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High IP3

Low Noise Amplifier

ZRL-700+

50Ω 250 to 700 MHz

Features

- High IP3, +46 dBm typ.
- Low Noise figure, 2.0 dB typ.
- Broadband flat gain response
- Internal voltage regulated
- Over-voltage and transient protected

Applications

- High dynamic range applications
- Mobile radio service
- NMT 450 cellular service
- aeronautical communications
- UHF television



Generic photo used for illustration purposes only

Case Style: FJ893

Connectors	Model
SMA	ZRL-700+

+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		250		700	MHz
Noise Figure	250 - 700 300 - 500	— —	2.0 2.0	3.5 3.5	dB
Gain	250 - 700 300 - 500	27 27.5	30 31	— —	dB
Gain Flatness	250 - 700 300 - 500	— —	±0.5 ±0.3	±1.0 ±0.7	dB
Output Power at 1dB compression	250 - 700 300 - 500	23.5 23.5	24.8 24.8	— —	dBm
Output Power at 3dB compression	250 - 700 300 - 500	— —	25.2 25.3	— —	dBm
Output third order intercept point[1]	250 - 700 300 - 500	— —	+45 +46	— —	dBm
Input VSWR	250 - 700 300 - 500	— —	1.2 1.15	— —	:1
Output VSWR	250 - 700 300 - 500	— —	1.15 1.10	— —	:1
Active Directivity	250 - 700 300 - 500	— —	13 13.5	— —	dB
DC Supply Voltage[2]		—	12	—	V
Supply Current		—	450	575	mA

1. 1 MHz tone spacing.
2. Unit is internally voltage regulated for 6.5 to 17VDC input voltage range.

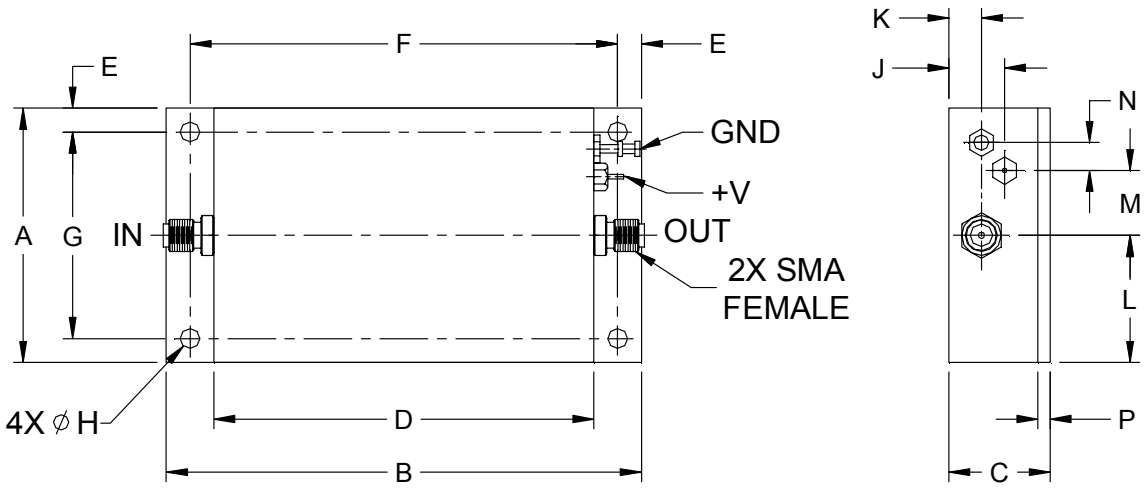
Maximum Ratings

Parameter	Ratings
Operating Temperature	-40°C to 80°C case -40°C to 60° ambient
Storage Temperature	-55°C to 100°C
DC Voltage	+17V
Input RF Power (no damage)	+10 dBm

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

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

Outline Drawing



Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	wt
2.00	3.75	0.80	3.00	0.19	3.374	1.624	0.156	0.44	0.26	1.00	0.51	0.22	0.10	grams
50.80	95.25	20.32	76.20	4.83	85.70	41.25	3.96	11.18	6.60	25.40	12.95	5.59	2.54	135

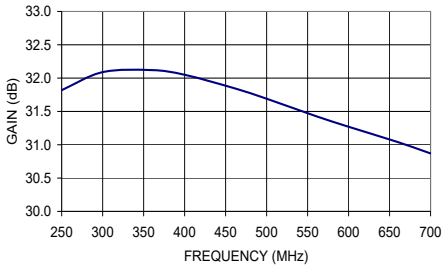
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Typical Performance Data/Curves

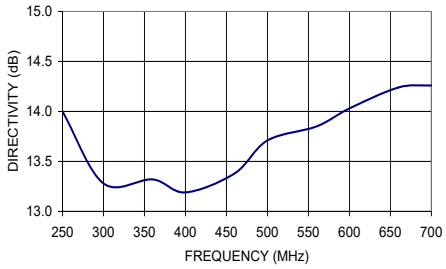
ZRL-700+

FREQUENCY (MHz)	GAIN (dB)	DIRECTIVITY (dB)	VSWR (:1)		NOISE FIGURE (dB)	POUT at 1dB COMPR. (dBm)	OUTPUT IP3 (dBm)
	12V	12V	IN	OUT	12V	12V	12V
250.00	31.82	14.00	1.24	1.14	2.29	24.21	45.63
300.00	32.09	13.28	1.19	1.14	1.99	24.62	45.72
360.00	32.12	13.32	1.15	1.11	1.91	24.94	45.83
400.00	32.05	13.19	1.13	1.09	1.88	24.93	45.75
460.00	31.85	13.38	1.15	1.09	1.97	24.97	45.57
500.00	31.69	13.71	1.17	1.12	1.98	24.88	45.48
560.00	31.43	13.85	1.22	1.17	2.01	24.98	45.33
600.00	31.27	14.03	1.23	1.18	2.03	24.93	45.76
660.00	31.04	14.24	1.22	1.18	1.98	25.10	45.82
700.00	30.87	14.26	1.21	1.17	2.00	25.29	46.12

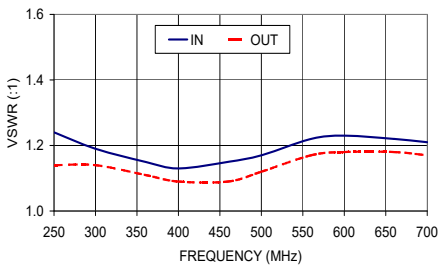
ZRL-700+
GAIN



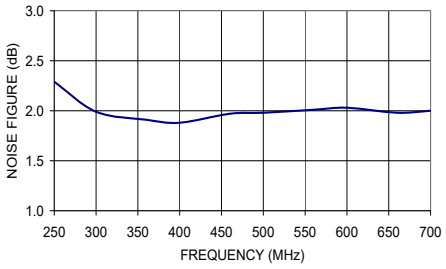
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DIRECTIVITY



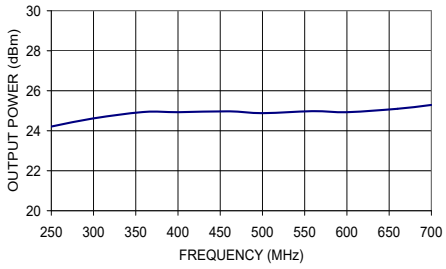
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VSWR



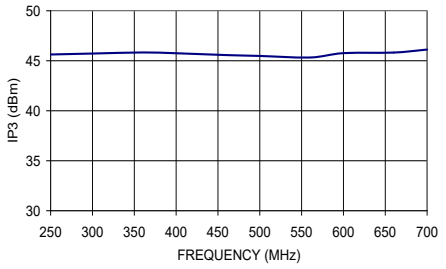
ZRL-700+
NOISE FIGURE



ZRL-700+
OUTPUT POWER AT 1-dB COMPRESSION



ZRL-700+
IP3



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