

The ERF-UBBPA-0001 is a solid-state, Class AB ultra-broadband power amplifier module based on advanced GaN HEMT technology. The ERF-UBBPA-0001 is ideal for pulsed or CW applications, offering exceptional performance in a small and lightweight form factor.

### PRODUCT FEATURES

- Small Form Factor (75 x 60 x 15 mm)
- Exceptional Bandwidth, Output Power and Efficiency
- High Reliability and Ruggedness

### TYPICAL APPLICATIONS

The ERF-UBBPA-0001 is ideal for:

- EW, ECM and Radar
- Airborne, Aircraft and UAV Equipment
- Test and Measurement Equipment
- Driver Amplifier

### ELECTRICAL CHARACTERISTICS TC = +25 °C, 28 VDC, 50 Ω System (unless otherwise noted)

| PARAMETER  | MIN  | TYP  | MAX  | UNITS |
|--|------|------|------|-------|
| Operating Frequency Range                              | 20   |      | 6000 | MHz   |
| Rated Output Power CW (ROP)                            |      | 34   |      | dBm   |
| Saturated Output Power (Psat)                          | 34   | 35.5 |      | dBm   |
| Power-Added Efficiency @ ROP (PAE)                     | 13.5 | 16.5 |      | %     |
| Input Return Loss                                      | 10   | 15   |      | dB    |
| Output Return Loss                                     | 10   |      |      | dB    |
| Gain @ ROP   | 29   |      |      | dB    |
| Gain Flatness vs Frequency @ ROP                       | -2   |      | 2    | dB    |
| Noise Figure (NF)                                      |      |      | 10   | dB    |
| Output Third-Order Intercept Point (OIP <sub>3</sub> ) | 39   |      |      | dBm   |
| Harmonic Emissions @ Psat                              |      |      | -10  | dBc   |
| Non-Harmonic Spurious Emissions                        |      | -65  | -60  | dBc   |
| DC Supply Voltage                                      |      | 28.0 |      | V     |
| Current Consumption @ Psat                             | 300  | 550  | 680  | mA    |

### MECHANICAL CHARACTERISTICS

| PARAMETER              | VALUE   | UNITS |
|------------------------|---|-------|
| Dimensions [1]         | 75 x 60 x 15                                  | mm    |
| Mass                   | 175   | g     |
| RF In / Out Connectors | SMA Female                                    | -     |
| DC In / Ground         | Capacitor Feedthrough Pin                     | -     |
| Cooling Method         | External Heatsink to Baseplate (Not Supplied) | -     |

[1] Excludes connectors.

### ENVIRONMENTAL CHARACTERISTICS

| PARAMETER                     | MIN | TYP  | MAX | UNITS |
|-------------------------------|-----|------|-----|-------|
| Case or Baseplate Temperature | -40 |      | +85 | °C    |
| Ingress Protection            |     | IP51 |     | -     |

### ABSOLUTE MAXIMUM RATINGS (Not simultaneous)

|   |                              |
|---|------------------------------|
| RF Input Power                                | +15 dBm                      |
| RF Output Mismatch                            | VSWR 5:1 at all phase angles |
| Case or Baseplate Temperature (Operating)     | -40 °C to +85 °C             |
| Case or Baseplate Temperature (Non-Operating) | -40 °C to +100 °C            |
| DC Supply Voltage (DC IN+ to GND)             | 24V to 32V                   |
| ESD Sensitivity                               | HBM Class 1A                 |

Exceeding maximum ratings may cause permanent damage. Operation between operating range maximum and absolute maximum for extended periods may reduce device reliability. Absolute maximum ratings are stress figures only and functional operation under these conditions is not implied.

### ESD PRECAUTIONS

Although this product contains circuitry to protect it from damage due to ESD, when handling this product observe the same precautions as with any other ESD-sensitive device.



### RoHS COMPLIANCE

RoHS compliant parts and processes are used in the manufacture of this product.



### QUALITY

This product is designed and manufactured in the United Kingdom in accordance with the ISO 9001:2008 Quality Management System.

### ECCN

The highest ECCN grading of any component used in the product is US Department of Commerce EAR99 (ITAR-free).

### ORDERING INFORMATION

| MODEL NAME     | PART NUMBER    | FINISH         |
|----------------|----------------|----------------|
| ERF-UBBPA-0001 | 10-000-0024-01 | Iridite TM NCP |

### REVISION HISTORY

| REVISION | DATE | CHANGE DESCRIPTION | ECN |
|----------|------|--------------------|-----|
| A        | -    | -                  | -   |