

Super Ultra Wideband Amplifier

ZVA-183W+

50Ω 0.1 to 18 GHz

Features

- Wideband, 0.1 to 18 GHz
- High IP3, 36 dBm typ.
- High power output, +26 dBm
- High flat gain, 27±2 dB typ.

Applications

- Radar and military
- Test instrumentation
- Satellite repeaters
- Communication



| | | |
|--------------|---------------------|---------------------|
| Model No. | ZVA-183W+ | ▲ ZVA-183WX+ |
| Case Style | CP1755 | |
| Connectors | SMA | |
| Price (Qty.) | \$1395.00 ea. (1-9) | \$1345.00 ea. (1-9) |

+RoHS Compliant

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

Product Description

ZVA-183W+ is a Class-A, four stage, unconditionally stable amplifier. It features a ruggedized case, available with and without a heat sink/fan, and has the capability to withstand accidental open or short at output and is protected against reverse bias protection for added reliability under difficult conditions.

Electrical Specifications at 25°C

| Parameter | Condition (MHz) | ZVA-183W+ ▲ ZVA-183WX+ | | | Units |
|------------------------------------|-----------------|---------------------------|------|-------|-------|
| | | Min. | Typ. | Max. | |
| Frequency Range | | 100 | — | 18000 | MHz |
| Gain | 100 - 6000 | 25 | 29 | 34 | dB |
| | 6000 - 18000 | 24 | 27 | 33 | |
| Gain Flatness | 100 - 6000 | — | ±2 | ±2.5 | dB |
| | 6000 - 18000 | — | ±1.0 | ±1.8 | |
| Output Power at 1dB compression | 100 - 6000 | 24.5 | 27 | — | dBm |
| | 6000 - 18000 | 24.5 | 26 | — | |
| Noise Figure | 500 - 18000 | — | 3 | 6 | dB |
| Output third order intercept point | 100 - 6000 | — | +36 | — | dBm |
| | 6000 - 18000 | — | +33 | — | |
| Input VSWR | 100 - 18000 | — | 1.3 | 2.0 | :1 |
| Output VSWR | 100 - 18000 | — | 1.6 | 2.2 | :1 |
| DC Supply Voltage | | 14 | 15* | 15.5 | V |
| Supply Current† | | — | 625 | 700 | mA |

† Power Supply should be capable of delivering 1A at start-up.

* Recommended Operating Voltage.

▲ Heat sink not included. 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 1.79°C/W max.

Maximum Ratings

| Parameter | Ratings |
|----------------------------|----------------|
| Operating Temperature | -55°C to 60°C |
| Storage Temperature | -65°C to 150°C |
| Base Plate Temperature | 85°C |
| DC Voltage | 15.5V |
| Input RF Power (no damage) | +20 dBm |

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



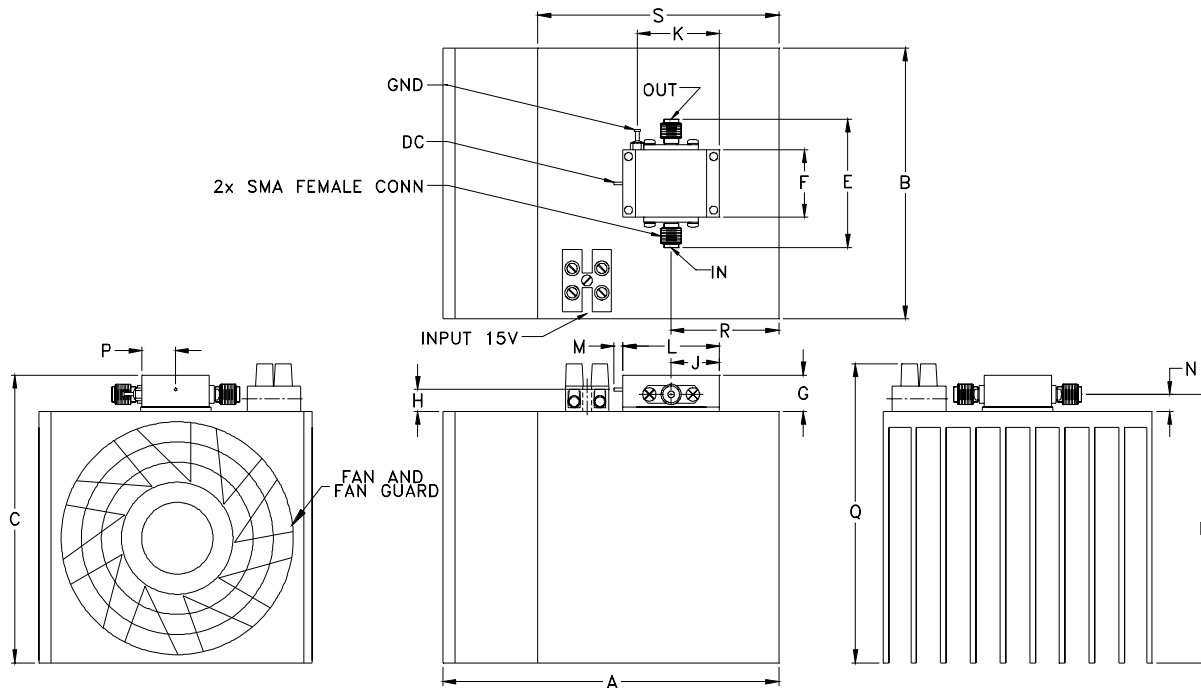
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IFIRF MICROWAVE COMPONENTS

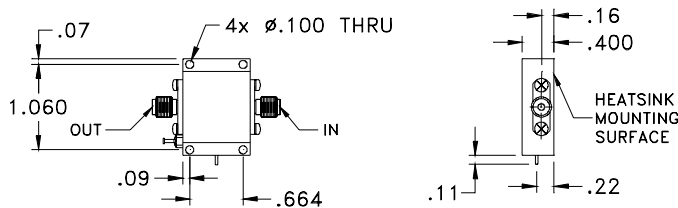
For detailed performance specs & shopping online see web site

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet 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 for models with heatsink



Outline Drawing for models without heatsink

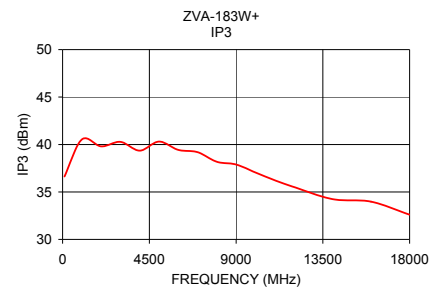
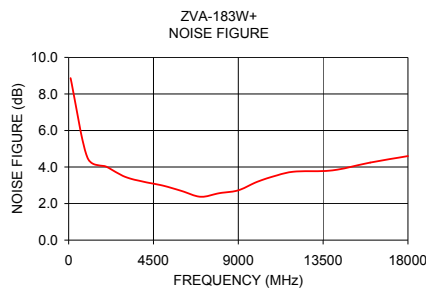
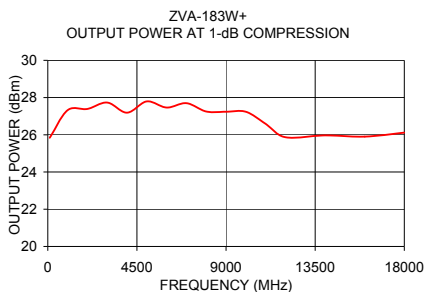
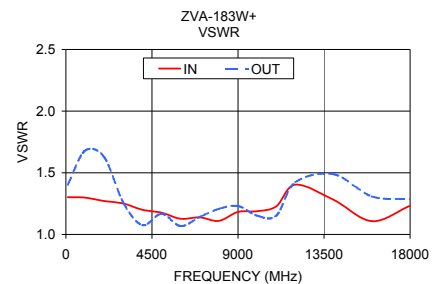
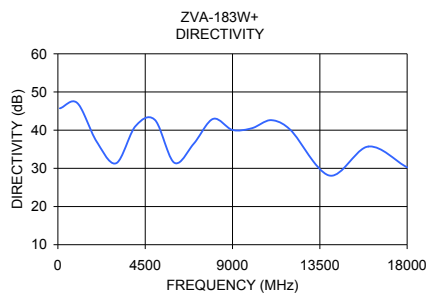
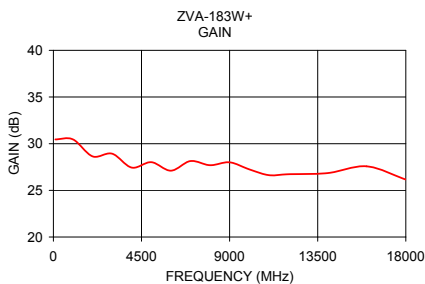


HEAT SPREADER PLATE AND MOUNTING HARDWARE INCLUDED WITH MODELS WITHOUT HEATSINK

Outline Dimensions (inch/mm)

| A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | R | S | wt |
|------------------------------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|------|------|-------|-------|-------|-------|--------|
| 4.18 | 3.36 | 3.57 | 3.33 | 1.59 | .840 | .45 | 0.27 | .600 | 1.02 | 1.200 | .11 | .21 | .420 | 3.71 | 1.34 | 3.00 | grams* |
| 106.17 | 85.34 | 90.68 | 84.58 | 40.39 | 21.34 | 11.43 | 6.86 | 15.24 | 25.91 | 30.48 | 2.79 | 5.33 | 10.67 | 94.23 | 34.04 | 76.20 | 480 |
| *18.2 grams without heatsink | | | | | | | | | | | | | | | | | |

| FREQUENCY (MHz) | GAIN (dB) | DIRECTIVITY (dB) | VSWR (:1) | | POUT at 1 dB COMPR. (dBm) | NOISE FIGURE (dB) | IP3 (dBm) |
|-----------------|-----------|------------------|-----------|------|---------------------------|-------------------|-----------|
| | 15V | 15V | IN | OUT | 15V | 15V | 15V |
| 100.00 | 30.46 | 45.70 | 1.30 | 1.40 | 25.84 | 8.87 | 36.63 |
| 1000.00 | 30.45 | 47.11 | 1.30 | 1.68 | 27.32 | 4.51 | 40.53 |
| 2000.00 | 28.64 | 37.01 | 1.27 | 1.63 | 27.39 | 4.02 | 39.80 |
| 3000.00 | 28.93 | 31.34 | 1.25 | 1.26 | 27.73 | 3.46 | 40.28 |
| 4000.00 | 27.44 | 41.05 | 1.20 | 1.08 | 27.19 | 3.19 | 39.35 |
| 5000.00 | 28.01 | 42.69 | 1.18 | 1.17 | 27.79 | 2.98 | 40.31 |
| 6000.00 | 27.10 | 31.48 | 1.13 | 1.07 | 27.46 | 2.69 | 39.44 |
| 7000.00 | 28.14 | 36.44 | 1.14 | 1.14 | 27.70 | 2.37 | 39.20 |
| 8000.00 | 27.69 | 42.96 | 1.11 | 1.21 | 27.25 | 2.57 | 38.18 |
| 9000.00 | 28.01 | 40.06 | 1.18 | 1.23 | 27.24 | 2.73 | 37.89 |
| 10000.00 | 27.25 | 40.50 | 1.19 | 1.15 | 27.24 | 3.19 | 37.06 |
| 11000.00 | 26.63 | 42.63 | 1.23 | 1.15 | 26.59 | 3.53 | 36.23 |
| 12000.00 | 26.73 | 40.00 | 1.40 | 1.42 | 25.87 | 3.75 | 35.52 |
| 14000.00 | 26.85 | 28.10 | 1.28 | 1.49 | 25.97 | 3.82 | 34.24 |
| 16000.00 | 27.57 | 35.72 | 1.11 | 1.31 | 25.90 | 4.25 | 33.98 |
| 18000.00 | 26.16 | 30.26 | 1.23 | 1.29 | 26.12 | 4.60 | 32.60 |



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