

Super Ultra Wideband Amplifier

ZVA-213+

50Ω

800 MHz to 21 GHz

Features

- super ultra-wideband, 800 MHz to 21 GHz
- high output IP3, +33 dBm typ.
- rugged, compact case (including heat sink)
- unconditionally stable
- good matching at input and output
- hermetic package
- withstands open/short load at 1dB compression point output power
- very good isolation, 75 dB typ.

Applications

- radar
- very wideband test instrumentation
- lab use
- wideband isolator, directivity 50 dB typ.



ZVA-213X+



ZVA-213+

CASE STYLE: AV1280

Connectors	Model	Price	Qty.
SMA	ZVA-213-S+	\$995.00	(1-9)
SMA	ZVA-213X-S+	\$945.00	(1-9)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

Electrical Specifications $T_{AMB}=25^{\circ}\text{C}$

MODEL NO.	FREQUENCY (GHz)		GAIN (dB)			MAXIMUM POWER (dBm)		DYNAMIC RANGE			VSWR (:1) Typ.		DC POWER	
	f_L	f_U	Typ.	Min.	Flatness Typ.	Output (1 dB Compr.) Typ.	CW Input (no damage)	NF (dB) Typ.	Max.	Output IP3 (dBm) Typ.	In	Out	Volt (V) Nom.	Current (mA) Max.
ZVA-213+	0.8	21	26	20	± 1.0	+24	+4	3.0	5.5	+33	1.35	1.25	12	400
ZVA-213X+	0.8	21	26	20	± 1.0	+24	+4	3.0	5.5	+33	1.35	1.25	12	400

*Heat sink not included

To order without heat sink add suffix X to model number. Alternative heat sinking and heat removal must be provided by the user to limit maximum base-plate temperature to 85°C, in order to ensure proper performance. For reference, this requires thermal resistance of user's external heat sink to be 4°C/W Max.

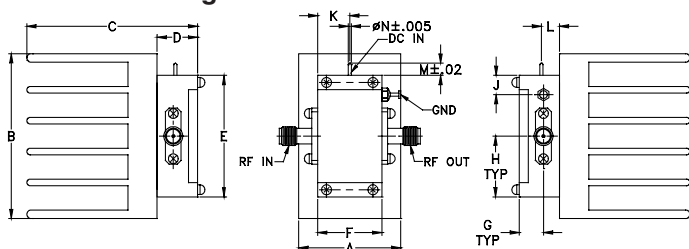
Maximum Ratings

Operating Temperature -55°C to 85°C base plate temp.

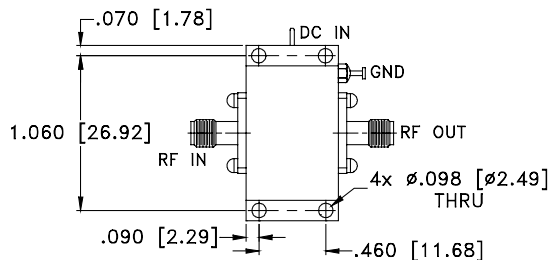
Storage Temperature -65°C to 150°C

DC Voltage +15V Max.

Outline Drawing



MOUNTING INFORMATION FOR MODELS WITHOUT HEATSINK



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	wt
1.01	1.63	1.69	.40	1.20	.64	.24	.60	.19	.32	.22	.12	.03	grams*
25.65	41.40	42.93	10.16	30.48	16.26	6.10	15.24	4.83	8.13	5.59	3.05	0.76	58

*17 grams without heatsink

Mini-Circuits®
ISO 9001 ISO 14001 AS 9100 CERTIFIED

minicircuits.com

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

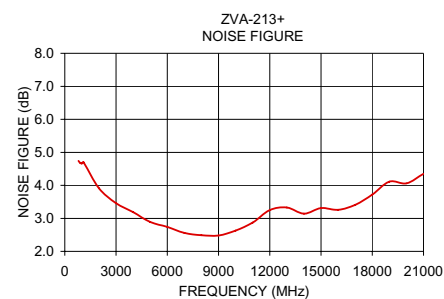
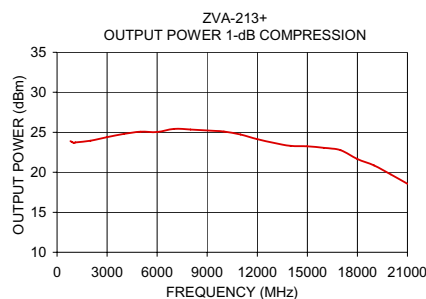
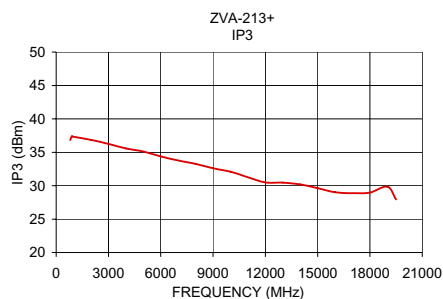
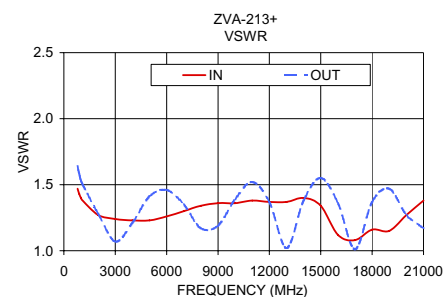
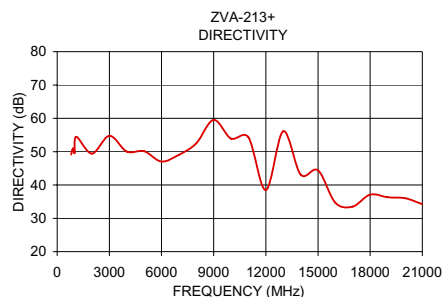
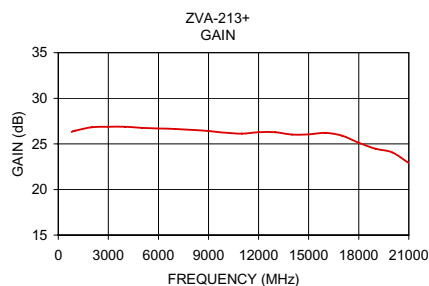
IF/RF MICROWAVE COMPONENTS

REV. A
M113142
ZVA-213+
ED-13014
BC/CP/AM
081218
Page 1 of 2

Typical Performance Data/Curves

ZVA-213+

FREQUENCY (MHz)	GAIN (dB)	DIRECTIVITY (dB)	VSWR (:1)		NOISE FIGURE (dB)	POUT at 1 dB COMPR. (dBm)	FREQUENCY (MHz)	IP3 (dBm)
	12V	12V	IN	OUT	12V	12V		12V
800.00	26.32	49.16	1.47	1.64	4.74	23.89	800.00	36.82
900.00	26.40	50.96	1.43	1.58	4.68	23.80	900.00	37.38
1000.00	26.45	49.60	1.40	1.53	4.66	23.67	1000.00	37.33
1100.00	26.49	54.43	1.38	1.50	4.7	23.73	2000.00	36.86
2000.00	26.83	49.44	1.27	1.28	3.91	23.95	3000.00	36.24
3000.00	26.88	54.76	1.24	1.07	3.46	24.39	4000.00	35.58
4000.00	26.87	50.02	1.23	1.21	3.19	24.80	5000.00	35.1
5000.00	26.75	50.10	1.23	1.41	2.89	25.08	6000.00	34.38
6000.00	26.68	47.03	1.26	1.46	2.74	25.04	7000.00	33.78
7000.00	26.64	49.03	1.30	1.35	2.56	25.43	8000.00	33.26
8000.00	26.53	52.49	1.34	1.17	2.49	25.34	9000.00	32.62
9000.00	26.42	59.55	1.36	1.19	2.48	25.23	10000.00	32.09
10000.00	26.23	53.89	1.36	1.39	2.63	25.09	11000.00	31.27
11000.00	26.12	54.33	1.38	1.52	2.87	24.73	12000.00	30.49
12000.00	26.28	38.47	1.37	1.37	3.25	24.14	13000.00	30.47
13000.00	26.27	56.13	1.37	1.02	3.33	23.68	14000.00	30.19
14000.00	26.03	43.11	1.40	1.38	3.14	23.31	15000.00	29.63
15000.00	26.04	44.40	1.34	1.55	3.31	23.24	16000.00	29.01
16000.00	26.21	34.69	1.12	1.36	3.26	23.06	17000.00	28.88
17000.00	25.90	33.52	1.08	1.01	3.41	22.76	18000.00	28.98
18000.00	25.12	37.12	1.16	1.37	3.72	21.65	19000.00	29.87
19000.00	24.47	36.33	1.15	1.47	4.11	20.85	19500.00	27.95
20000.00	24.06	36.02	1.27	1.27	4.06	19.74		
21000.00	22.91	34.26	1.38	1.17	4.35	18.57		



Mini-Circuits®
ISO 9001 ISO 14001 AS 9100 CERTIFIED

minicircuits.com

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

IF/RF MICROWAVE COMPONENTS