

# Surface Mount **New Product Announcement!**

## Dual Matched MMIC Amplifier

PHA-11+

50Ω .05 to 3 GHz

### The Big Deal

- Dual matched amplifier for push-pull & balanced amplifiers
- High IP2 and IP3
- May be used as a replacement to WJ AH11a,b

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CASE STYLE: DL1020

**Pricing: \$7.95 (QTY 20)**

### Product Overview

Mini-Circuits PHA-11+ is a dual matched wideband amplifier fabricated using advanced E-PHEMT technology, offering high dynamic range (High IP3 and Low NF) for use in 50 and 75 ohm applications. Exceptionally high IP2 has been demonstrated in wideband 50 and 75 ohm amplifiers evaluation boards. Combining this with low noise figure to enable it for use in exceptionally high dynamic range amplifiers.

### Key Features

| Feature                                                           | Advantages                                                                                                                        |
|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Broadband                                                         | Covers Cable TV band and communication bands such as Cellular, Cable TV, PCS, WiMAX etc.                                          |
| Matched pair for use in exceptionally high IP3 and IP2 amplifiers | Typical gain match of 0.2 dB and phase match of 1.6 deg. enables it to be used in push-pull amplifiers. Outstanding IP2.          |
| High IP3, up to 43 dBm                                            | Ideal for suppressing unwanted intermods in the presence of multi carriers, which is common in present day communication systems. |
| Low Noise Figure: 1.8 dB typical                                  | Compare this to competitors, which in the range of 4-6 dB. Mini-Circuits amplifier improves the dynamic range.                    |
| High P1dB: 22 dBm                                                 | High P1dB enables the amplifier to operate in linear region in the presence of strong interfering signals.                        |

a. Suitability for model replacement within a particular system must be determined by and is solely the responsibility of the customer based on, among other things, electrical performance criteria, stimulus conditions, application, compatibility with other components and environmental conditions and stresses.

b. The WJ part number is used for identification and comparison purposes only.



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IF/RF 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](http://www.minicircuits.com/MCLStore/terms.jsp). Page 1