

Coaxial Amplifier

ZJL-4G+

50Ω Medium Power 20 to 4000 MHz

Features

- wideband, 20 to 4000 MHz
- high IP3, +30.5 dBm typ.
- rugged, compact case, 1.07"x0.61" (including mounting bracket)
- protected by US Patent, 6,943,629

Applications

- radar
- instrumentation
- lab use



Generic photo used for illustration purposes only

CASE STYLE: BW459
Connectors Model
SMA ZJL-4G+

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

Amplifier Electrical Specifications

MODEL NO.	FREQUENCY (MHz)		GAIN (dB)			MAXIMUM POWER (dBm)			DYNAMIC ¹ RANGE		VSWR (:1) Typ.		DC POWER	
	f _L	f _U	Typ.	Min.	Flatness ¹ Typ.	Min. Output (1 dB Compr.) L	U	Input (no damage)	NF (dB) Typ.	IP3 (dBm) Typ.	In	Out	Volt (V) Nom.	Current (mA) Max.
ZJL-4G+	20	4000	12.4	10.0	±0.7	+13.5	+10	+20	5.5	+30.5	1.4	1.6	12	75

1. Flatness specified to 0.75 fU, dynamic range at 2 GHz.

Open load is not recommended, potentially can cause damage.
With no load derate max input power by 20 dB

L= low range (f_L to f_U/2)

U= upper range (f_U/2 to f_U)

Maximum Ratings

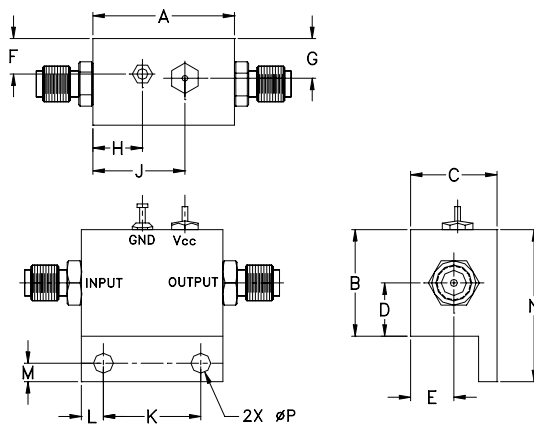
Operating Temperature -40°C to 75°C

Storage Temperature -55°C to 100°C

DC Voltage +13V Max.

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
1.00	.75	.61	.38	.29	.25	.26	.35	.65	.688	.156	.13	1.07	.140	grams
25.40	19.05	15.49	9.65	7.37	6.35	6.60	8.89	16.51	17.48	3.96	3.30	27.18	3.56	25

Notes

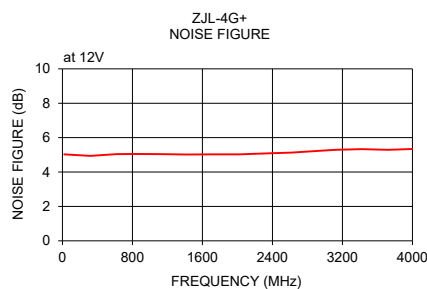
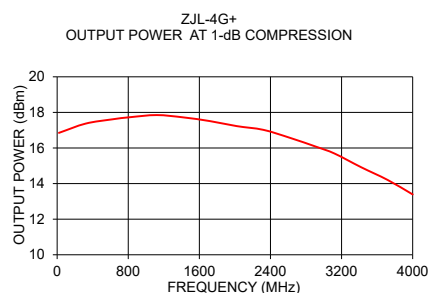
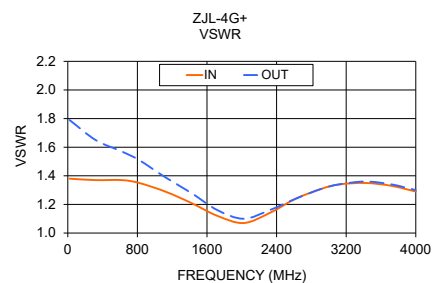
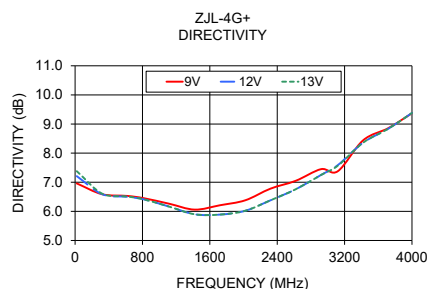
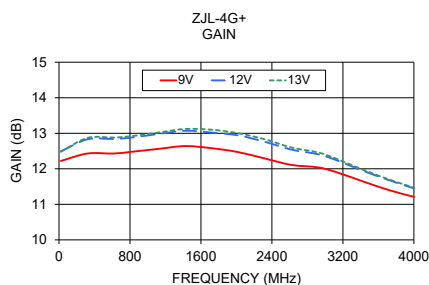
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FREQUENCY (MHz)	GAIN (dB)			DIRECTIVITY (dB)			VSWR (:1)		NOISE FIGURE (dB)	POUT at 1 dB COMPR. (dBm)
	9V	12V	13V	9V	12V	13V	IN	OUT	12V	12V
20.00	12.94	13.02	13.04	7.24	7.51	7.56	1.23	1.44	4.39	16.34
300.00	12.95	13.11	13.16	7.11	7.23	7.25	1.18	1.35	4.50	16.58
600.00	12.85	13.02	13.05	7.19	7.31	7.32	1.16	1.34	4.53	16.62
900.00	12.71	12.87	12.90	7.38	7.51	7.54	1.15	1.31	4.43	16.53
1200.00	12.63	12.77	12.80	7.46	7.61	7.63	1.14	1.31	4.41	16.46
1500.00	12.47	12.60	12.64	7.70	7.85	7.88	1.14	1.30	4.39	16.26
1800.00	12.31	12.46	12.49	7.94	8.07	8.08	1.13	1.29	4.38	15.98
2100.00	12.15	12.31	12.34	8.20	8.31	8.32	1.14	1.28	4.54	15.53
2400.00	11.98	12.16	12.19	8.50	8.53	8.55	1.14	1.27	4.45	14.87
2700.00	11.81	12.01	12.04	8.80	8.80	8.82	1.14	1.26	4.47	14.41
3000.00	11.63	11.85	11.89	9.17	9.11	9.11	1.15	1.26	4.60	13.89
3200.00	11.51	11.74	11.77	9.44	9.35	9.38	1.16	1.26	4.59	13.29
3400.00	11.40	11.65	11.68	9.69	9.56	9.57	1.18	1.27	4.57	12.79
3700.00	11.24	11.51	11.54	10.08	9.92	9.93	1.21	1.28	4.57	12.33
4000.00	11.08	11.36	11.39	10.51	10.29	10.32	1.24	1.30	4.68	11.91



Notes

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Amplifier

ZJL-4G+

Typical Performance Data

FREQUENCY (MHz)	GAIN (dB) 12V	DIRECTIVITY (dB) 12V	VSWR IN (:1) 12V	VSWR OUT (:1) 12V	NOISE FIGURE (dB) 12V	Pout at 1dB Comp. (dBm) 12V
20.0	12.49	7.21	1.38	1.79	5.03	16.85
320.0	12.83	6.59	1.37	1.65	4.94	17.37
620.0	12.84	6.50	1.37	1.57	5.04	17.61
820.0	12.88	6.41	1.35	1.51	5.05	17.73
1120.0	12.98	6.16	1.29	1.39	5.04	17.85
1420.0	13.07	5.90	1.21	1.28	5.02	17.72
1720.0	13.02	5.89	1.12	1.16	5.03	17.51
2020.0	12.94	6.02	1.07	1.10	5.03	17.23
2320.0	12.76	6.38	1.14	1.16	5.08	17.02
2620.0	12.54	6.76	1.24	1.24	5.13	16.57
2920.0	12.41	7.25	1.31	1.31	5.23	16.06
3120.0	12.25	7.59	1.34	1.34	5.29	15.69
3420.0	11.95	8.36	1.35	1.36	5.33	14.92
3720.0	11.68	8.84	1.33	1.34	5.29	14.20
4000.0	11.45	9.38	1.29	1.30	5.34	13.39

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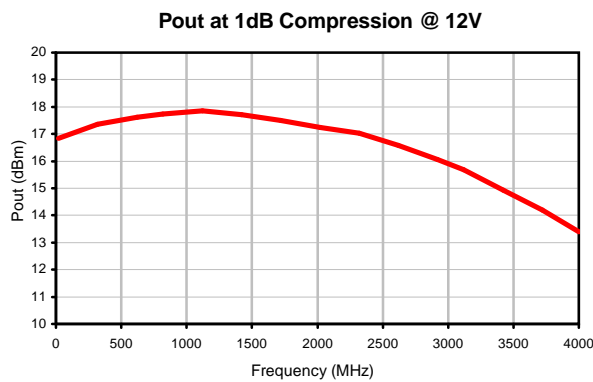
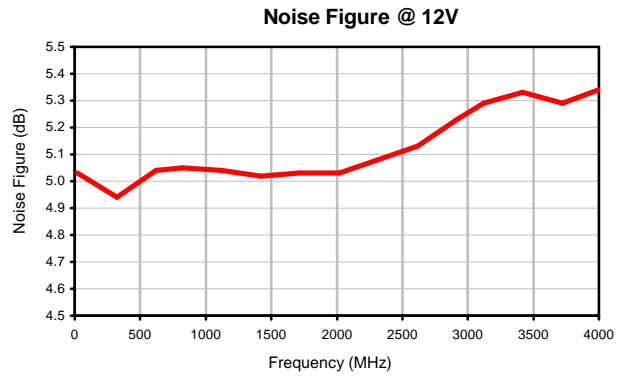
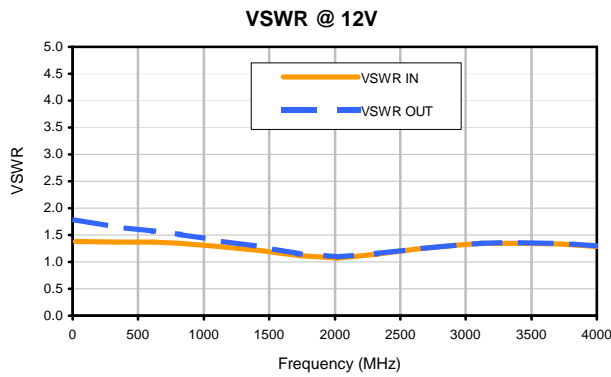
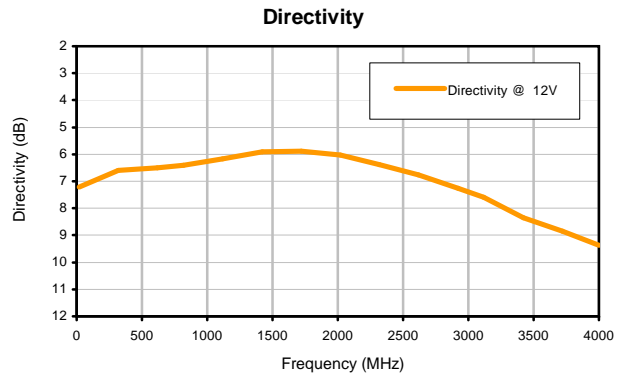
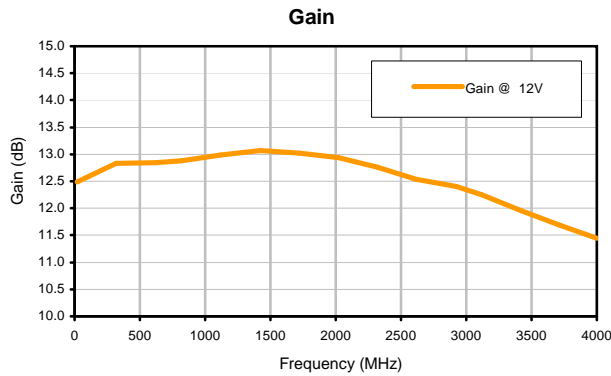
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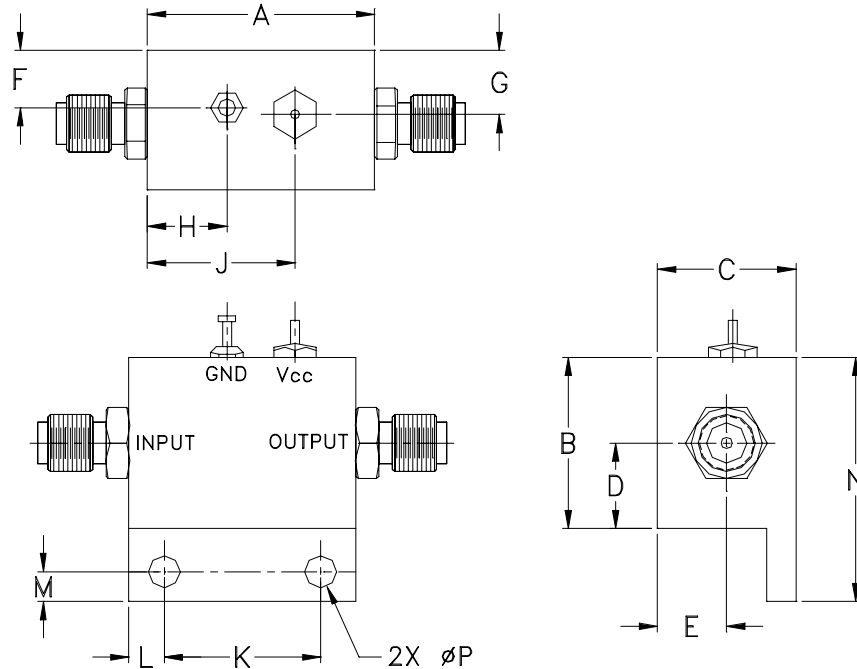
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Typical Performance Curves



Outline Dimensions



CASE#	A	B	C	D	E	F	G	H	J	K	L	M	N
BW459	1.00 (25.40)	.75 (19.05)	.61 (15.49)	.38 (9.65)	.29 (7.37)	.25 (6.35)	.26 (6.60)	.35 (8.89)	.65 (16.51)	.688 (17.48)	.156 (3.96)	.13 (3.30)	1.07 (27.18)

CASE#	P	WT. GRAMS
BW459	.140 (3.56)	25

Dimensions are in inches (mm). Tolerances: 2 Pl. $\pm .03$; 3 Pl. $\pm .015$

Notes:

1. Case material: Aluminum alloy.
2. Case finish:

For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-40° to 75°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Stabilization Bake	(non-operating) 125°C, 24 hours	- - -
Burn-in at Elevated Temp.	(DC on) 160 hours at 85° C	MIL-STD-202, Method 108
Thermal Shock	-55° to 100°C, 5 cycles	MIL-STD-202, Method 107, Condition A, except 100°C