



COAXIAL

Wideband Microwave Amplifier **ZX60-183A-S+**

50Ω 6 to 18 GHz SMA-Female

THE BIG DEAL

- Wideband, 6 to 18 GHz, usable over 5-20 GHz
- Gain, 28 dB typ and flatness, ± 1.6 dB typ.
- Output Power at 1 dB compression, 18.0 dBm typ.
- Excellent Isolation, 65 dB typ.
- Unconditionally Stable
- Protected by US patent 6,790,049



Generic photo used for illustration purposes only

Model No.	ZX60-183A-S+
Case Style	GC957
Connectors	SMA-Female

+RoHS Compliant

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

APPLICATIONS

- Military and Radar
- DBS
- Wideband Isolation Amplifier
- Microwave Point to Point Radio
- Satellite Systems

PRODUCT OVERVIEW

The ZX60-183A-S+ two-stage amplifier provides high gain in a very small package, only 0.75" x 0.74" x 0.46" high. Internal compensating circuitry provides a consistent, very flat response over the full bandwidth. Designed for 50 Ω SMA coax systems, the gold-plated package uses convenient +5V DC power, and has a nickel-plated brass cover and unibody construction for rugged use.

KEY FEATURES

Feature	Advantages
Wideband, 6-18 GHz, usable over 5-20 GHz	Wide frequency range supports a wide array of applications, from microwave radio and radar to military communications, satellite communications, and countermeasures
Excellent Gain Flatness	± 1.7 dB gain flatness across entire bandwidth minimizes the need for external equalizer networks, making it a great fit for instrumentation, test lab, EW, or any other amplitude-sensitive system
High Gain and Excellent Isolation	28 dB gain with reverse isolation of 65 dB (38 dB directivity) prevents leakage, making the ZX60-183A-S+ an excellent choice for minimizing interactions between different microwave components. It is an ideal LO driver amplifier and provides designers system flexibility and robustness when integrating cascaded RF components
Unconditionally Stable	No risk of damage to other components from impedance mismatch or internal oscillation

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ZX60-183A-S+
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Mini-Circuits

50Ω 6 to 18 GHz SMA-Female

ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Condition (GHz)	Min.	Typ.	Max.	Units
Frequency Range		6.0		18.0	GHz
Gain	6.0		29.3		dB
	8.0	24.0	29.3		
	10.0	24.0	28.6		
	12.0		27.2		
	14.0		26.7		
	16.0		27.7		
	18.0	21.6	26.1		
Gain Flatness	6.0-18.0		±1.6		dB
Input Return Loss	6.0		12.5		dB
	8.0	10.0	14.1		
	10.0		18.3		
	12.0	10.0	14.8		
	14.0		12.5		
	16.0		12.4		
	18.0		9.0		
Output Return Loss	6.0		13.2		dB
	8.0	10.0	14.2		
	10.0		12.8		
	12.0	10.0	14.6		
	14.0		11.8		
	16.0		12.1		
	18.0	9.5	11.5		
Output IP3*	6.0		32.4		dBm
	8.0		28.3		
	10.0		26.7		
	12.0		25.7		
	14.0		24.9		
	16.0		24.9		
	18.0		25.2		
Output Power @ 1 dB compression	6.0		17.0		dBm
	8.0		17.8		
	10.0	16.0	18.8		
	12.0		17.4		
	14.0		18.0		
	16.0		18.8		
	18.0		17.6		
Noise Figure	6.0		5.2		dB
	8.0		4.8		
	10.0		5.1		
	12.0		5.2		
	14.0		5.5		
	16.0		5.8		
	18.0		6.5		
Directivity (Isolation-Gain)			41		dB
DC Voltage			5.0		V
DC Current			277	332	mA

* Tested at pout of 8 dBm/tone, 1 MHz tone spacing





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Mini-Circuits

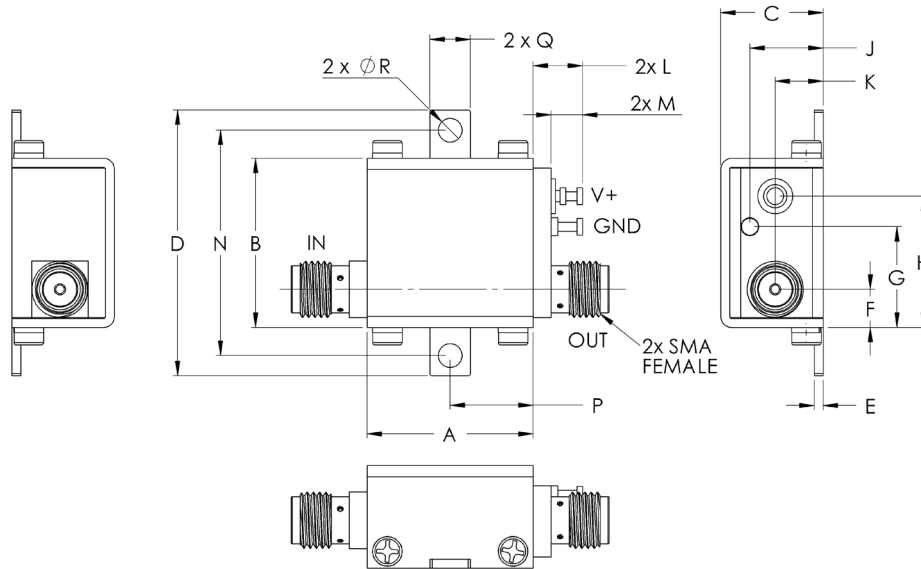
50Ω 6 to 18 GHz SMA-Female

MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-40°C to 85°C Base Plate Temp.
Storage Temperature	-55°C to 100°C
DC Voltage	+5.5V
Input RF Power (no damage)	+20 dBm
Power Dissipation	1.9 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 (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

