

**TYPICAL APPLICATIONS**

The ERF-UBBPA-0001 is ideal for:

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

**PRODUCT FEATURES**

Small Form Factor (75 x 60 x 15 mm)

Exceptional Bandwidth, Output Power and Efficiency

High Reliability and Ruggedness

**GENERAL DESCRIPTION**

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.

**ELECTRICAL CHARACTERISTICS**  $T_c = +25\text{ }^\circ\text{C}$ , 28 VDC, 50  $\Omega$  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 ( $P_{SAT}$ )	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 ( $OIP_3$ )	39			dBm
Harmonic Emissions @ $P_{SAT}$			-10	dBc
Non-Harmonic Spurious Emissions		-65	-60	dBc
DC Supply Voltage		28.0		V
Current Consumption @ $P_{SAT}$	300	550	680	mA

**MECHANICAL CHARACTERISTICS**

PARAMETER	VALUE	UNITS
Dimensions <sup>[1]</sup>	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	$^\circ\text{C}$
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.



### ECCN

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

### QUALITY

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



ORDERING INFORMATION

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

REVISION HISTORY

REVISION	DATE	CHANGE DESCRIPTION	ECN
A			