

# Amplifier

## ZX60-3018G-S+

50Ω 20 MHz to 3 GHz

### Features

- Wide bandwidth, 20 MHz to 3 GHz
- Low noise figure, 2.7 dB typ.
- Output power up to 12.8 dBm typ.
- Protected by US patent 6,790,049

### Applications

- Buffer amplifier
- Cellular
- PCS
- Lab
- Instrumentation
- Test equipment



CASE STYLE: GC957

Connectors	Model
SMA	ZX60-3018G-S+

### +RoHS Compliant

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

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

MODEL NO.	FREQ. (GHz)  f <sub>L</sub> - f <sub>U</sub>	DC VOLTAGE @ Pin V+ (V)	GAIN over frequency in GHz Typ (dB)					MAXIMUM POWER (dBm) Output (1 dB Comp.) Typ.		DYNAMIC RANGE		VSWR (:1) Typ.		ACTIVE DIRECTIVITY (dB) Isolation-Gain Typ.	DC OPERATING CURRENT @ Pin V+ (mA)	
			0.1	1.0	2.0	3.0	Min.at 2 GHz	f <sub>L</sub>	f <sub>U</sub>	NF (dB) Typ.	IP3 (dBm) Typ.	In	Out		Typ.	Typ.
			ZX60-3018G-S+	0.02 - 3	12.0	22.8	21.9	20.3	18.8	18.0	12.8	10.2	2.7	25.0		

### Maximum Ratings

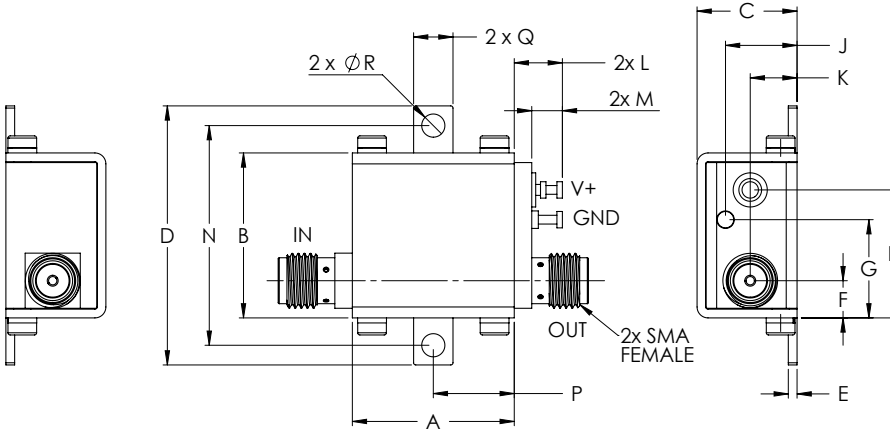
Operating Temperature	-45°C to 85°C case
Storage Temperature	-55°C to 100°C
DC Voltage	12.5V
Input Power(no Damage)	13dBm
Power	0.7W

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



NOTE: When soldering the DC connections, caution must be used to avoid overheating the DC terminals. See Application Note AN-40-10.

### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	WT. GRAM
.74	.75	.46	1.18	.04	.17	.45	.59	.33	.21	.22	.14	1.00	.37	.18	.106	23.0
18.80	19.05	11.68	29.97	1.02	4.32	11.43	14.99	8.38	5.33	5.59	3.56	25.40	9.40	4.57	2.69	

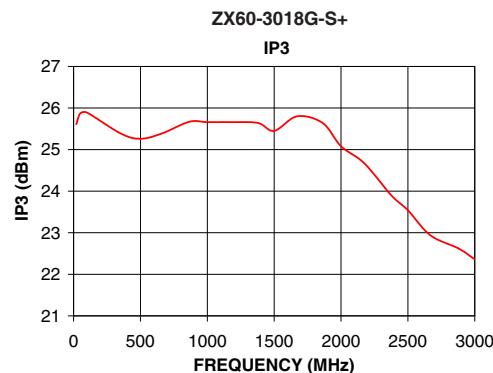
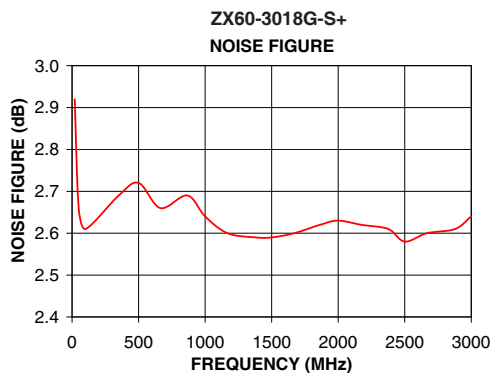
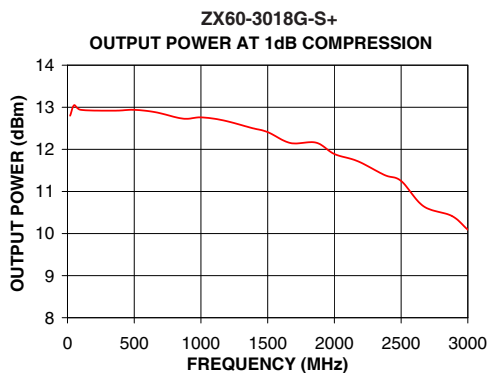
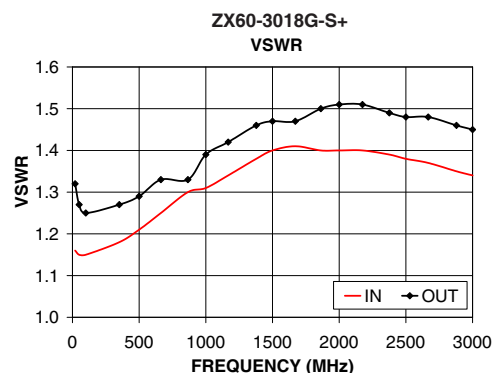
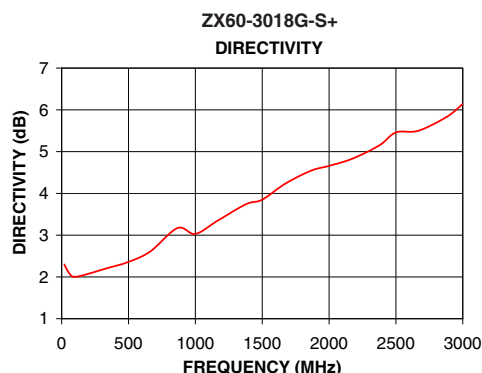
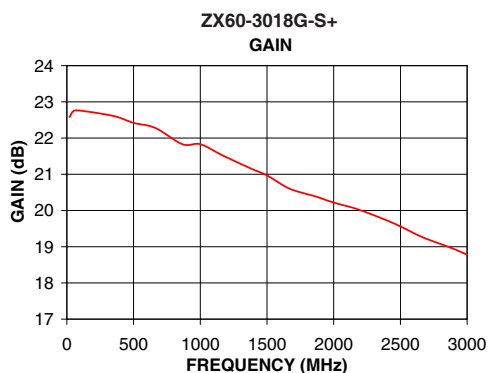
#### Notes

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# Typical Performance Data & Curves at 25°C ZX60-3018G-S+

FREQUENCY (MHz)	GAIN (dB)	DIRECTIVITY (dB)	VSWR IN (:1)	VSWR OUT (:1)	POWER OUT @1dB COMPRESSION (dBm)	IP3 (dBm)	NF (dB)
20	22.58	2.30	1.16	1.32	12.80	25.61	2.92
50	22.75	2.12	1.15	1.27	13.05	25.87	2.66
100	22.76	2.00	1.15	1.25	12.94	25.89	2.61
351	22.61	2.22	1.18	1.27	12.92	25.39	2.69
500	22.42	2.36	1.21	1.29	12.94	25.26	2.72
663	22.28	2.61	1.25	1.33	12.88	25.39	2.66
866	21.83	3.17	1.30	1.33	12.73	25.67	2.69
1000	21.83	3.03	1.31	1.39	12.76	25.66	2.64
1168	21.52	3.35	1.34	1.42	12.69	25.66	2.60
1378	21.16	3.74	1.38	1.46	12.51	25.64	2.59
1500	20.97	3.85	1.40	1.47	12.41	25.45	2.59
1671	20.60	4.23	1.41	1.47	12.15	25.80	2.60
1863	20.39	4.54	1.40	1.50	12.16	25.64	2.62
2000	20.22	4.66	1.40	1.51	11.89	25.08	2.63
2174	20.04	4.83	1.40	1.51	11.72	24.67	2.62
2376	19.76	5.15	1.39	1.49	11.39	23.90	2.61
2500	19.56	5.46	1.38	1.48	11.25	23.54	2.58
2668	19.26	5.50	1.37	1.48	10.65	22.94	2.60
2879	18.97	5.83	1.35	1.46	10.42	22.62	2.61
3000	18.78	6.14	1.34	1.45	10.09	22.36	2.64



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# Amplifier

# ZX60-3018G-S+

## Typical Performance Data

FREQUENCY (MHz)	GAIN (dB) 12V	DIRECTIVITY (dB) 12V	VSWR IN (:1) 12V	VSWR OUT (:1) 12V	Output IP3 (dBm) 12V	NOISE FIGURE (dB) 12V	Pout at 1dB Comp. (dBm) 12V
20	22.58	2.30	1.16	1.32	25.61	2.92	12.80
50	22.75	2.12	1.15	1.27	25.87	2.66	13.05
100	22.76	2.00	1.15	1.25	25.89	2.61	12.94
351	22.61	2.22	1.18	1.27	25.39	2.69	12.92
500	22.42	2.36	1.21	1.29	25.26	2.72	12.94
663	22.28	2.61	1.25	1.33	25.39	2.66	12.88
866	21.83	3.17	1.30	1.33	25.67	2.69	12.73
1000	21.83	3.03	1.31	1.39	25.66	2.64	12.76
1168	21.52	3.35	1.34	1.42	25.66	2.60	12.69
1378	21.16	3.74	1.38	1.46	25.64	2.59	12.51
1500	20.97	3.85	1.40	1.47	25.45	2.59	12.41
1671	20.60	4.23	1.41	1.47	25.80	2.60	12.15
1863	20.39	4.54	1.40	1.50	25.64	2.62	12.16
2000	20.22	4.66	1.40	1.51	25.08	2.63	11.89
2174	20.04	4.83	1.40	1.51	24.67	2.62	11.72
2376	19.76	5.15	1.39	1.49	23.90	2.61	11.39
2500	19.56	5.46	1.38	1.48	23.54	2.58	11.25
2668	19.26	5.50	1.37	1.48	22.94	2.60	10.65
2879	18.97	5.83	1.35	1.46	22.62	2.61	10.42
3000	18.78	6.14	1.34	1.45	22.36	2.64	10.09



ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs & shopping online see web site

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IF/RF MICROWAVE COMPONENTS

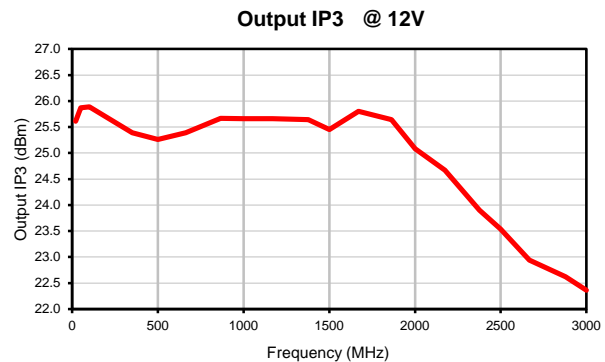
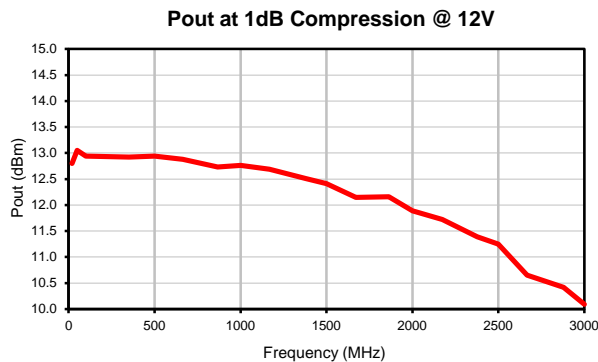
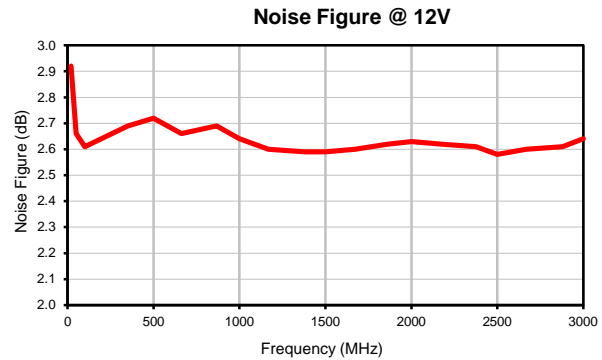
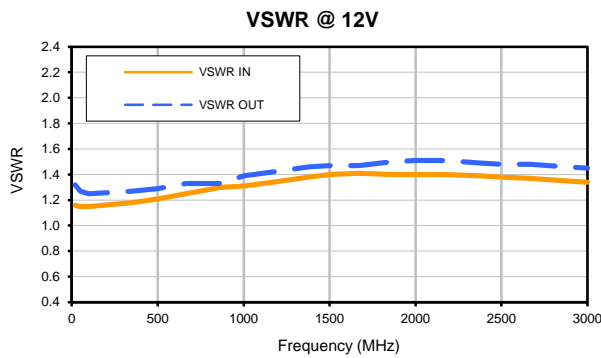
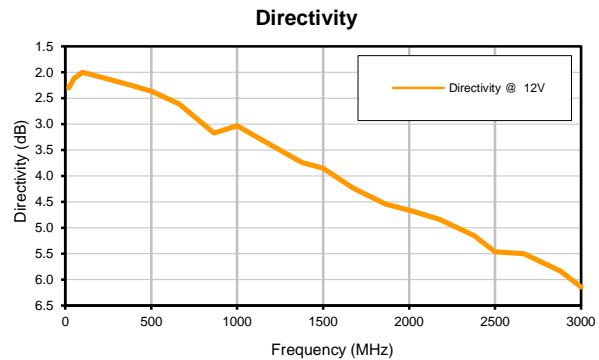
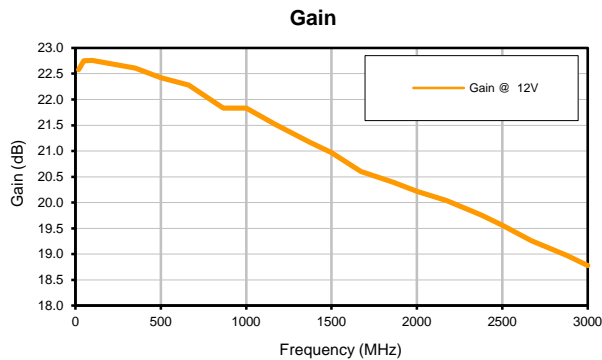
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ZX60-3018G-S+

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## Typical Performance Curves

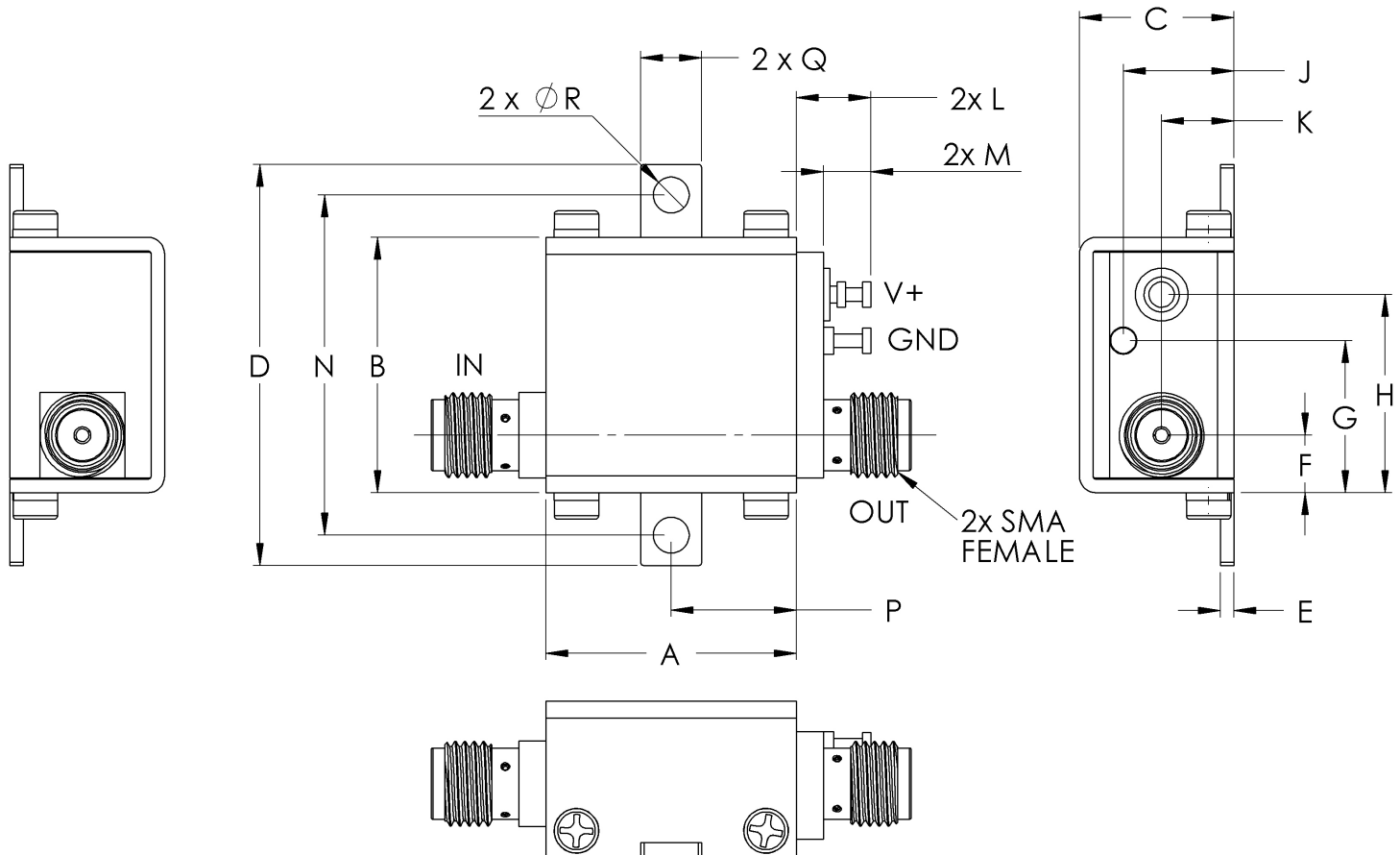


# Case Style

# 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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All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-45° 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