COAXIAL

Amplifier

ZX60-43-S+

50Ω 0.5 to 4000 MHz SMA-Female

FEATURES

- Wide Bandwidth, 0.5 to 4000 MHz
- Output Power, up to +18.5 dBm typ.
- Protected by US patent 6,790,049 & 6,943,629

Generic photo used for illustration purposes only

Model No.	ZX60-43-S+
Case Style	GC957
Connectors	SMA Female

+RoHS Compliant
The +Suffix identifies RoHS Compliance.
See our website for methodologies and qualifications

APPLICATIONS

- Buffer Amplifier
- Driver Amplifier
- Cellular
- PCS
- GPS
- Bluetooth
- Instrumentation
- Test Equipment

ELECTRICAL SPECIFICATIONS AT 25°C, +5V

Parameter	Condition (MHz)	Min	Typ.	Max.	Units
Frequency		0.5		4000	MHz
Gain	100	—	23.1	—	dB
	1000	—	21.7	—	
	2000	17	18.6	—	
	4000	—	14.3	—	
Output Power at 1dB compression	0.5	—	17.3	—	dBm
	4000	—	17.3	—	
Noise Figure		—	5.4	—	dB
Output third order intercept point		—	+33	—	dBm
Input VSWR		—	1.2	—	:1
Output VSWR		—	2.0	—	:1
Active Directivity		—	7-9	—	dB
Supply Current		—	90	110	mA

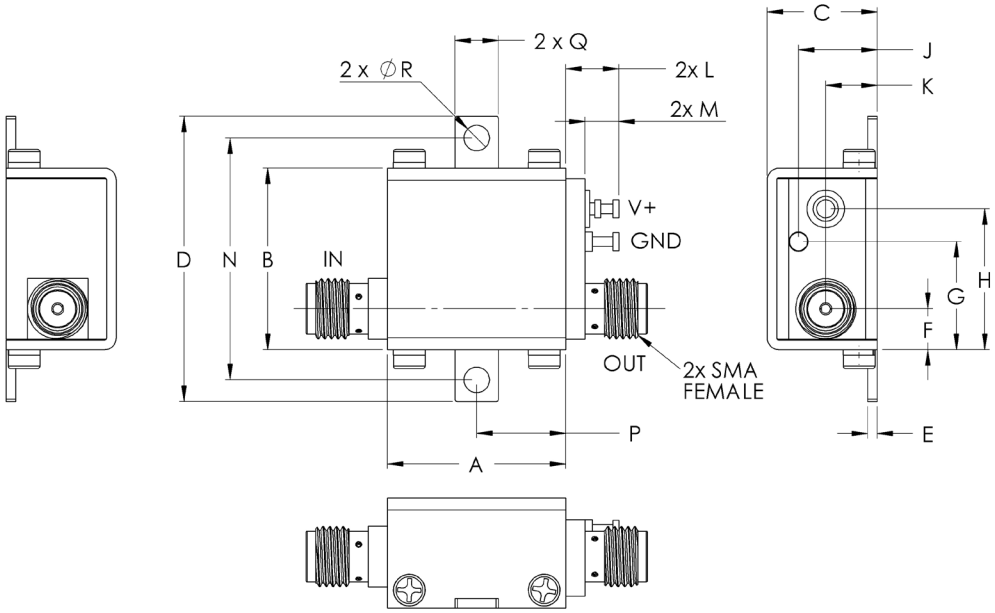
MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-40°C to 85°C Case
Storage Temperature	-55°C to 100°C
DC Voltage	+7V
Input RF Power (no damage)	+13 dBm
Power	0.77W

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

REV. D
ECO-016035
ZX60-43-S+
MCL NY
221206

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 (Inches / 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	.14	1.00	.37	.18	.106	grams
18.80	19.1	11.68	30.0	1.02	4.32	11.4	14.99	8.38	5.33	5.59	3.56	25.40	9.40	4.57	2.69	23.0

COAXIAL

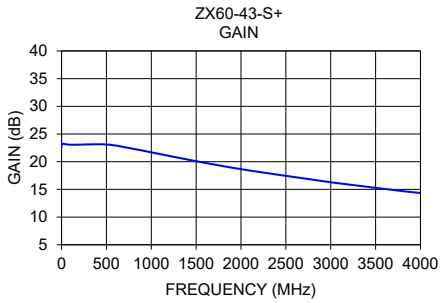
Amplifier

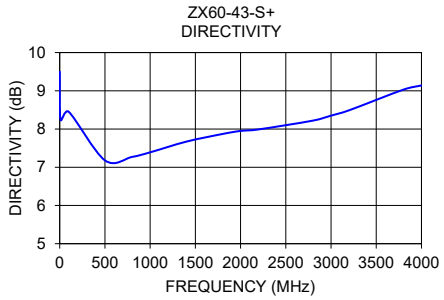
ZX60-43-S+

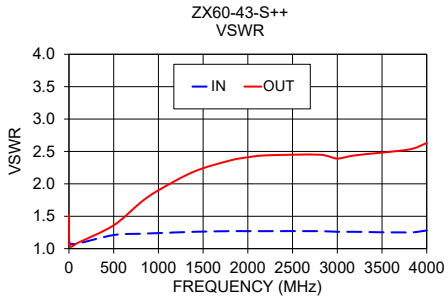
50Ω 0.5 to 4000 MHz SMA-Female

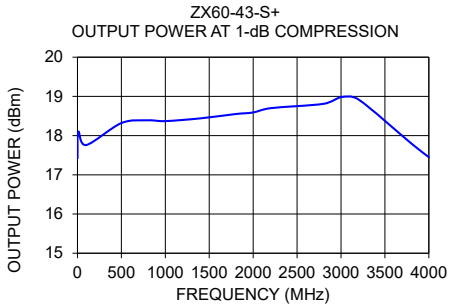
TYPICAL PERFORMANCE DATA/CURVES

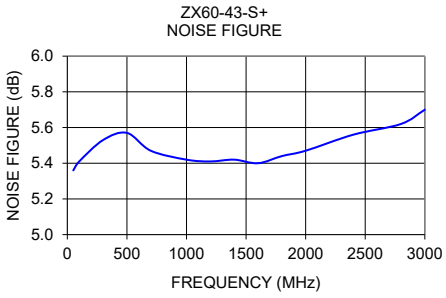
Frequency (MHz)	Gain (dB)	Directivity (dB)	VSWR In (:1)	VSWR Out (:1)	Power Out @1 dB Compr. (Dbm)	Frequency (MHz)	IP3 (dBm)	Noise Figure (dB)
0.50	22.79	9.50	1.22	1.52	17.42	10	32.33	5.45
0.70	22.92	9.17	1.16	1.37	17.56	50	32.27	5.36
1.00	23.01	8.94	1.13	1.27	17.73	100	32.09	5.41
10.00	23.25	8.24	1.08	1.04	18.10	200	31.68	5.35
100.00	23.06	8.45	1.08	1.09	17.76	300	31.95	5.53
300.00	23.03	8.06	1.16	1.13	17.68	400	33.11	5.56
500.00	23.11	7.18	1.21	1.36	18.32	500	33.27	5.57
700.00	22.62	7.18	1.23	1.60	18.40	600	33.13	5.52
800.00	22.32	7.27	1.23	1.71	18.39	700	33.00	5.47
805.00	22.31	7.25	1.23	1.72	18.39	800	32.71	5.43
1000.00	21.69	7.39	1.24	1.90	18.37	1000	32.51	5.42
1200.00	21.04	7.52	1.25	2.06	18.48	1100	32.46	5.43
1400.00	20.40	7.67	1.26	2.19	18.44	1200	32.44	5.41
1600.00	19.79	7.77	1.26	2.28	18.52	1300	32.55	5.41
1800.00	19.20	7.87	1.27	2.36	18.55	1400	32.63	5.42
2000.00	18.66	7.95	1.27	2.41	18.59	1500	31.84	5.39
2200.00	18.15	7.99	1.27	2.44	18.70	1600	32.55	5.40
2400.00	17.66	8.05	1.28	2.45	18.50	1700	31.75	5.40
2600.00	17.20	8.11	1.27	2.46	18.67	1800	32.37	5.44
2800.00	16.75	8.22	1.27	2.45	18.81	2000	32.07	5.47
3000.00	16.29	8.35	1.26	2.39	18.98	2200	32.04	5.50
3200.00	15.88	8.49	1.26	2.44	18.92	2400	32.38	5.56
3400.00	15.47	8.62	1.25	2.45	18.55	2600	31.92	5.56
3600.00	15.07	8.84	1.25	2.48	18.12	2800	31.73	5.62
3800.00	14.69	9.03	1.25	2.53	17.80	3000	31.24	5.70
4000.00	14.35	9.14	1.28	2.63	17.45			

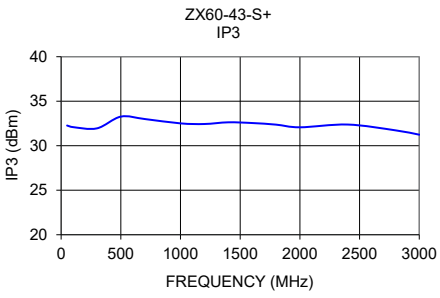












NOTES

A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.

B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.

C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard. Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/terms/viewterm.html

Amplifier ZX60-43+

Typical Performance Data

FREQUENCY (MHz)	GAIN (dB) 5V	DIRECTIVITY (dB) 5V	VSWR IN (:1) 5V	VSWR OUT (:1) 5V	Pout at 1dB Comp. (dBm) 5V
0.5	22.79	9.50	1.22	1.52	17.42
0.7	22.92	9.17	1.16	1.37	17.56
1.0	23.01	8.94	1.13	1.27	17.73
10.0	23.25	8.24	1.08	1.04	18.10
100.0	23.06	8.45	1.08	1.09	17.76
300.0	23.03	8.06	1.16	1.13	17.68
500.0	23.11	7.18	1.21	1.36	18.32
700.0	22.62	7.18	1.23	1.60	18.40
800.0	22.32	7.27	1.23	1.71	18.39
805.0	22.31	7.25	1.23	1.72	18.39
1000.0	21.69	7.39	1.24	1.90	18.37
1200.0	21.04	7.52	1.25	2.06	18.48
1400.0	20.40	7.67	1.26	2.19	18.44
1600.0	19.79	7.77	1.26	2.28	18.52
1800.0	19.20	7.87	1.27	2.36	18.55
2000.0	18.66	7.95	1.27	2.41	18.59
2200.0	18.15	7.99	1.27	2.44	18.70
2400.0	17.66	8.05	1.28	2.45	18.50
2600.0	17.20	8.11	1.27	2.46	18.67
2800.0	16.75	8.22	1.27	2.45	18.81
3000.0	16.29	8.35	1.26	2.39	18.98
3200.0	15.88	8.49	1.26	2.44	18.92
3400.0	15.47	8.62	1.25	2.45	18.55
3600.0	15.07	8.84	1.25	2.48	18.12
3800.0	14.69	9.03	1.25	2.53	17.80
4000.0	14.35	9.14	1.28	2.63	17.45

FREQUENCY (MHz)	Output IP3 (dBm) 5V	NOISE FIGURE (dB) 5V
10.0	32.33	5.45
50.0	32.27	5.36
100.0	32.09	5.41
200.0	31.68	5.35
300.0	31.95	5.53
400.0	33.11	5.56
500.0	33.27	5.57
600.0	33.13	5.52
700.0	33.00	5.47
800.0	32.71	5.43
1000.0	32.51	5.42
1100.0	32.46	5.43
1200.0	32.44	5.41
1300.0	32.55	5.41
1400.0	32.63	5.42
1500.0	31.84	5.39
1600.0	32.55	5.40
1700.0	31.75	5.40
1800.0	32.37	5.44
2000.0	32.07	5.47
2200.0	32.04	5.50
2400.0	32.38	5.56
2600.0	31.92	5.56
2800.0	31.73	5.62
3000.0	31.24	5.70

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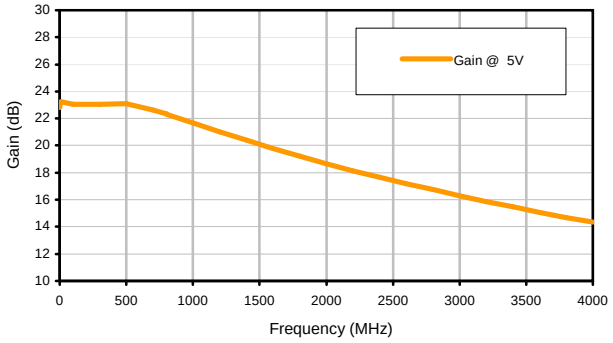
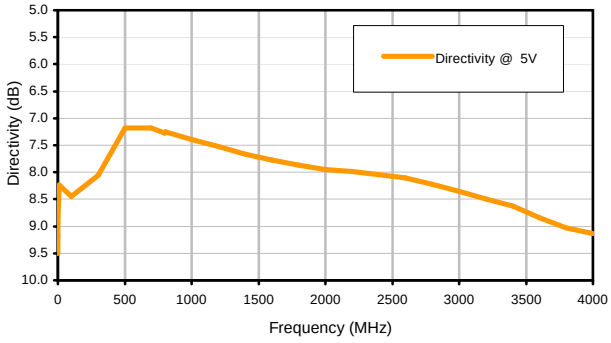
Typical Performance Curves

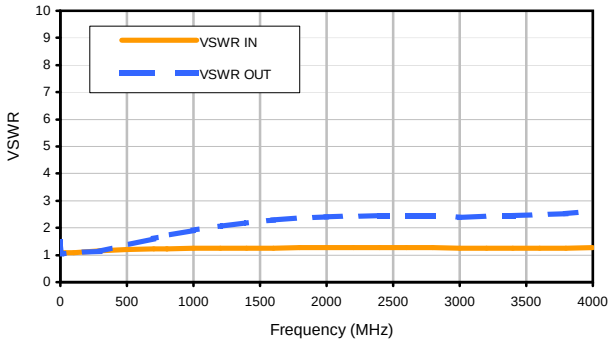
Gain



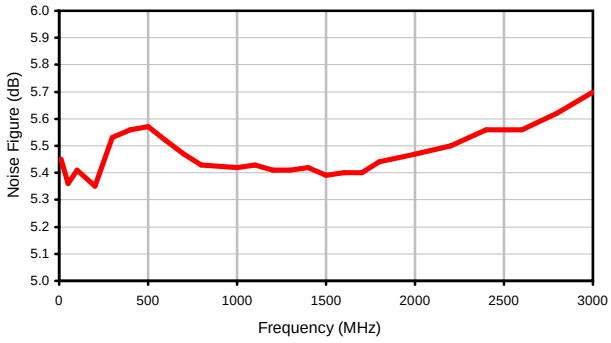
Directivity



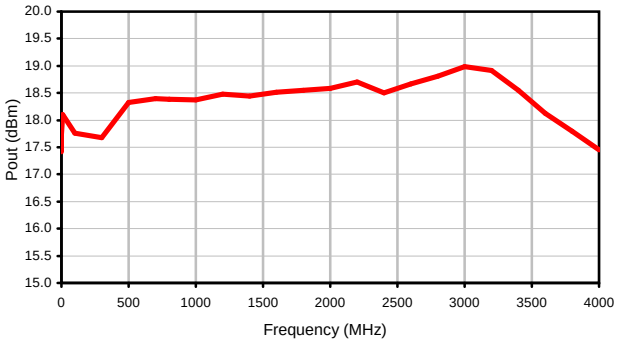
VSWR @ 5V



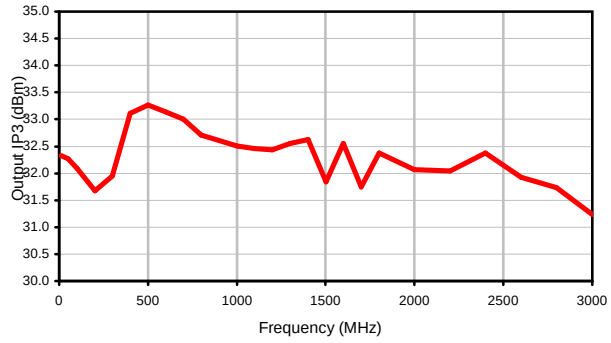
Noise Figure @ 5V



Pout at 1dB Compression @ 5V



Output IP3 @ 5V



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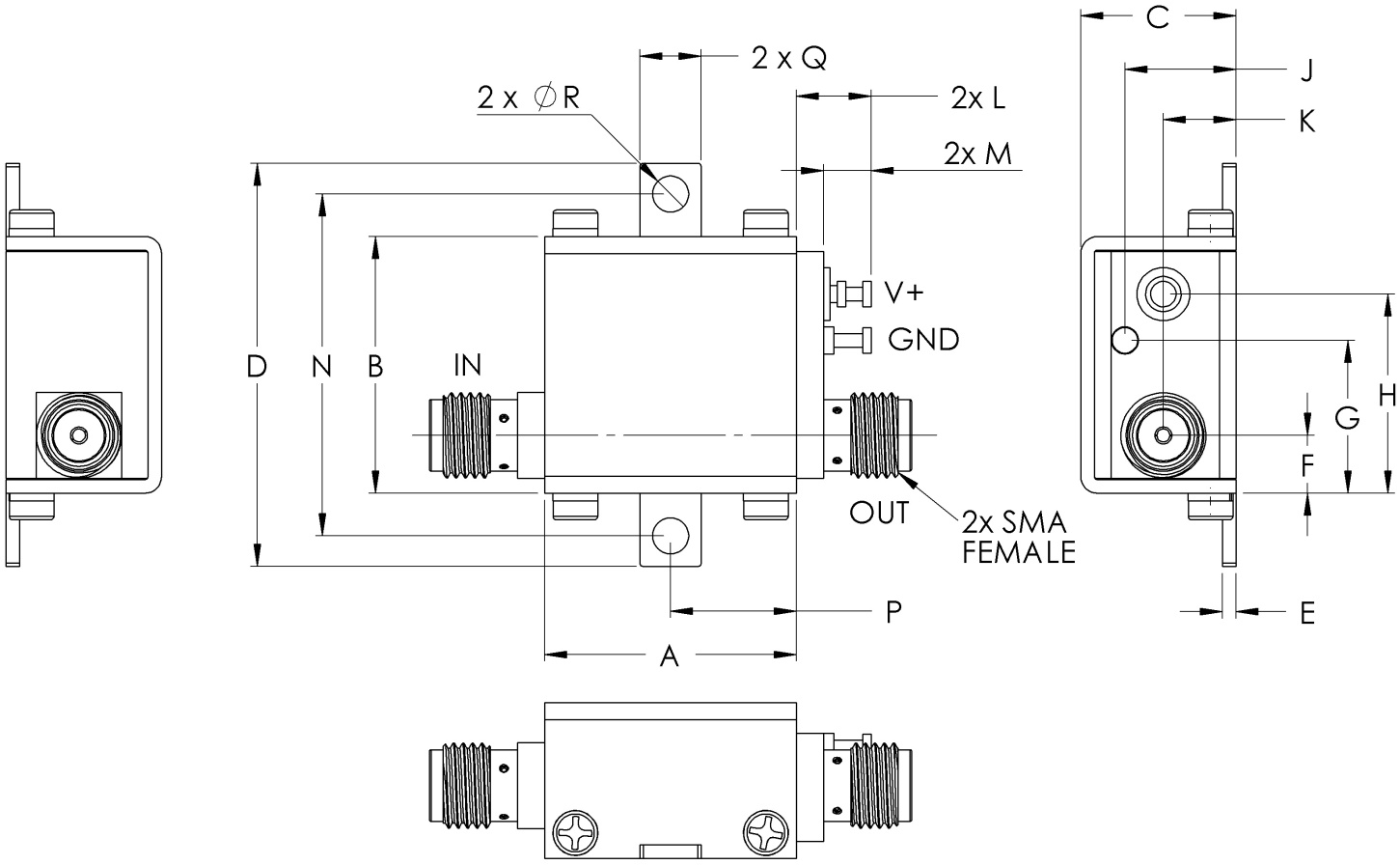
Case Style GC

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. ± .03; 3Pl. ± .015
Tolerance on hole size and interaxes dimensions to be ± .005.

Note:

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

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Environmental Specifications ENV23T10

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 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

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