

Coaxial Amplifier

ZX60-2514MA+

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 19 dBm typ.
- protected by US patent 6,790,049

Applications

- buffer amplifier
- LO amplifiers for mixers
- cellular
- PCN



CASE STYLE: GC957

Connectors	Model
SMA	ZX60-2514M-S+

+RoHS Compliant

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

Electrical Specifications $T_{AMB}=25^{\circ}\text{C}$

MODEL NO.	FREQ. (GHz)		DC VOLTS (V)	GAIN, dB Typical						MAXIMUM POWER (dBm)		DYNAMIC RANGE			VSWR* (:1) Typ.		ACTIVE DIRECTIVITY (dB) (Isolation-Gain) Typ.		DC OPERATING CURRENT @ Pin V+ (mA)	
				over frequency, GHz								NF (dB) Typ. IP3 (dBm) Typ.								
							Output (1 dB Comp.) Typ.													
	f _L	f _U		0.5	1.0	1.5	2.0	2.5	Min. at 2 GHz	f _L	f _U	at 1 GHz	at 1 GHz	at 2 GHz	In	Out	f _L	f _U	Typ	Max.
ZX60-2514MA+	0.5	2.5	5.0 2.8	16.2	17.9	18.1	17.8	16.8	15.0	19.0	17.0	4.3	31.0	29.0	1.4	1.4	32	19	75	94
				14.6	15.7	15.6	15.0	14.1	—	11.0	12.0	4.5	23.5	23.5	1.4	1.5	35	20	71	—

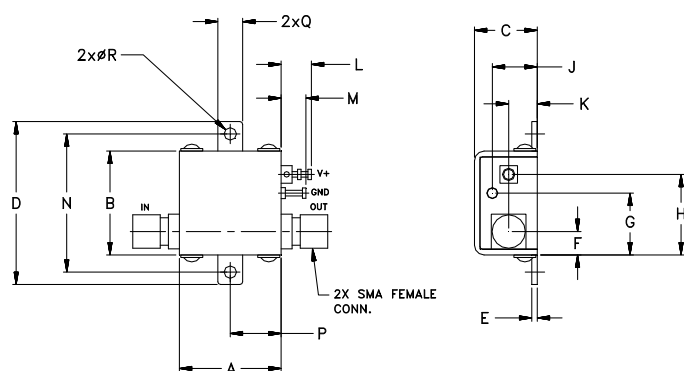
* at 1100-2500 MHz

Maximum Ratings

Operating Temperature	-40°C to 85°C case
Storage Temperature	-55°C to 100°C
DC Voltage	7V
Input Power (No damage)	13 dBm (continuous operation) 24 dBm (5 minutes max.)
Power Dissipation	500mW

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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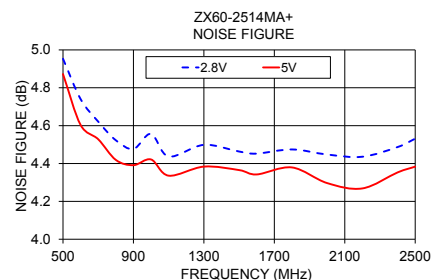
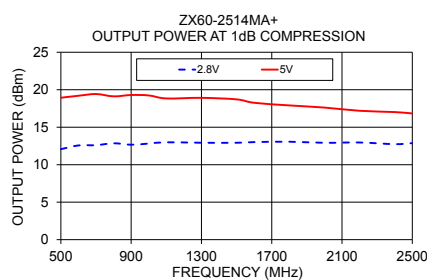
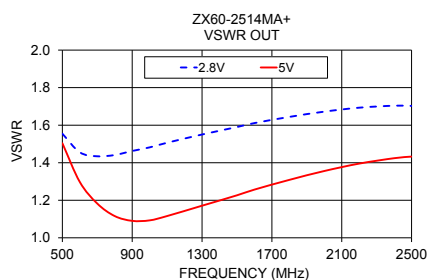
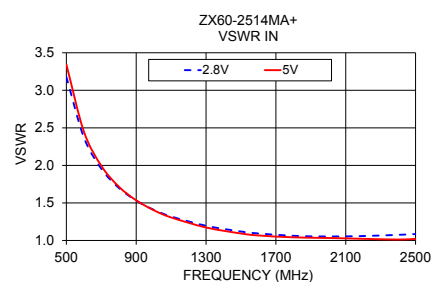
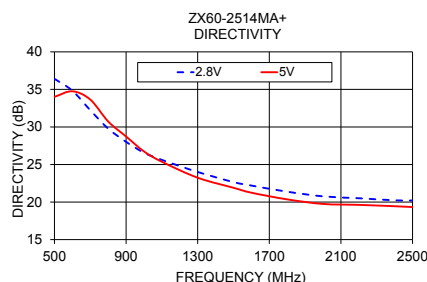
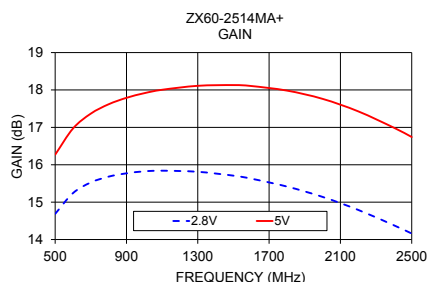
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REV. OR
M157433
ZX60-2514MA+
RVN/TD/CP/AM
170104
Page 1 of 2

Typical Performance Data/Curves

ZX60-2514MA+

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	14.69	16.27	36.41	34.01	3.18	3.34	1.55	1.50	12.07	18.93	4.95	4.87
600	15.24	16.97	34.83	34.75	2.38	2.45	1.46	1.30	12.57	19.20	4.74	4.60
700	15.53	17.37	32.23	33.64	1.96	1.99	1.43	1.18	12.60	19.43	4.62	4.53
800	15.68	17.62	29.78	30.73	1.70	1.72	1.44	1.12	12.86	19.12	4.52	4.42
900	15.77	17.79	28.02	28.73	1.53	1.53	1.46	1.09	12.66	19.29	4.48	4.39
1000	15.82	17.91	26.58	26.74	1.41	1.40	1.48	1.09	12.82	19.24	4.56	4.42
1100	15.84	18.01	25.61	25.37	1.32	1.31	1.51	1.12	12.99	18.84	4.44	4.34
1300	15.81	18.11	24.00	23.24	1.20	1.17	1.55	1.17	12.93	18.92	4.50	4.38
1500	15.71	18.13	22.66	21.90	1.12	1.09	1.59	1.23	12.93	18.71	4.46	4.37
1600	15.63	18.11	22.19	21.24	1.09	1.07	1.61	1.26	13.01	18.26	4.45	4.34
1800	15.42	17.98	21.38	20.35	1.06	1.04	1.64	1.31	13.06	17.91	4.47	4.38
2000	15.14	17.76	20.76	19.75	1.05	1.03	1.67	1.36	12.92	17.62	4.45	4.30
2200	14.79	17.43	20.51	19.62	1.06	1.02	1.69	1.40	12.96	17.19	4.44	4.27
2400	14.38	16.99	20.23	19.44	1.07	1.01	1.70	1.42	12.74	17.02	4.49	4.35
2500	14.16	16.74	20.21	19.33	1.09	1.02	1.70	1.43	12.87	16.84	4.53	4.38



Notes

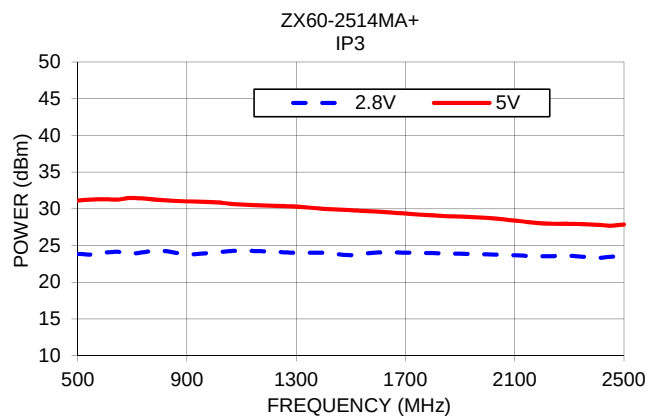
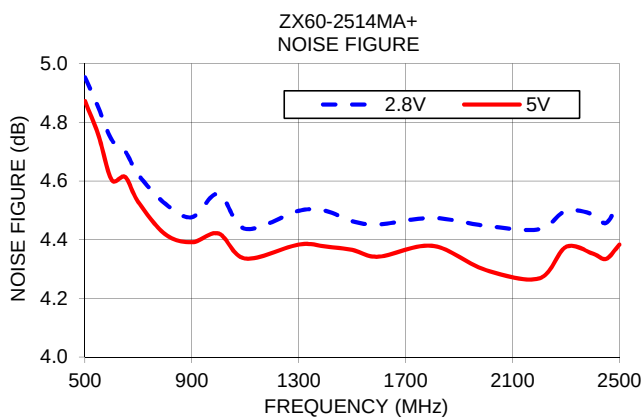
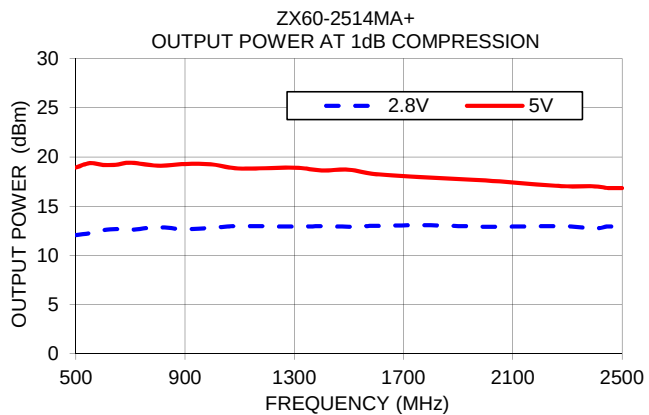
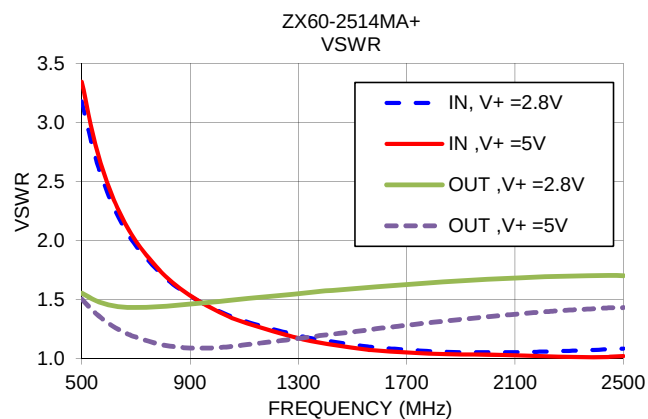
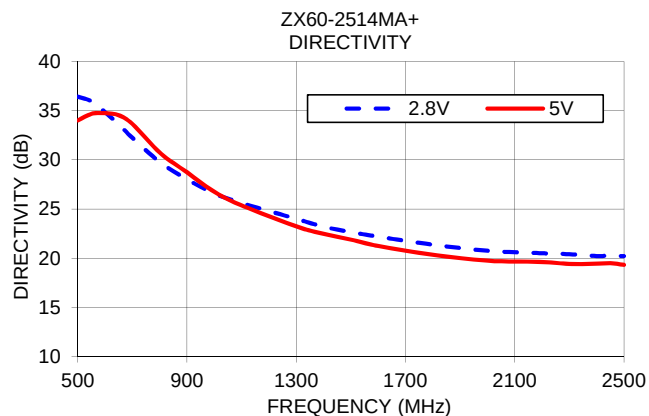
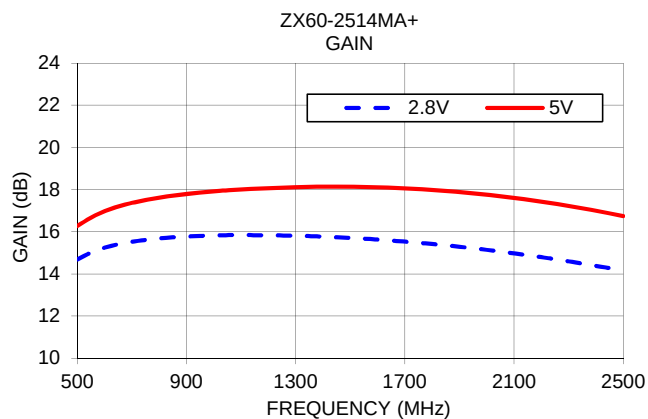
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Typical Performance Data

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	14.69	16.27	36.41	34.01	3.18	3.34	1.55	1.50	12.07	18.93	23.85	31.12	4.95	4.87
550	15.01	16.67	35.94	34.67	2.71	2.81	1.49	1.39	12.26	19.37	23.77	31.27	4.85	4.76
600	15.24	16.97	34.83	34.75	2.38	2.45	1.46	1.30	12.57	19.20	24.04	31.29	4.74	4.60
650	15.41	17.19	33.59	34.53	2.14	2.19	1.44	1.23	12.67	19.22	24.12	31.27	4.70	4.61
700	15.53	17.37	32.23	33.64	1.96	1.99	1.43	1.18	12.60	19.43	23.90	31.48	4.62	4.53
800	15.68	17.62	29.78	30.73	1.70	1.72	1.44	1.12	12.86	19.12	24.29	31.21	4.52	4.42
900	15.77	17.79	28.02	28.73	1.53	1.53	1.46	1.09	12.66	19.29	23.80	31.00	4.48	4.39
1000	15.82	17.91	26.58	26.74	1.41	1.40	1.48	1.09	12.82	19.24	24.03	30.91	4.56	4.42
1100	15.84	18.01	25.61	25.37	1.32	1.31	1.51	1.12	12.99	18.84	24.29	30.57	4.44	4.34
1300	15.81	18.11	24.00	23.24	1.20	1.17	1.55	1.17	12.93	18.92	24.00	30.30	4.50	4.38
1400	15.77	18.13	23.21	22.48	1.15	1.13	1.57	1.20	12.98	18.63	23.99	29.98	4.50	4.38
1500	15.71	18.13	22.66	21.90	1.12	1.09	1.59	1.23	12.93	18.71	23.68	29.79	4.46	4.37
1600	15.63	18.11	22.19	21.24	1.09	1.07	1.61	1.26	13.01	18.26	24.04	29.60	4.45	4.34
1800	15.42	17.98	21.38	20.35	1.06	1.04	1.64	1.31	13.06	17.91	23.95	29.09	4.47	4.38
2000	15.14	17.76	20.76	19.75	1.05	1.03	1.67	1.36	12.92	17.62	23.78	28.74	4.45	4.30
2200	14.79	17.43	20.51	19.62	1.06	1.02	1.69	1.40	12.96	17.19	23.53	28.02	4.44	4.27
2300	14.59	17.22	20.41	19.43	1.07	1.01	1.70	1.41	12.98	17.03	23.60	27.95	4.50	4.38
2400	14.38	16.99	20.23	19.44	1.07	1.01	1.70	1.42	12.74	17.02	23.32	27.82	4.49	4.35
2450	14.27	16.87	20.26	19.50	1.08	1.02	1.71	1.43	12.95	16.85	23.46	27.69	4.46	4.33
2500	14.16	16.74	20.21	19.33	1.09	1.02	1.70	1.43	12.87	16.84	23.56	27.86	4.53	4.38

Typical Performance Curves

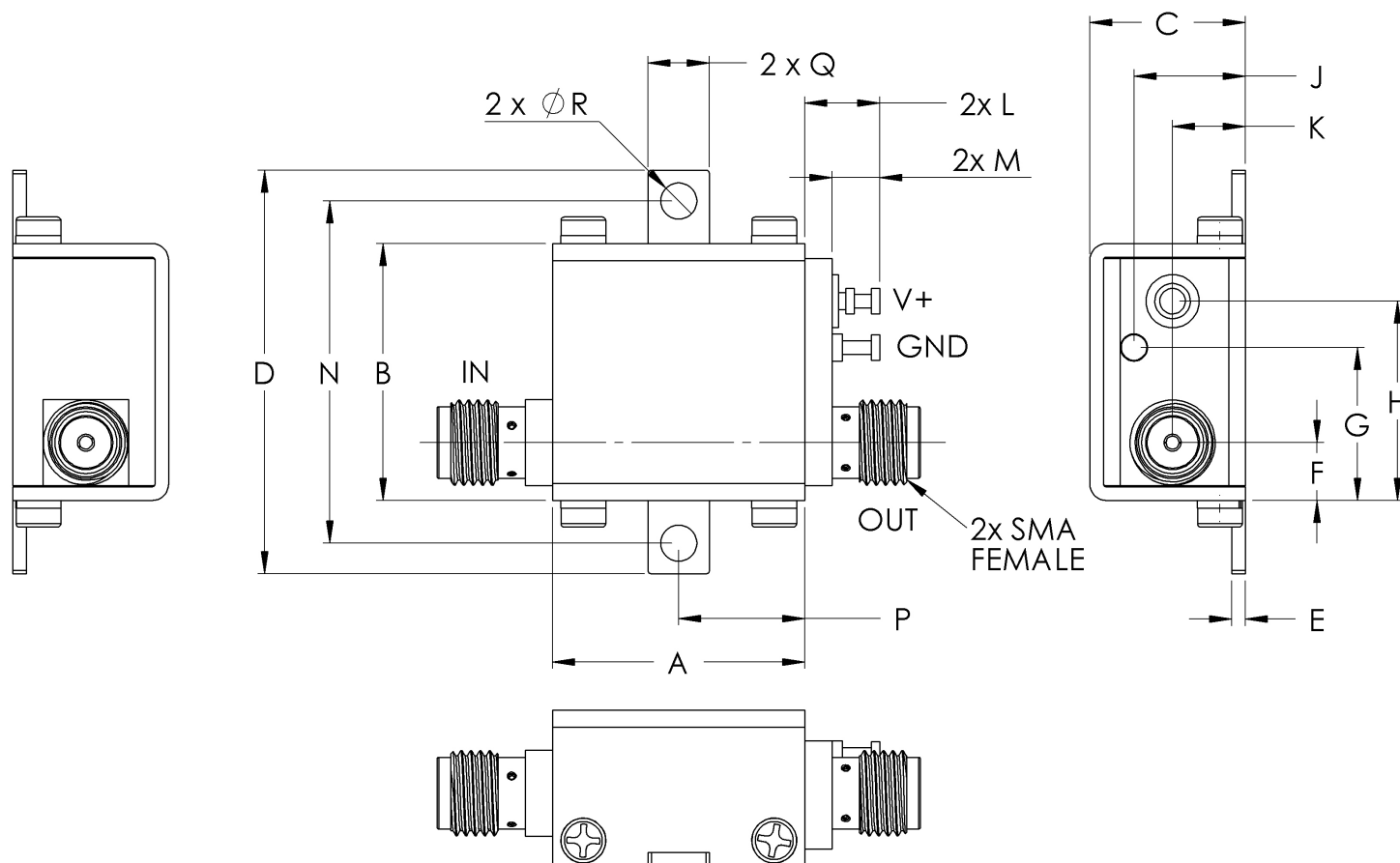


Case Style

Outline Dimensions

GC

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