



## TECHNICAL BULLETIN

**BROADBAND HI POWER RF AMPLIFIER**

**E12440-01-05**

**Rev.C**

Designed for Wide-band High Power application in the V-UHF range. This high reliability amplifier utilizes class AB Silicon RF Power LDMOSFET devices that provide high broadband gain, wide dynamic range and good amplitude modulation characteristics. The amplifier includes an internal circuit that provides the external Voltage Control of Gain for AM modulation or external ALC features (V AGC pin). Also included automatic protection circuits for overtemperature and load mismatch at the output port. The amplifier provides auxiliary signals for output power monitoring (FWD and REV pins), VSWR failure alarm (FAILURE pin), reset from failure (RESET pin), high temperature condition (OVER TEMP pin) and shutdown (BIAS pin). High efficiency, reliable operation and flat gain are being achieved by employing unique broadband RF networks.

### Absolute Maximum Ratings

Parameter	Rating	Units
Supply Voltage	30	Vdc
Operating Temperature	-40 to +75	°C
Storage Temperature	-54 to +125	°C

### Electrical Characteristics @ T = 25 °C & VDD = 28.0 Vdc

Parameter	Values		Units
Frequency Range	30 - 500	min	MHz
Output Power @ 1 dB comp.	35 @ 30-50 MHz	min	W
Output Power @ 1 dB comp.	50 @ 50-500 MHz	min	W
Output Power @ saturation	90	typ	W
Small Signal Gain	43	typ	dB
Gain Flatness	+/- 2.5	max	dB
Noise Figure	12	max	dB
2 <sup>nd</sup> Harmonic @ 30W	- 20	max	dBc
3 <sup>rd</sup> Harmonic @ 30W	- 13	max	dBc
V AGC Input @ 5 mA	0 – 10		V
Gain Control Dynamic Range	50	min	dB
Input VSWR	3 : 1	max	
FWD and REV Detection Flatness	+/- 0.5	max	dB
FWD and REV Detection V <sub>OUT</sub>	see graph		
Current consumption @ P <sub>out</sub> =30W	7	max	A

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