

HSF1 FSK High Power Amplifier

High Powered Analog FM Amplifier!



Design Features

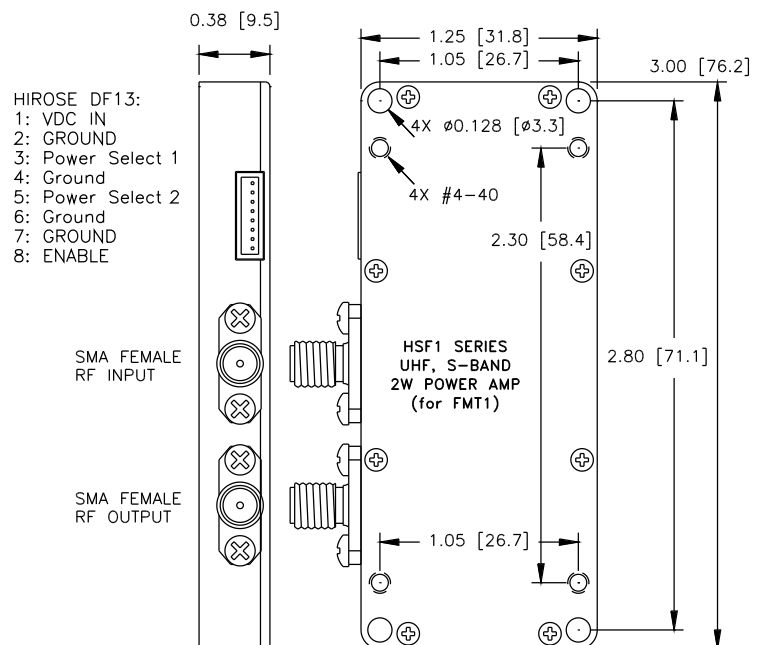
- 1.4 Cubic Inch Package (1.25"x3.00"x0.375")
- Weighs < 1.5 oz.
- Up to 2 Watts RF Output Power
- Up to 4 Selectable Power Modes
- Full Band Power Leveling
- Compatible with AMP FMT1 Transmitters
- Dedicated PA Enable Pin
- Temperature Fold-Back
- J-STD-001D Class 3 Assembly (Medical/Aerospace)

HSF1 Series

AMP's HSF1 Series 1.4 cubic inch High Power Amplifiers (HPAs) are designed to be mated with AMP's FMT1 FSK transmitters.

The HSF1 module provides up to 4 selectable output power levels including 250mW, 500mW, 1W, and 2W levels. Input and output RF power detection is used in conjunction with AMP's proprietary output power leveling circuitry and tuning algorithm to provide constant output power at all output power levels across the frequency band.

With military telemetry heritage, HSF1 HPAs are designed to withstand harsh environments and are ideal for law enforcement, surveillance, UAV, UGV, Military, and other applications requiring efficient, high quality video/audio/data transmission in a compact, rugged package.



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RF Characteristics

Frequency Range (Specify):	433 ISM:	433.0-434.8 MHz
(Other Ranges Available)	868 ISM:	868.0-870.0 MHz
	915 ISM:	902.0-928.0 MHz
	Upper S-Band:	2400-2499 MHz
Output Power (Specify):	250 mW, 500 mW, 1 Watt, or 2 Watts, Nominal	
Output Power, PA Disabled:	<+10 dBm	
Input Power (Specify):	20mW (+13 dBm) +2/-1 dB or 250mW (+24 dBm) +2/-1 dB	
Power Modes (Specify):	One (Fixed), Two (Specify), Three (Specify), or Four (Specify), Flying Lead, Open (10 kΩ pull up to 3.3 Vdc) = High, Ground (or <0.6 Vdc) = Low, see chart below for configuration	
Power Leveling:	Within ±0.5 dB Over Frequency Band, Nominal	
Output Impedance:	50 Ω Nominal, VSWR 2:1 Maximum	
Output Protection:	Internal Isolator (Most Bands) - Open/Short Indefinitely	
Spurious Output:	-13 dBm Maximum	

Power Requirements

Input Voltage:	+11 to +16 Vdc, Reverse Polarity Protected
Current Draw (12V Typical):	175mA for 250mW, 275mA for 500mW, 375mA for 1W, or 625mA for 2W
PA Enable Control:	Open = On, Ground (or <1.5 Vdc) = Off

Mechanical

Material:	CNC Machined T6061-T6 Aluminum	
Finish (Specify):	Nickel Plated or Gold Iridite	
Dimensions:	1.25" W x 3.00" L x 0.375" H	
Weight:	<1.5 oz.	
Connectors:	RF Input:	SMA Female
	RF Output:	SMA Female
	DC Supply, Power Select, PA Enable:	Hirose DF13-8P-1.25DS, Mate Supplied

Environmental

Temperature (Operating):	-20°C to +60°C
Acceleration:	100 g, 3 Axis
Altitude:	Unlimited
Humidity:	Up to 95% @ Any Temperature Forming Frost or Condensation

Output Power Configuration		
Power Select 1	Power Select 2	Output Power
Ground	Ground	250 mW
Ground	Open	500 mW
Open	Ground	1 Watt
Open	Open	2 Watts

* The HSF1 power amplifier does not require any configuring unless it includes optional multiple RF power output levels. If the HSF1 power amplifier is commanded to a power level with which the unit is not equipped, the unit will default to standby (disabled) until a valid power level command is applied.