COAXIAL

Low Noise Amplifier

ZX60-100VH+

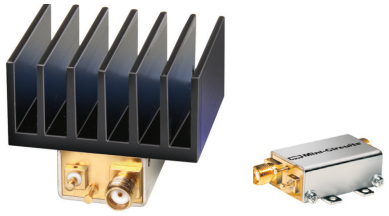
50Ω Medium High Power 0.3 to 100 MHz

THE BIG DEAL

- Miniature Shielded Rugged Case
- Wide frequency range
- Excellent Gain Flatness.
- Protected by US patent 6,790,049

APPLICATIONS

- Buffer amplifier
- Driver amplifier
- HF communication
- Lab
- Instrumentation
- Test equipment



Generic photo used for illustration purposes only

Model No.	ZX60-100VH+	
Option	with heatsink	without heatsink
Case Style	GA955	
Connectors	SMA Female	

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

PRODUCT OVERVIEW

This model could be used as a driver amplifier with 1W typical output power. The gain of this amplifier has an excellent flatness over a very wide frequency range. This amplifier has a high dynamic range and therefore can be used as RF front end or IF amplifier.

KEY FEATURES

Feature	Advantages
Frequency range: 0.3-100MHz	Covers HF and partially VHF frequency bands, could be used in FM broadcast up to 110MHz. Great for the radio amateur enthusiasts.
Excellent Gain Flatness: +/- 0.3dB, typ.	Excellent gain flatness minimizes distortion of amplified signals, including multi-tone, complex modulation, very wide frequency range and noise-like signals
Output Power 1W (+30dBm, typ)	High output power in very small package
Noise Figure	Low noise figure, 4dB typ. and high OIP3, +43dBm typ. defines the high dynamic range of the amplifier.

REV. B
ECO-015740
ZX60-100VH+
MM/CP/AM
221107

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ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Condition MHz)	ZX60-100VH+ / **ZX60-100VHX+			Units
		Min.	Typ.	Max.	
Frequency Range		0.3		100	MHz
Gain	0.3-100	33	36	—	dB
Gain Flatness	0.3-100	—	±0.3	—	dB
Output Power at 1dB Compression	0.3-100	—	+30	—	dBm
Output third order intercept point	0.3-100	—	+43	—	dBm
Noise Figure	0.3-100	—	4	—	dB
Input VSWR	0.3-100	—	1.6	—	:1
Output VSWR	0.3-100	—	1.5	—	:1
Active Directivity (Isolation-Gain)	0.3-100	—	14	—	dB
DC Supply Voltage		—	12*	—	V
Supply Current		—	320	370	mA

*Recommended Operating Voltage.

**Heat sink not included. Alternative heat sinking and heat removal must be provided by the user to limit maximum base-plate temperature to 85°C, in order to ensure proper performance. For reference, this requires thermal resistance of user's external heat sink to be 3.3°C/W max.

ABSOLUTE MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature (ground lead)	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Total Power Dissipation	4.4 W
Input RF Power (no damage)	+15 dBm
DC Voltage	+13V

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

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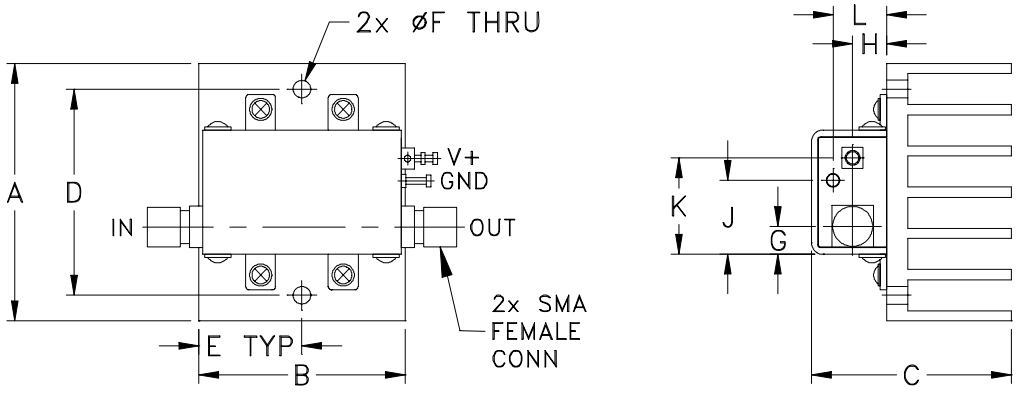
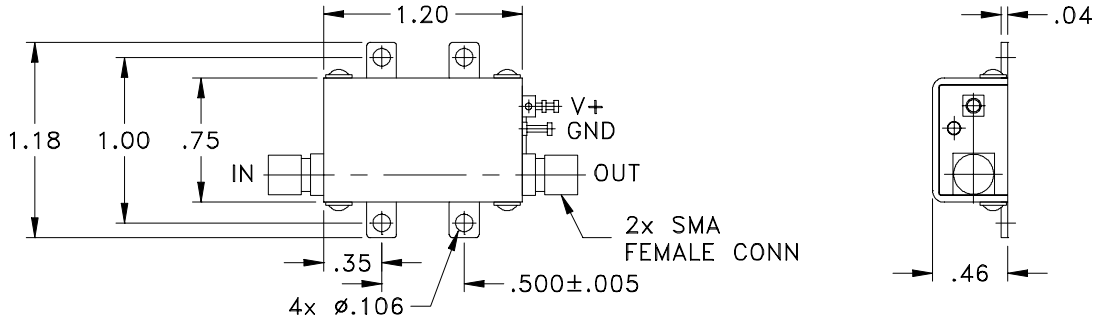
OUTLINE DRAWING FOR MODEL WITH HEATSINK



OUTLINE DRAWING FOR MODEL WITHOUT HEATSINK



⚠ 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	wt*
1.560	1.25	1.21	1.25	0.63	0.106	0.17	0.21	0.45	0.59	0.33	grams
39.62	31.75	30.73	31.75	16.00	2.69	4.32	5.33	11.43	14.99	8.38	61.4

*35.0 grams without heatsink

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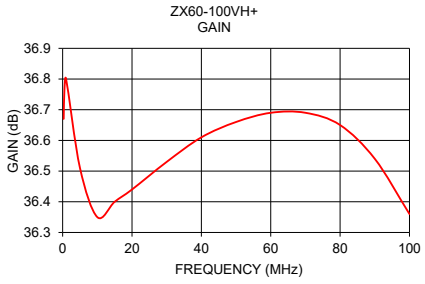
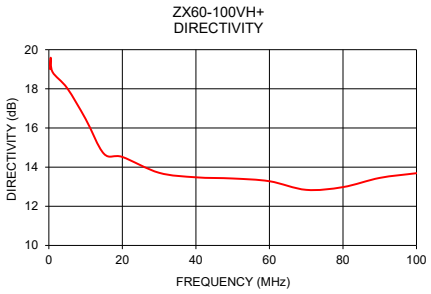
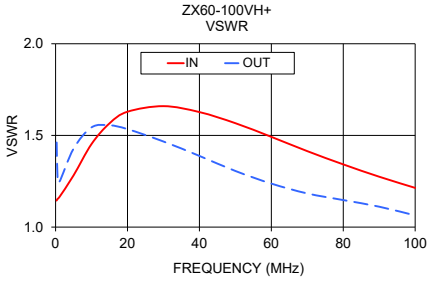
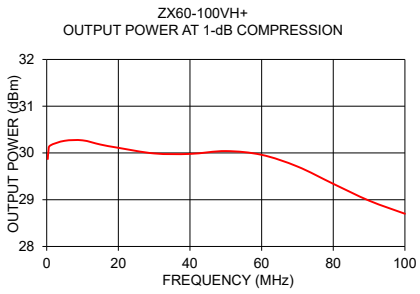
TYPICAL PERFORMANCE DATA/CURVES

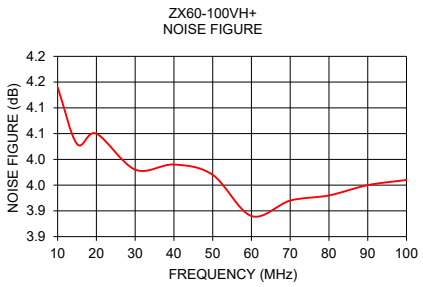
Frequency (MHz)	Gain (dB)	Directivity (dB)	VSVR (:1)		Power Out @1 dB COMPR. (dBm)	Noise Figure (dB)	IP3 (dBm)
			IN	OUT			
0.30	36.67	19.01	1.14	1.46	29.87	—	40.86
0.50	36.76	19.59	1.15	1.30	30.05	—	42.65
1.00	36.80	18.86	1.16	1.25	30.16	—	44.39
5.00	36.51	18.03	1.28	1.43	30.26	—	44.51
10.00	36.35	16.46	1.45	1.54	30.27	4.14	43.98
15.00	36.40	14.68	1.57	1.56	30.18	4.03	43.65
20.00	36.44	14.52	1.63	1.53	30.11	4.05	43.45
30.00	36.53	13.71	1.66	1.47	29.99	3.98	43.33
40.00	36.61	13.48	1.63	1.39	29.98	3.99	43.23
50.00	36.66	13.42	1.57	1.31	30.04	3.97	43.21
60.00	36.69	13.28	1.49	1.24	29.96	3.89	43.21
70.00	36.69	12.84	1.41	1.18	29.71	3.92	43.11
80.00	36.65	12.98	1.34	1.15	29.34	3.93	42.94
90.00	36.54	13.45	1.27	1.11	28.98	3.95	42.64
100.00	36.36	13.69	1.21	1.06	28.70	3.96	42.38

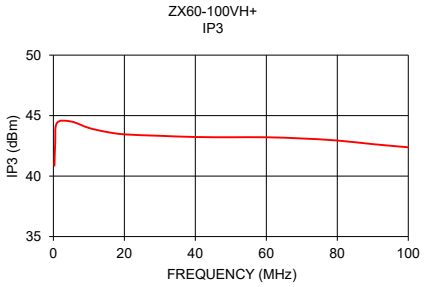












NOTES

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