

# Amplifier

## ZX60-3800LN-S+

50Ω 3300 to 3800 MHz

### Features

- Low noise figure 0.9 typ.
- +18 dBm typ. output power at 1 dB compression
- High active directivity, 17 dB typ.
- Good IP3, 35 dBm typ.
- Reverse voltage connection protected
- Protected by US patent 6,790,049

### Applications

- Low noise amplifier RF front end
- Low noise pre-amp
- Buffer amplifier
- WiMAX
- SAB / SAP
- Lab
- Test equipment



CASE STYLE: GA955

Connectors	Model
SMA	ZX60-3800LN-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. (MHz)	GAIN (dB)				MAXIMUM POWER (dBm)	DYNAMIC RANGE			VSWR (:1) Typ.		ACTIVE DIRECTIVITY (dB) Isolation-Gain	DC VOLTAGE @ Pin V+ (V)	DC OPERATING CURRENT @ Pin V+ (mA)		
		Flatness					Output (1 dB Comp.)	NF (dB)	IP3 (dBm)	In	Out			Typ.	Typ.	Max.
		Typ.	Min.	Typ.	Max.											
ZX60-3800LN-S+	3300-3600	24	20	±0.1	±0.4	18.0	0.9	2.0	36	1.5	1.3	17	5	85	110	
	3600-3800	23	19	±0.6	±1.0	18.0	1.0	2.0	35	1.2	1.4	17	5	85	110	

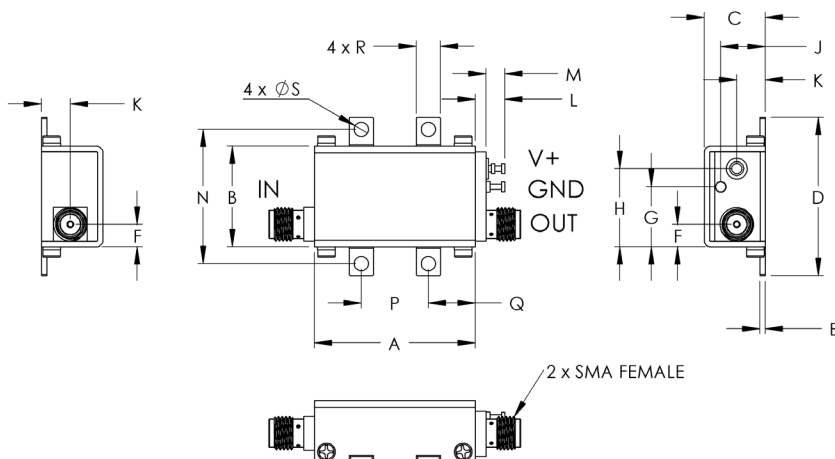
### Maximum Ratings

Operating Temperature	-40°C to 80°C case
Storage Temperature	-55°C to 100°C
DC Voltage	6.5V
Input Power(no Damage)	1dBm

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	S	wt.
1.20	.75	.46	1.18	.04	.17	.45	.59	.33	.21	.22	.14	1.00	.50	.35	.18	.106	grams
30.48	19.05	11.68	29.97	1.02	4.32	11.43	14.99	8.38	5.33	5.59	3.56	25.40	12.70	8.89	4.57	2.69	35.0

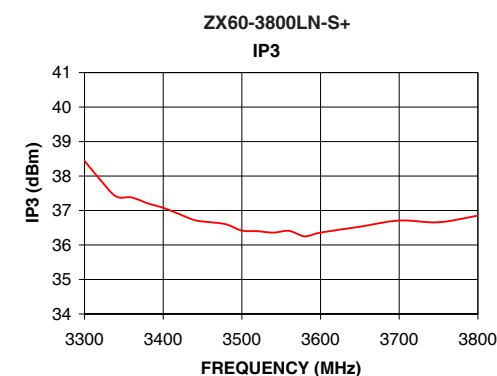
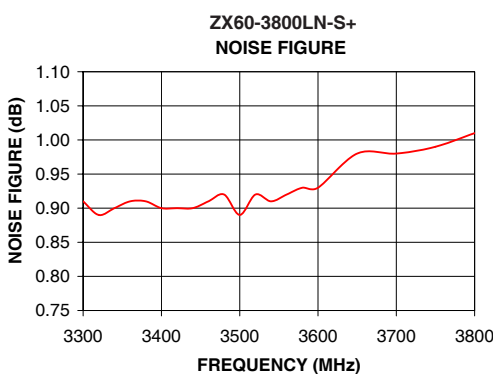
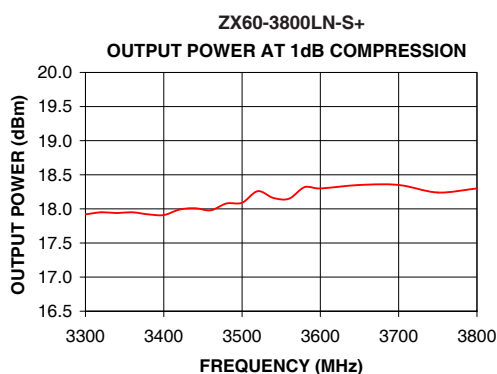
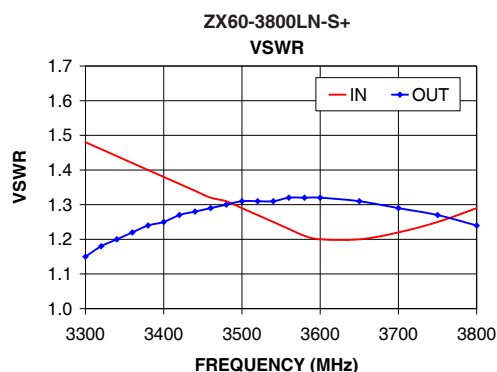
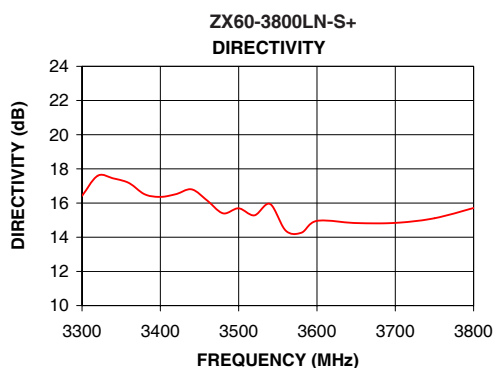
#### Notes

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# Typical Performance Data & Curves at 25°C ZX60-3800LN-S+

FREQUENCY (MHz)	GAIN (dB)	DIRECTIVITY (dB)	VSWR IN (:1)	VSWR OUT (:1)	POWER OUT @ 1dB COMPRESSION (dBm)	IP3 (dBm)	NF (dB)
3300	23.71	16.42	1.48	1.15	17.92	38.44	0.91
3320	23.72	17.60	1.46	1.18	17.95	37.89	0.89
3340	23.71	17.44	1.44	1.20	17.94	37.41	0.90
3360	23.64	17.17	1.42	1.22	17.95	37.38	0.91
3380	23.63	16.51	1.40	1.24	17.92	37.21	0.91
3400	23.60	16.36	1.38	1.25	17.91	37.08	0.90
3420	23.63	16.52	1.36	1.27	17.99	36.90	0.90
3440	23.67	16.80	1.34	1.28	18.01	36.72	0.90
3460	23.70	16.14	1.32	1.29	17.98	36.66	0.91
3480	23.67	15.40	1.31	1.30	18.08	36.60	0.92
3500	23.60	15.69	1.29	1.31	18.09	36.42	0.89
3520	23.64	15.28	1.27	1.31	18.26	36.40	0.92
3540	23.70	15.95	1.25	1.31	18.16	36.36	0.91
3560	23.76	14.39	1.23	1.32	18.15	36.41	0.92
3580	23.67	14.26	1.21	1.32	18.32	36.25	0.93
3600	23.51	14.96	1.20	1.32	18.30	36.36	0.93
3650	23.57	14.83	1.20	1.31	18.35	36.53	0.98
3700	23.18	14.84	1.22	1.29	18.35	36.71	0.98
3750	23.00	15.11	1.25	1.27	18.24	36.66	0.99
3800	22.52	15.71	1.29	1.24	18.30	36.85	1.01



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# Low Noise Amplifier

# ZX60-3800LN-S+

## Typical Performance Data

FREQUENCY (MHz)	GAIN (dB) 5V	DIRECTIVITY (dB) 5V	VSWR IN (:1) 5V	VSWR OUT (:1) 5V	Output IP3 (dBm) 5V	NOISE FIGURE (dB) 5V	Pout at 1dB Comp. (dBm) 5V
3300	23.71	16.42	1.48	1.15	38.44	0.91	17.92
3320	23.72	17.60	1.46	1.18	37.89	0.89	17.95
3340	23.71	17.44	1.44	1.20	37.41	0.90	17.94
3360	23.64	17.17	1.42	1.22	37.38	0.91	17.95
3380	23.63	16.51	1.40	1.24	37.21	0.91	17.92
3400	23.60	16.36	1.38	1.25	37.08	0.90	17.91
3420	23.63	16.52	1.36	1.27	36.90	0.90	17.99
3440	23.67	16.80	1.34	1.28	36.72	0.90	18.01
3460	23.70	16.14	1.32	1.29	36.66	0.91	17.98
3480	23.67	15.40	1.31	1.30	36.60	0.92	18.08
3500	23.60	15.69	1.29	1.31	36.42	0.89	18.09
3520	23.64	15.28	1.27	1.31	36.40	0.92	18.26
3540	23.70	15.95	1.25	1.31	36.36	0.91	18.16
3560	23.76	14.39	1.23	1.32	36.41	0.92	18.15
3580	23.67	14.26	1.21	1.32	36.25	0.93	18.32
3600	23.51	14.96	1.20	1.32	36.36	0.93	18.30
3650	23.57	14.83	1.20	1.31	36.53	0.98	18.35
3700	23.18	14.84	1.22	1.29	36.71	0.98	18.35
3750	23.00	15.11	1.25	1.27	36.66	0.99	18.24
3800	22.52	15.71	1.29	1.24	36.85	1.01	18.30



ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs & shopping online see web site

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IR/RF MICROWAVE COMPONENTS

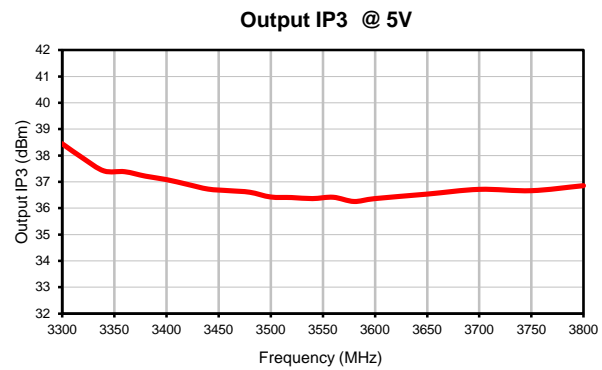
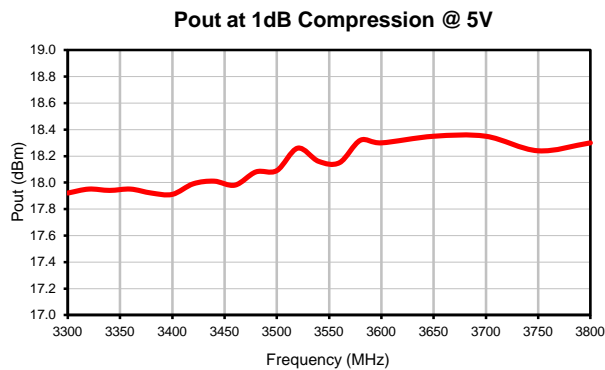
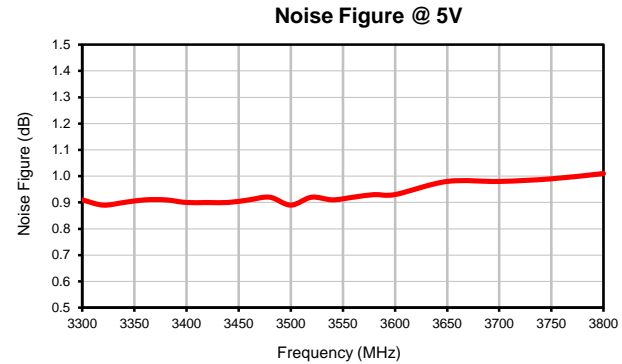
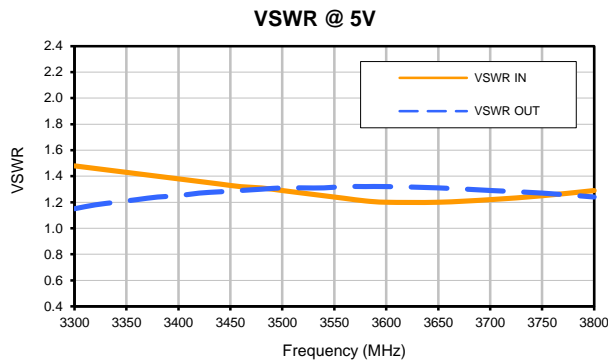
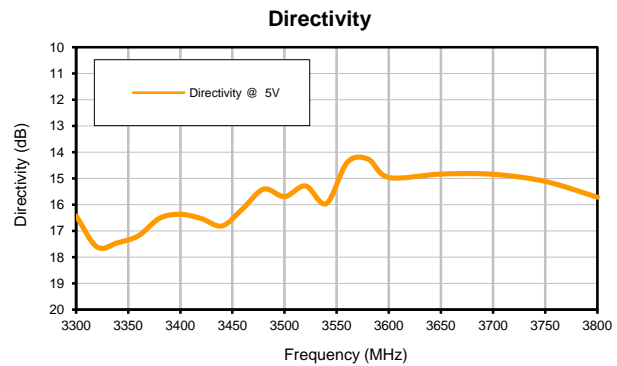
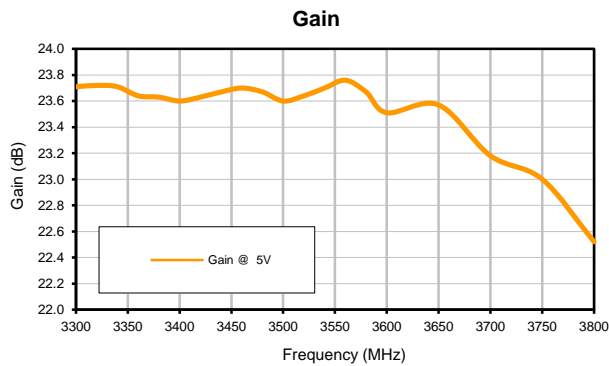
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REV. OR  
ZX60-3800LN-S+  
190227

# Low Noise Amplifier

## Typical Performance Curves

# ZX60-3800LN-S+



For detailed performance specs & shopping online see web site

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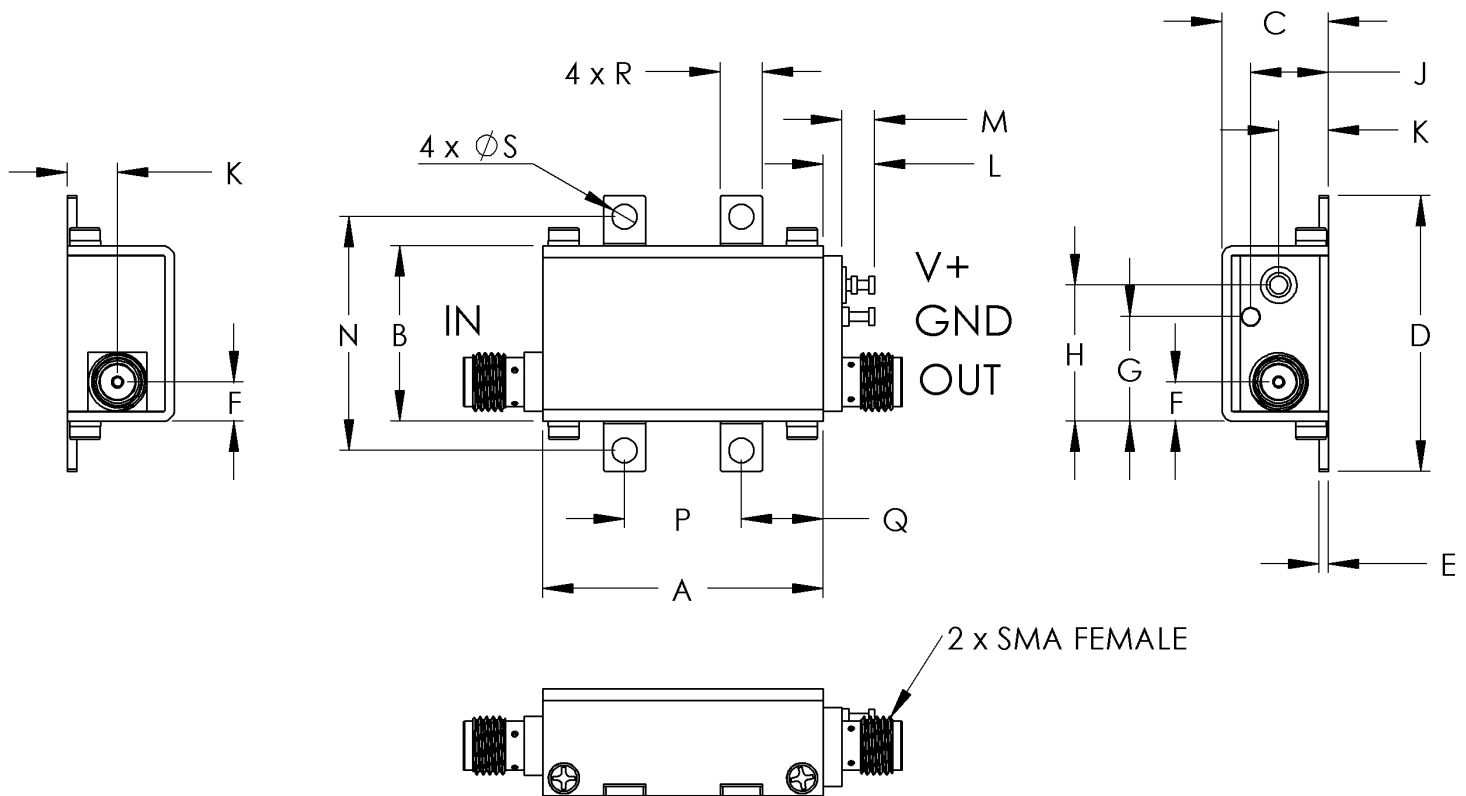
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# Case Style

# GA

## Outline Dimensions

## GA955



CASE #.	A	B	C	D	E	F	G	H	J	K	L	M	N
GA955	1.20 (30.48)	.75 (19.05)	.46 (11.61)	1.18 (29.97)	.04 (1.02)	.17 (4.27)	.45 (11.35)	.58 (14.81)	.33 (8.46)	.21 (5.44)	.22 (5.59)	.14 (3.56)	1.000 (25.4)

CASE #.	P	Q	R	S	WT GRAMS
GA955	.500 (12.70)	.35 (8.89)	.18 (4.57)	.106 (2.69)	35.0

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	-40° to 50° C Ambient Environment	Individual Model Data Sheet
Operating Temperature	-40° to 80° 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 Case	MIL-STD-202, Method 108
Thermal Shock	-55° to 100°C, 5 cycles	MIL-STD-202, Method 107, Condition A, except 100°C