

Connectorized Push-Pull Wideband Amplifier

ZX60-23LM-S+

50Ω 500 to 2000 MHz

The Big Deal

- Ultra-low second harmonic (high IP2)
- Built-in reverse-bias protection
- Cost-effective design



Case Style: GA955

Product Overview

This wideband amplifier is a very low-cost, high-performance 500MHz-2.0GHz device based upon a 50-ohm push-pull design. Built within Mini-Circuits's patented unibody construction, this amplifier features exceptionally low second-order harmonic distortion and is unconditionally stable. It is ideal for a wide range of wireless, small-signal, and lab and test equipment designs.

Key Features

Feature	Advantages
Ultra-low distortion	This amplifier features excellent second harmonic performance and typical IP2 of 65dBm.
Wideband versatility	The 500MHz-2.0GHz bandwidth makes this amplifier ideal for a wide range of 50Ω applications, but also suitable as a low-noise amplifier (LNA) for GPS units, wireless cable (MMDS) and wireless LANs, for cellular applications, as well as for lab, instrumentation and test equipment.
Low cost/high value	The patented Mini-Circuits unibody construction design is unique among amplifiers of its class. In addition, it features 19.0dBm (max) output power in a push/pull configuration, extremely low second-order distortion, a wide bandwidth, and a rugged, connectorized case at a very competitive price point.

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



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Features

- Ultra low harmonic, -65 dBc typ.
- 11V-13V operation
- Good output IP3, 35 dBm typ.
- Unconditionally stable
- Protected by US patent 6,790,049

Applications

- Cellular, CATV,
- LNA for GPS application
- General purpose small signal
- MMDS & Wireless LAN
- Lab
- Instrumentation
- Test Equipment



Case Style: GA955
Connectors Model
SMA ZX60-23LM-S+

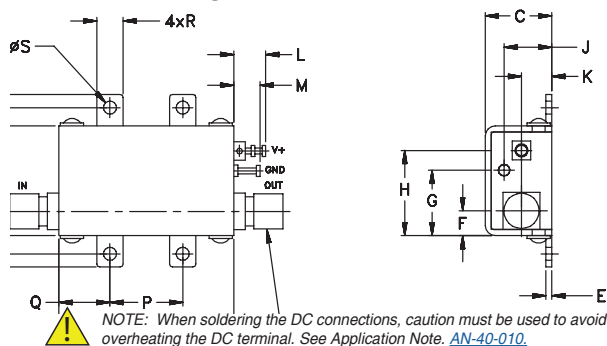
+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Electrical Specifications at 25°C

Parameter	Condition (MHz)	Min.	Typ.	Max.	Units
Frequency Range		500		2000	MHz
Gain	500	17.0	18.2	—	dB
	1000	16.5	18.9	—	
	1500	—	18.4	—	
	2000	—	17.4	—	
Output Power at 1dB compression	500	—	19.0	—	dBm
	1000	18.0	19.6	—	
	1500	—	18.8	—	
	2000	—	17.5	—	
Output third order intercept point IP3*	500	—	33	—	dBm
	800	—	35	—	
	1000	—	35	—	
	1500	—	34	—	
Output second order intercept point IP2*	500	—	60	—	dBm
	800	—	60	—	
	1000	—	67	—	
	1500	—	60	—	
2000	—	69	—		
Noise Figure	500-2000	—	4.0	—	dB
Input VSWR	800-2000	—	1.5	—	:1
Output VSWR	800-2000	—	1.4	—	:1
DC Supply Voltage		11.5	12.0	12.5	V
Supply Current		—	125	143	mA

*Two tones, spaced 1 MHz apart, 4 dBm/tone at output.

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	.18	1.00	.50	.35	.18	.09	grams
30.48	19.05	11.68	29.97	1.02	4.32	11.43	14.99	8.38	5.33	5.59	4.57	25.40	12.70	8.89	4.57	2.29	35.00

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Maximum Ratings

Parameter	Ratings
Operating Temperature	-40°C to 80°C Case
Storage Temperature	-55°C to 100°C
DC Voltage	13V
Input RF Power (no damage)	13dBm

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