

# Coaxial Amplifier

## ZX60-2522MA+

50Ω High Isolation 0.5 to 2.5 GHz

### Features

- From 2.8V to 5V operation
- Wide bandwidth, 0.5 to 2.5 GHz
- High active directivity
- Output power, up to 20 dBm typ.
- Protected by US patent 6,790,049

### Applications

- Buffer amplifier
- LO amplifiers for mixers
- Cellular
- PCN



CASE STYLE: GC957

Connectors	Model
SMA	ZX60-2522MA-S+

### +RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

### Electrical Specifications T<sub>AMB</sub>=25°C

MODEL NO.	FREQ. (GHz)		DC VOLTS (V)	GAIN, dB Typical					Min. at 2 GHz	MAXIMUM POWER (dBm)		DYNAMIC RANGE			VSWR* (:1) Typ.		ACTIVE DIRECTIVITY (dB) (Isolation-Gain) Typ.		DC OPERATING CURRENT @ Pin V+ (mA)			
	f <sub>L</sub>	f <sub>U</sub>		over frequency, GHz						f <sub>L</sub>	f <sub>U</sub>	NF (dB) Typ.	IP3 (dBm) Typ.	at 1 GHz	at 1 GHz	at 2 GHz	In	Out	f <sub>L</sub>	f <sub>U</sub>	Typ	Max.
	0.5	2.5		0.5	1.0	1.5	2.0	2.5		20.5	19.5	2.6	32	30	1.4	1.3	21	13	94	110		
ZX60-2522MA+	0.5	2.5	5.0 2.8	22.6	25	25.2	24.3	22.6	21.5	20.5	19.5	2.6	32	30	1.4	1.3	21	13	94	110		
				20.9	22.6	22.6	21.3	19.9	—	12.5	14	2.6	24	25	1.4	1.4	24	14	88	—		

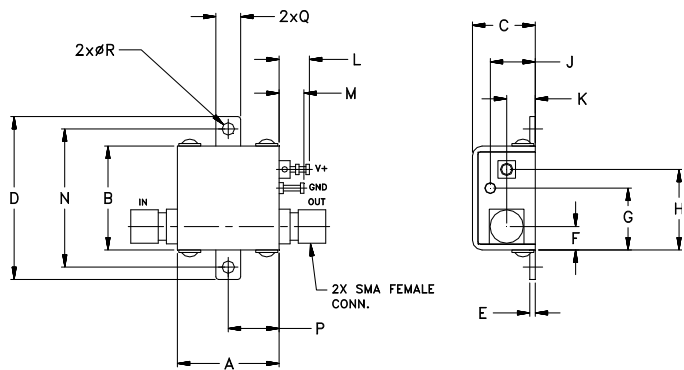
\* at 1.1 GHz - 2.5 GHz

### Maximum Ratings

Operating Temperature	-40°C to 85°C case
Storage Temperature	-55°C to 100°C
DC Voltage	7V at V+, 1V at input and output
Input Power (No damage)	10 dBm (continuous operation) 26 dBm (5 minutes max.)
Power Dissipation	970 mW

Permanent damage may occur if any of these limits are exceeded.

### Outline Drawing



**!** NOTE: When soldering the DC connections, caution must be used to avoid overheating the DC terminal. See Application Note. [AN-40-010](#).

### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	wt
.74	.75	.46	1.18	.04	.17	.45	.59	.33	.21	.22	.18	1.00	.37	.18	.106	grams
18.80	19.05	11.68	29.97	1.02	4.32	11.43	14.99	8.38	5.33	5.59	4.57	25.40	9.40	4.57	2.69	23.0

### Notes

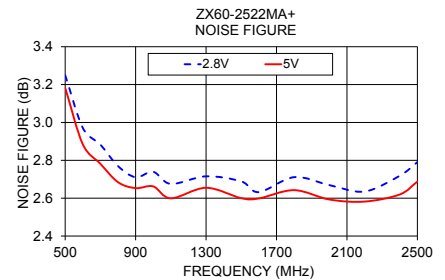
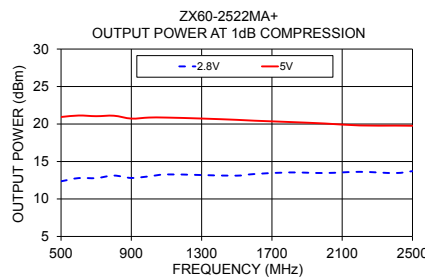
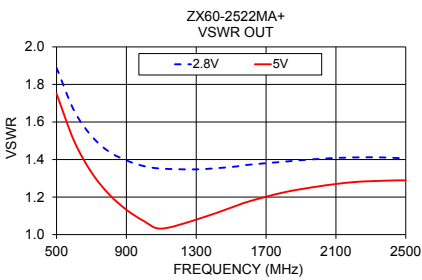
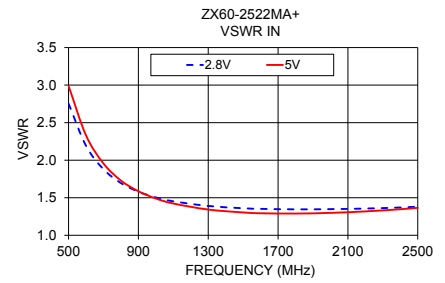
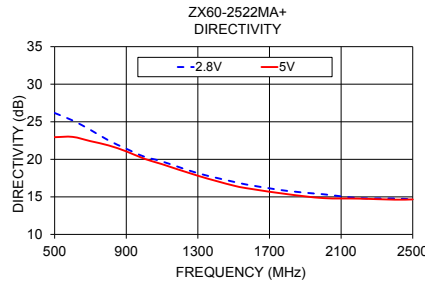
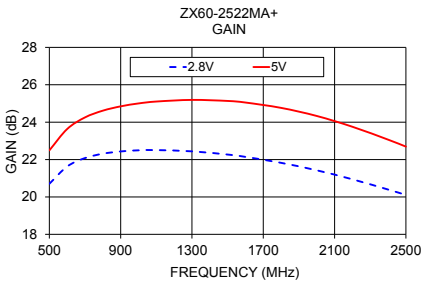
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REV. A  
M166315  
ZX60-2522MA+  
RVN/TD/CP/AM  
180215  
Page 1 of 2

FREQUENCY (MHz)	GAIN (dB)		DIRECTIVITY (dB)		VSWR IN (:1)		VSWR OUT (:1)		POUT at 1 dB COMPR. (dBm)		NOISE FIGURE (dB)	
	2.8V	5V	2.8V	5V	2.8V	5V	2.8V	5V	2.8V	5V	2.8V	5V
500	20.70	22.49	26.16	22.95	2.75	2.99	1.89	1.75	12.36	20.94	3.25	3.18
600	21.63	23.63	25.18	22.99	2.19	2.33	1.66	1.50	12.79	21.13	2.97	2.88
700	22.08	24.25	23.92	22.42	1.88	1.96	1.53	1.33	12.78	21.04	2.88	2.78
800	22.31	24.61	22.53	21.86	1.70	1.73	1.44	1.22	13.12	21.11	2.77	2.68
900	22.43	24.85	21.41	21.06	1.58	1.59	1.40	1.13	12.80	20.72	2.71	2.65
1000	22.49	25.00	20.36	20.08	1.50	1.49	1.36	1.07	13.02	20.86	2.74	2.66
1100	22.51	25.10	19.71	19.35	1.45	1.42	1.35	1.03	13.28	20.86	2.68	2.60
1300	22.44	25.19	18.15	17.81	1.39	1.34	1.35	1.08	13.19	20.73	2.72	2.65
1500	22.27	25.13	17.00	16.50	1.36	1.30	1.36	1.14	13.11	20.56	2.69	2.60
1600	22.14	25.05	16.52	16.05	1.35	1.29	1.37	1.18	13.33	20.44	2.63	2.60
1800	21.82	24.76	15.79	15.36	1.35	1.29	1.39	1.22	13.54	20.27	2.71	2.64
2000	21.42	24.33	15.35	14.84	1.35	1.30	1.40	1.26	13.46	20.07	2.67	2.59
2200	20.94	23.75	14.83	14.77	1.36	1.32	1.41	1.28	13.62	19.81	2.64	2.58
2400	20.40	23.06	14.78	14.63	1.37	1.35	1.41	1.29	13.46	19.79	2.72	2.62
2500	20.11	22.69	14.66	14.66	1.38	1.37	1.40	1.29	13.71	19.77	2.79	2.69



**Notes**

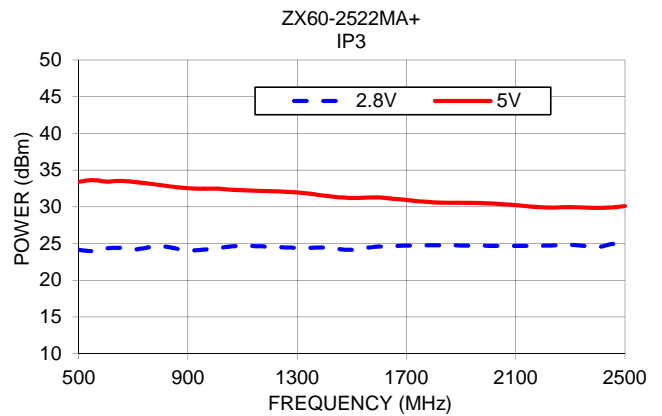
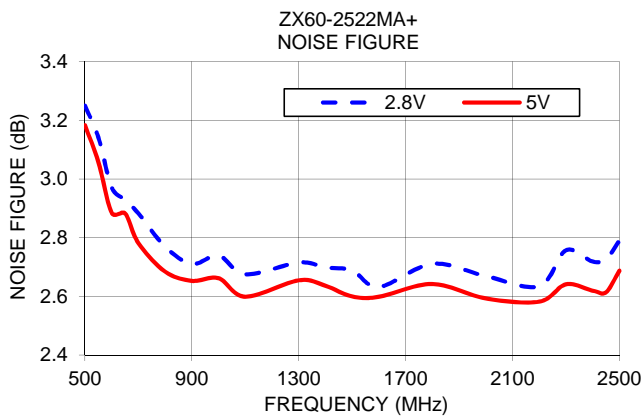
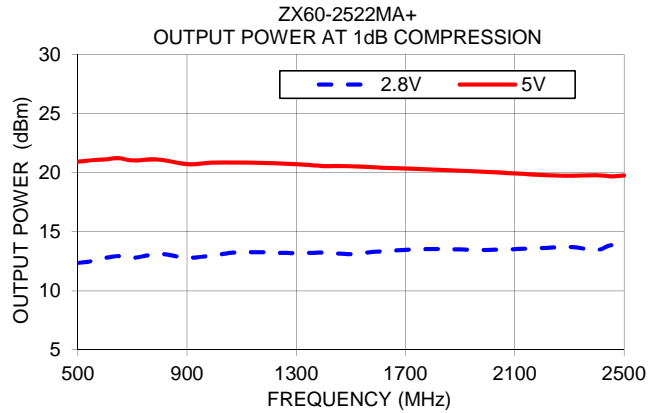
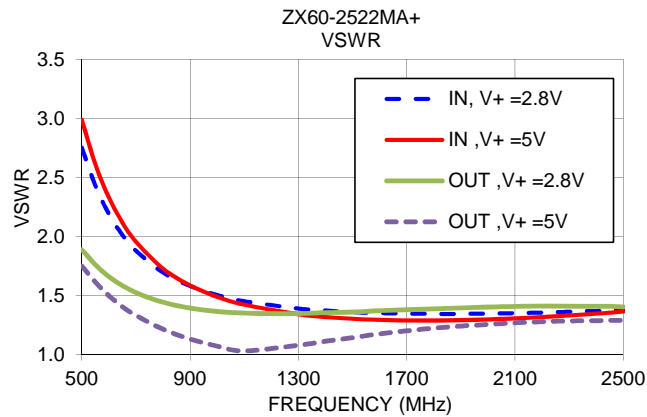
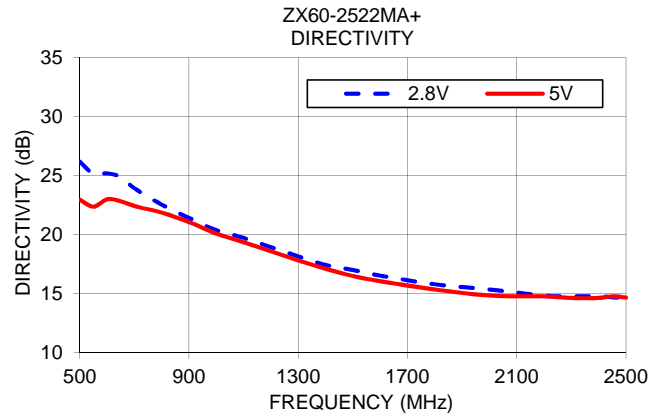
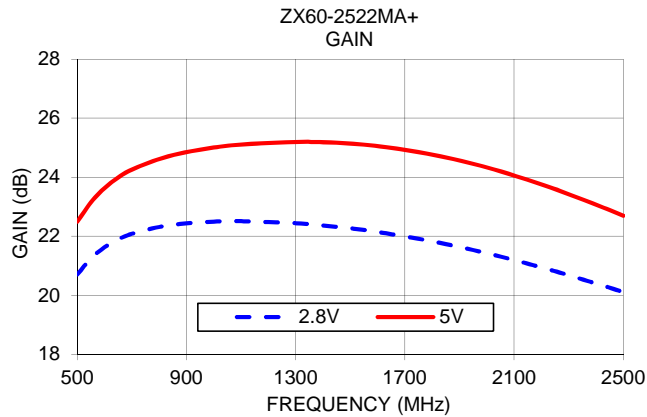
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*Typical Performance Data*

FREQ. (MHz)	GAIN		DIRECTIVITY		VSWR IN		VSWR OUT		POWER OUT @ 1dB COMPRESSION		IP3		NF	
	(dB)		(dB)		(:1)		(:1)		(dBm)		(dBm)		(dB)	
	2.8V	5V	2.8V	5V	2.8V	5V	2.8V	5V	2.8V	5V	2.8V	5V	2.8V	5V
500	20.70	22.49	26.16	22.95	2.75	2.99	1.89	1.75	12.36	20.94	24.12	33.41	3.25	3.18
550	21.25	23.15	25.14	22.36	2.43	2.61	1.76	1.62	12.51	21.06	23.96	33.63	3.14	3.06
600	21.63	23.63	25.18	22.99	2.19	2.33	1.66	1.50	12.79	21.13	24.32	33.45	2.97	2.88
650	21.89	23.99	24.87	22.82	2.01	2.12	1.58	1.41	12.94	21.23	24.40	33.51	2.93	2.88
700	22.08	24.25	23.92	22.42	1.88	1.96	1.53	1.33	12.78	21.04	24.16	33.41	2.88	2.78
800	22.31	24.61	22.53	21.86	1.70	1.73	1.44	1.22	13.12	21.11	24.62	32.95	2.77	2.68
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1000	22.49	25.00	20.36	20.08	1.50	1.49	1.36	1.07	13.02	20.86	24.32	32.48	2.74	2.66
1100	22.51	25.10	19.71	19.35	1.45	1.42	1.35	1.03	13.28	20.86	24.67	32.25	2.68	2.60
1300	22.44	25.19	18.15	17.81	1.39	1.34	1.35	1.08	13.19	20.73	24.41	31.95	2.72	2.65
1400	22.36	25.18	17.42	17.10	1.37	1.32	1.36	1.11	13.24	20.57	24.43	31.50	2.70	2.64
1500	22.27	25.13	17.00	16.50	1.36	1.30	1.36	1.14	13.11	20.56	24.13	31.19	2.69	2.60
1600	22.14	25.05	16.52	16.05	1.35	1.29	1.37	1.18	13.33	20.44	24.58	31.25	2.63	2.60
1800	21.82	24.76	15.79	15.36	1.35	1.29	1.39	1.22	13.54	20.27	24.74	30.61	2.71	2.64
2000	21.42	24.33	15.35	14.84	1.35	1.30	1.40	1.26	13.46	20.07	24.68	30.48	2.67	2.59
2200	20.94	23.75	14.83	14.77	1.36	1.32	1.41	1.28	13.62	19.81	24.69	29.92	2.64	2.58
2300	20.68	23.42	14.76	14.63	1.36	1.33	1.41	1.29	13.72	19.75	24.82	29.95	2.76	2.64
2400	20.40	23.06	14.78	14.63	1.37	1.35	1.41	1.29	13.46	19.79	24.53	29.83	2.72	2.62
2450	20.25	22.88	14.69	14.79	1.38	1.36	1.41	1.29	13.85	19.69	24.92	29.92	2.73	2.61
2500	20.11	22.69	14.66	14.66	1.38	1.37	1.40	1.29	13.71	19.77	24.98	30.09	2.79	2.69

## Typical Performance Curves

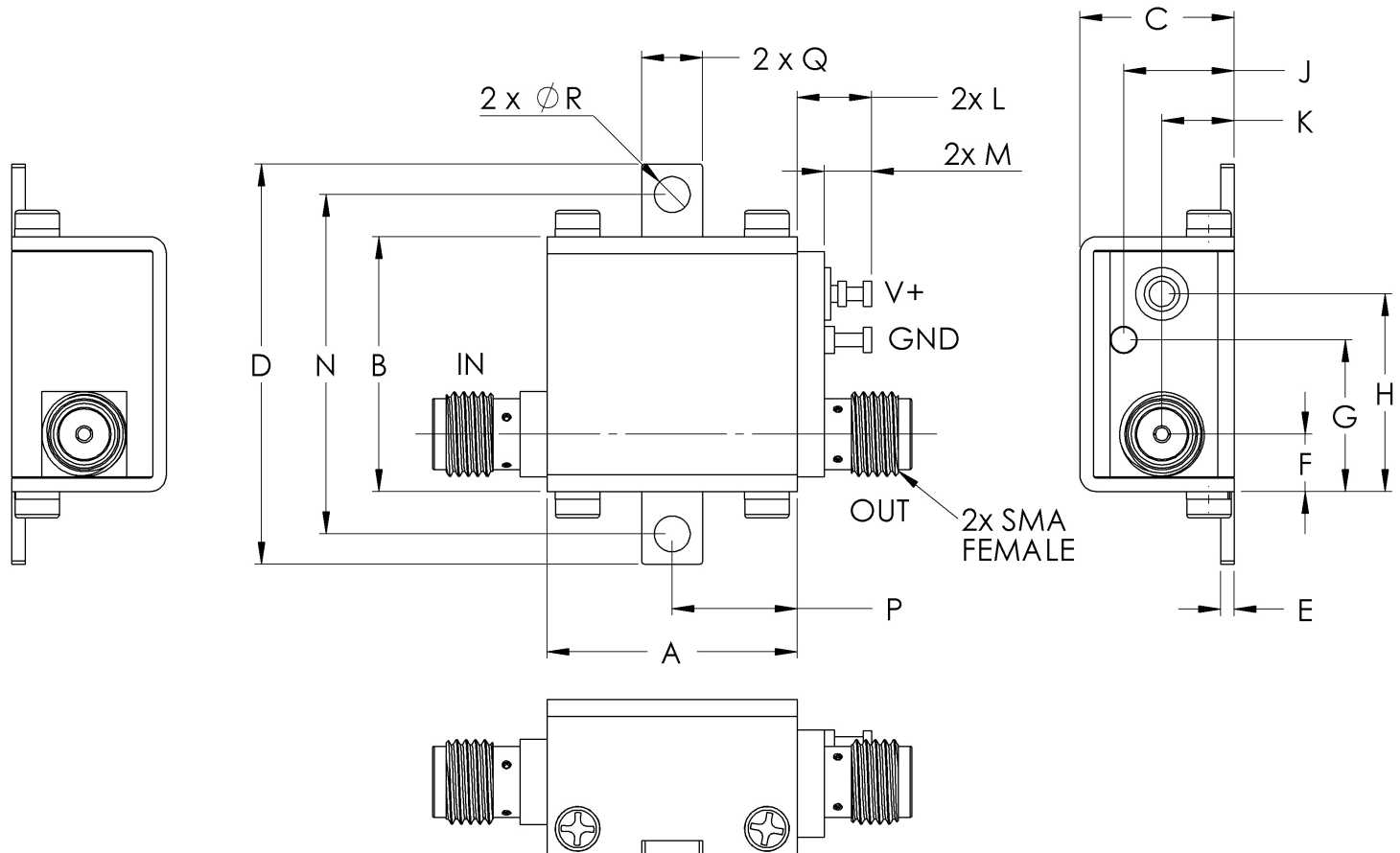


# Case Style

# GC

## Outline Dimensions

## GC957



CASE #.	A	B	C	D	E	F	G	H	J	K	L	M	N
GC957	.74 (18.80)	.75 (19.15)	.46 (11.61)	1.18 (30.07)	.04 (1.02)	.17 (4.32)	.45 (11.40)	.59 (14.86)	.33 (8.31)	.21 (5.44)	.22 (5.59)	.14 (3.56)	1.00 (25.4)

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

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

### Note:

1. Case material: Brass
2. Case finish: Nickel plate

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Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-40° to 85° C Case Temperature	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Stabilization Bake	(non-operating) 125°C, 24 hours	- - -
Burn-in at Elevated Temp.	(DC on) 160 hours at 85° C	MIL-STD-202, Method 108
Thermal Shock	-55° to 100°C, 5 cycles	MIL-STD-202, Method 107, Condition A, except 100°C