Ultra Flat Gain

Wideband Amplifier

ZX60-V62+

50Ω 0.05 to 6 GHz

CASE STYLE: GC957

The Big Deal

- Ultra Flat Gain
- Broadband High Dynamic Range
- Wideband, 0.05 to 6 GHz

Product Overview

The ZX60-V62+ (RoHS compliant) uses Mini-Circuits' HBT technology to offer ultra flat gain over a broad frequency range and high IP3. Housed in a rugged, cost effective unibody chassis, this amplifier supports a wide variety of applications requiring moderate power output, low distortion and 50 ohm matched input/output ports.

Key Features

Feature	Advantages
Ultra Flat Gain	±1.1 dB over 50 to 6000 MHz; ±0.1 dB over 700 to 2700 MHz; ±0.2 dB over 500 to 4500 MHz supports a variety of multi band applications
Broadband: 0.05 to 6 GHz	Broadband covering primary wireless communications bands: Cellular, PCS, LTE, WiMAX, UHF, VHF, L band, Satcom, radar, etc.
High IP3 vs. DC power consumption 39 dBm typical at 0.05 GHz 36 dBm typical at 0.8 GHz	This model matches good IP3 performance relative to power consumption. The HBT structure provides good linearity over a broad frequency range as shown in the IP3 being typically 20 dB avobe the P1dB point to 0.8 GHz. This feautre makes this amplifier ideal for use in: • driver amplifiers for complex waveform upconverter paths • drivers in linearized transmit systems
Unconditionally Stable	No risk of damage to other components from impedance mismatch or internal oscillation
Very Small Size, 0.75" x 0.75"	The unique unibody construction enables the ZX60-V62+ to be used in compact designs.

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Generic photo used for illustration purposes only

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Connectors	Model
SMA	ZX60-V62+

+RoHS Compliant

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

Features

- Ultra Flat Gain, ±0.7 dB over 50-4000 MHz
- Gain, 15.4 dB typ. at 2 GHz
- High Pout, P1dB, +19 dBm typ. at 2 GHz
- High IP3, 39 dBm typ. at 50 MHz, 33.4 dBm at 2 GHz
- Excellent ESD protection, class 1C for HBM

Applications

- Base station infrastructure
- Portable wireless
- CATV & DBS
- MMDS & Wireless LAN
- LTE
- SATCOM
- Radar

Electrical Specifications at 25°C and 5.0V unless noted

Parameter	Condition (GHz)	Min.	Typ.	Max.	Units
Frequency Range		0.05		6	GHz
Gain	0.05 0.8 2.0 3.0 4.0 6.0	14.8 13.9 13.5 	16.6 15.5 15.4 15.5 15.6 14.4	18.2 17.2 17.0 	dB
Gain Flatness	0.05 - 4 0.7 - 2.6		±0.7 ±0.2		dB
Input Return Loss	0.05 0.8 2.0 3.0 4.0 6.0	11.0	15.4 14.7 20.1 26.6 20.7 18.6		dB
Output Return Loss	0.05 0.8 2.0 3.0 4.0 6.0	12.0	13.8 15.3 11.0 10.5 12.0 8.5		dB
Output IP3	0.05 0.8 2.0 3.0 4.0 6.0	31.5	39.1 36.2 33.4 30.4 27.6 22.5		dBm
Output Power @ 1 dB compression	0.05 0.8 2.0 3.0 4.0 6.0	17.5 17.5 17.2	19.7 19.5 19.0 17.9 15.8 11.6		dBm
Noise Figure	0.05 0.8 2.0 3.0 4.0 6.0		5.0 5.0 5.1 5.1 5.1 5.4	6.2 6.6 	dB
Directivity (Isolation-Gain)	0.05 - 6		6.0		dB
DC Voltage		4.8	5.0	5.2	V
DC Current		72	82	92	mA

Notes

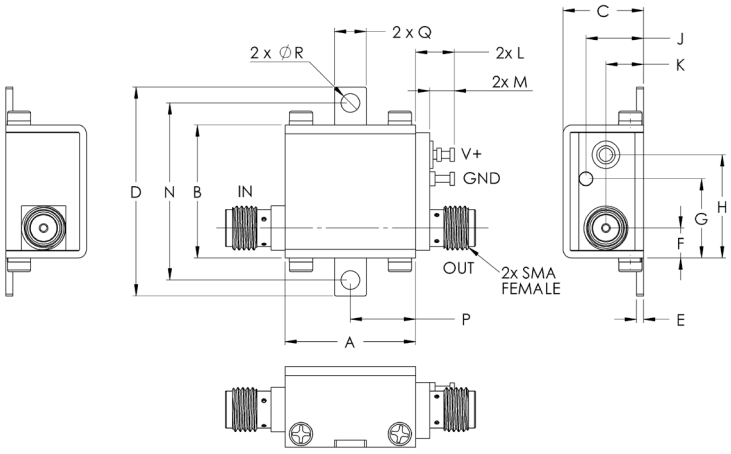
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's 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/MCLStore/terms.jsp

Maximum Ratings

Parameter	Ratings
Operating Temperature	-40°C to 85°C Case
Storage Temperature	-55°C to 100°C
DC Voltage	6 V
Input RF Power (no damage)	24 dBm
Power Consumption	0.725 W

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	.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

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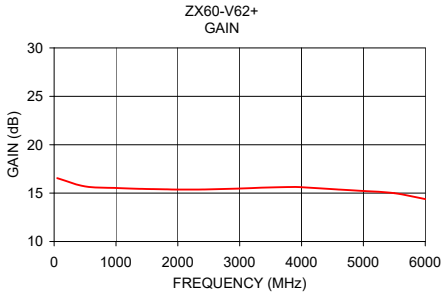
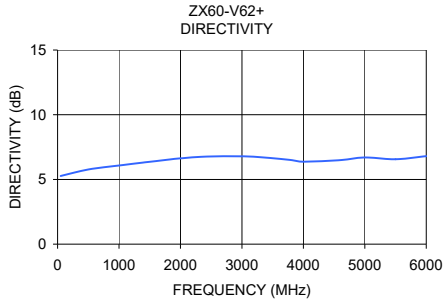
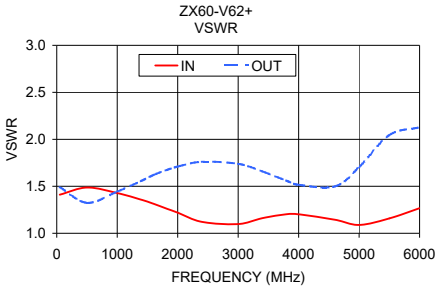
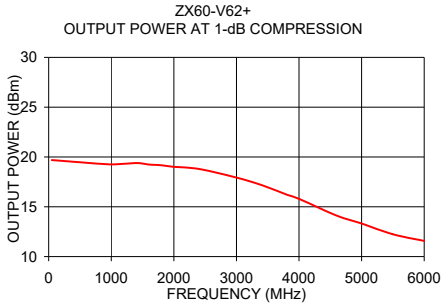
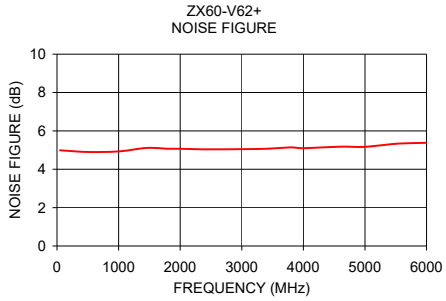
FREQUENCY (MHz)	GAIN (dB)	DIRECTIVITY (dB)	VSWR (:1)		POUT at 1dB COMPR. (dBm)	NOISE FIGURE (dB)	OUTPUT IP3 (dBm)
			IN	OUT			
50.00	16.55	5.27	1.41	1.49	19.7	5.0	39.1
500.00	15.69	5.77	1.49	1.32	19.5	4.9	37.1
1000.00	15.53	6.08	1.43	1.44	19.3	4.9	35.5
1400.00	15.44	6.31	1.36	1.56	19.4	5.1	34.7
1600.00	15.42	6.42	1.31	1.62	19.2	5.1	34.6
1800.00	15.39	6.53	1.27	1.67	19.2	5.1	34.5
2000.00	15.37	6.63	1.22	1.71	19.0	5.1	33.4
2400.00	15.38	6.76	1.12	1.76	18.8	5.0	32.5
3000.00	15.47	6.79	1.10	1.74	17.9	5.1	30.4
3400.00	15.57	6.68	1.16	1.66	17.2	5.1	29.5
3800.00	15.63	6.50	1.20	1.56	16.2	5.1	28.3
4000.00	15.61	6.37	1.20	1.52	15.8	5.1	27.6
4600.00	15.37	6.49	1.14	1.50	14.1	5.2	25.5
5000.00	15.22	6.70	1.09	1.70	13.3	5.2	24.4
5500.00	14.99	6.56	1.16	2.04	12.2	5.3	23.2
6000.00	14.38	6.80	1.27	2.13	11.6	5.4	22.5

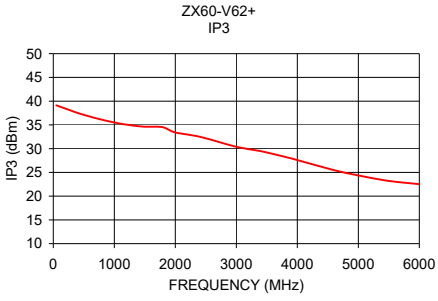












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