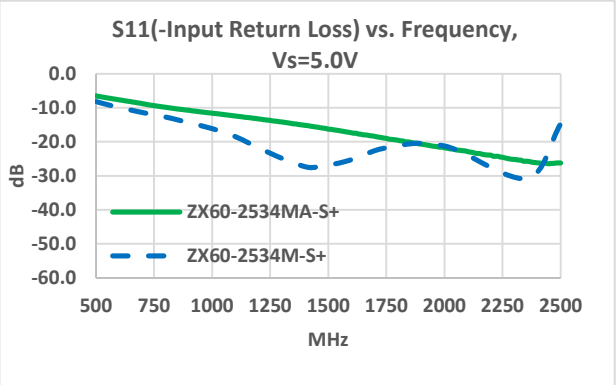
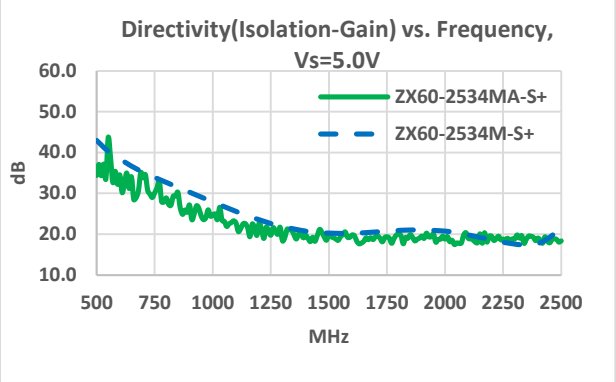
4) PERFORMANCE COMPARISON CURVES[a] (TYPICAL), DC Supply=5V:

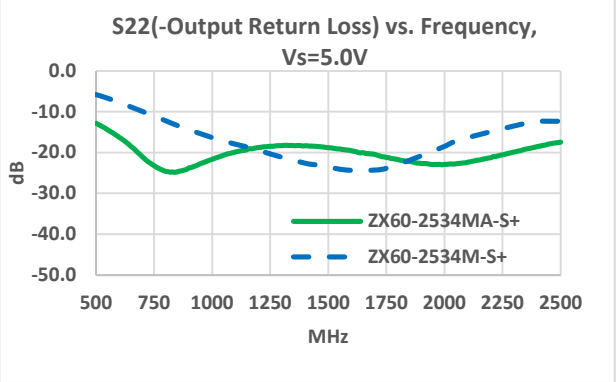
Data of Replacement Part

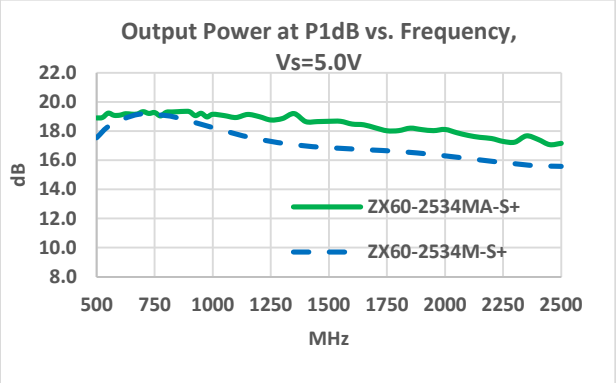
Data of Original Part

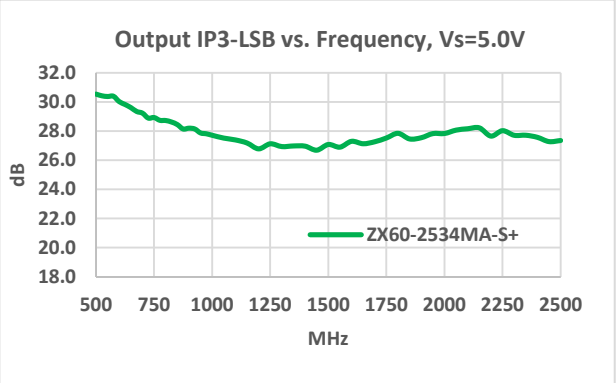












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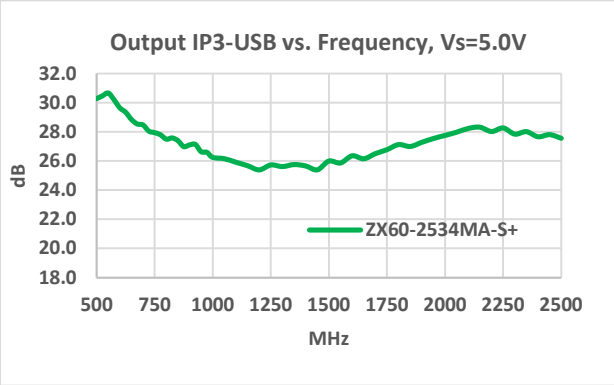
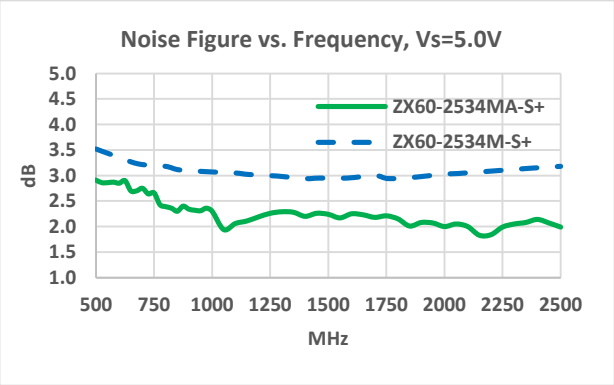
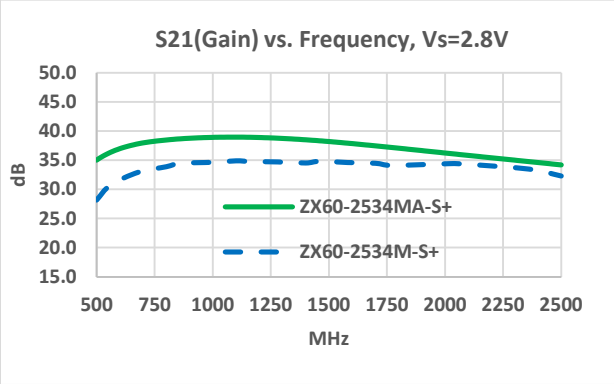


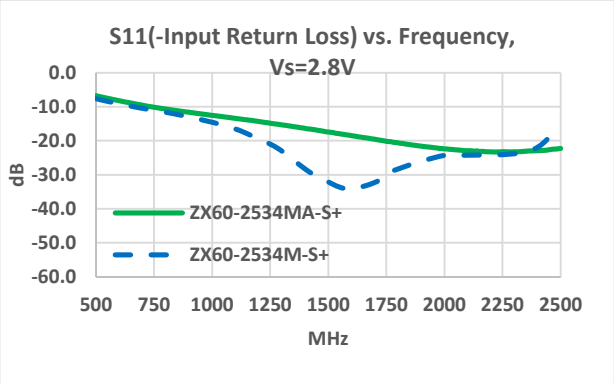


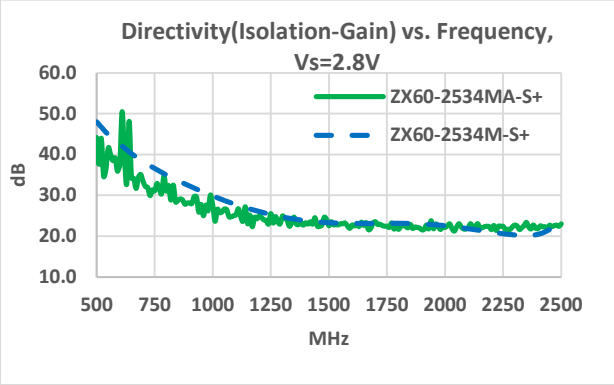
5) PERFORMANCE COMPARISON CURVES[a] (TYPICAL),DC Supply=2.8V:

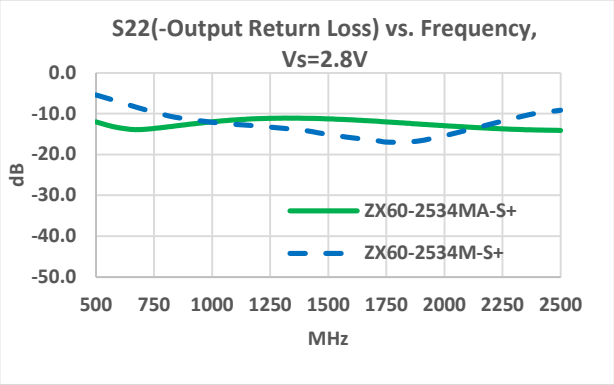
Data of Replacement Part

Data of Original Part









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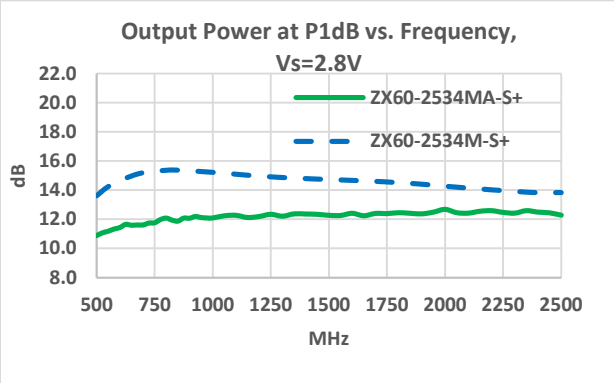

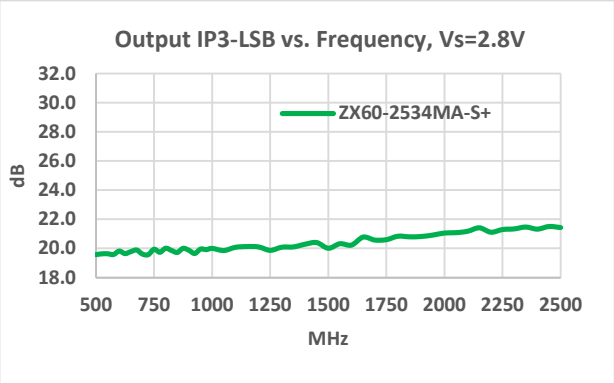

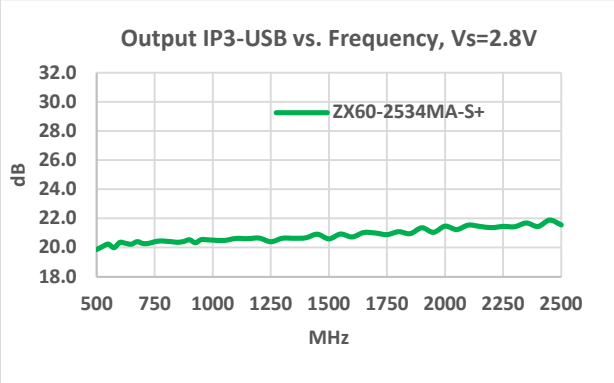

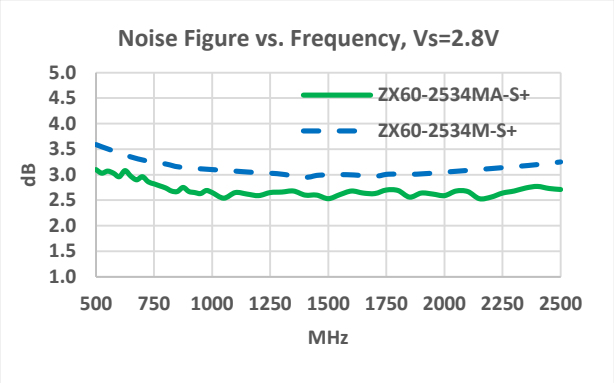

IMPORTANT NOTICE

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