High IP3

Low Noise Amplifier

ZRL-2300+

50Ω 1400 to 2300 MHz

Features

- High IP3, +42 dBm typ.
- Low Noise figure, 2.5 dB typ.
- Broadband flat gain response
- Excellent return loss, 20 dB typ.
- Internal voltage regulated
- Over-voltage and transient protected

Applications

- High dynamic range
- PCS, UMTS, GSM, cellular, wireless data
- Defense and satellite communications
- High linearity driver amplifier

Generic photo used for illustration purposes only

Case Style: FJ893

Connectors	Model
SMA	ZRL-2300+

+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		1400		2300	MHz
Noise Figure	1400 - 2300 1650 - 2150	— —	2.5 2.3	3.5 3.5	dB
Gain	1400 - 2300 1650 - 2150	21 22	29 28	— —	dB
Gain Flatness	1400 - 2300 1650 - 2150	— —	±0.5 ±0.3	±1.0 ±0.8	dB
Output Power at 1dB compression	1400 - 2300 1650 - 2150	23 23	26 25	— —	dBm
Output Power at 3dB compression	1400 - 2300 1650 - 2150	— —	27 26	— —	dBm
Output third order intercept point[1]	1400 - 2300 1650 - 2150	— —	+42 +42	— —	dBm
Input VSWR	1400 - 2300 1650 - 2150	— —	1.2 1.3	— —	:1
Output VSWR	1400 - 2300 1650 - 2150	— —	1.16 1.13	— —	:1
Active Directivity	1400 - 2300 1650 - 2150	— —	19 17	— —	dB
DC Supply Voltage[2]		—	12	—	V
Supply Current		—	470	575	mA

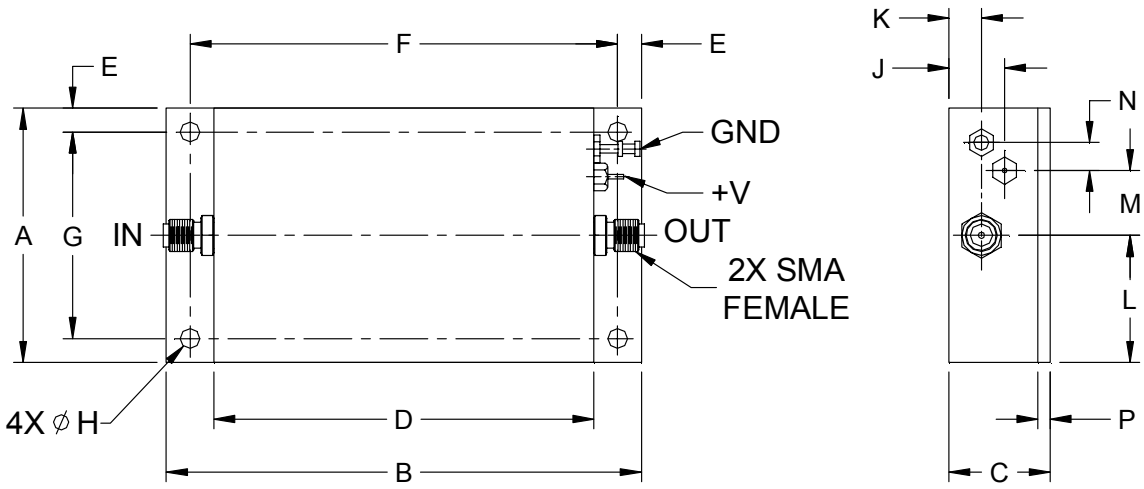
1. 1 MHz tonse spacing.
2. Unit is internally voltage regulated for 6.5 to 17VDC input voltage range.

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.

Outline Drawing

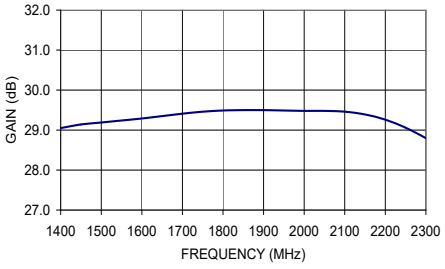


Outline Dimensions (inch / mm)

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

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
1400.00	29.05	15.33	1.24	1.13	2.51	25.03	45.12
1450.00	29.14	14.95	1.16	1.13	2.37	25.04	45.83
1500.00	29.19	14.64	1.12	1.14	2.27	25.01	46.40
1550.00	29.24	14.22	1.12	1.14	2.19	24.88	46.66
1600.00	29.29	13.78	1.13	1.14	2.09	24.87	47.43
1650.00	29.35	13.48	1.15	1.14	2.05	24.79	48.73
1700.00	29.41	13.13	1.16	1.14	1.99	24.68	49.04
1750.00	29.46	12.67	1.17	1.15	1.95	24.79	48.82
1800.00	29.49	12.46	1.18	1.16	1.96	24.76	48.40
1850.00	29.50	12.21	1.18	1.17	1.94	24.83	47.89
1900.00	29.50	12.01	1.19	1.18	1.97	24.97	47.59
1950.00	29.49	11.61	1.20	1.17	2.02	25.12	46.80
2000.00	29.48	11.54	1.22	1.14	2.03	25.36	44.97
2050.00	29.48	11.14	1.25	1.10	2.05	25.32	43.99
2100.00	29.46	10.95	1.29	1.08	2.02	25.56	43.83
2150.00	29.39	10.83	1.33	1.14	1.98	25.50	43.80
2200.00	29.26	10.99	1.37	1.22	1.88	25.46	43.88
2250.00	29.06	11.24	1.39	1.30	1.86	25.13	43.65
2300.00	28.80	11.48	1.41	1.33	1.83	24.88	43.71

ZRL-2300+
GAIN



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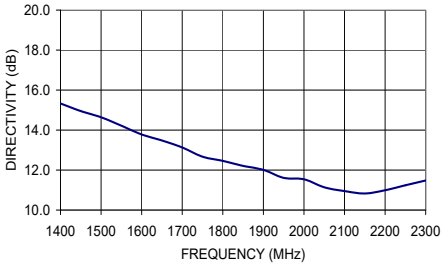
DIRECTIVITY



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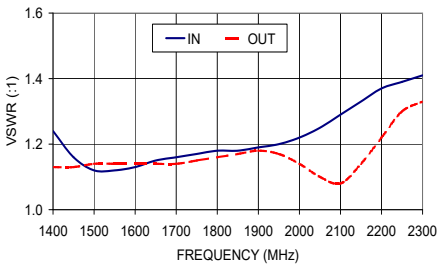
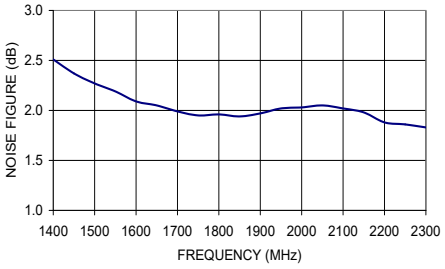
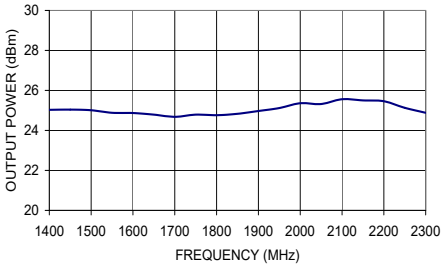
VSWR



ZRL-2300+
NOISE FIGURE



ZRL-2300+
OUTPUT POWER AT 1-dB COMPRESSION



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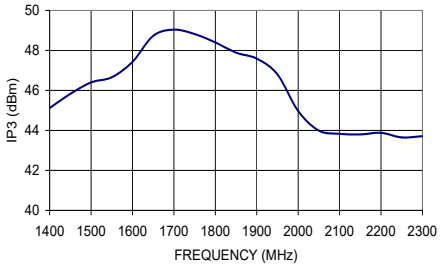
IP3



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.

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