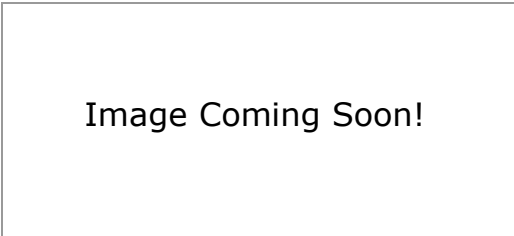




HD30579
400-1000MHz 50W
Class AB RF Amplifier
Preliminary

- ❖ **Class AB 50W amplifier**
- ❖ **400-1000MHz bandwidth**
- ❖ **52dB typical gain**
- ❖ **+/- 1.0dB typical gain flatness**
- ❖ **Temperature-compensated bias**
- ❖ **50 ohms input/output**
- ❖ **Available with SMA connectors, heatsink and fan, or enclosed with DC supply (uses RFM version)**



The HD30579 is a Class AB RF amplifier pallet, excellent as a driver or medium power output amplifier in jamming systems. Its high gain and small footprint also make it versatile for use in communications systems, or as a commercial or industrial broadband RF amplifier. It utilizes latest generation LDMOS transistors for excellent reliability and high efficiency.

Specifications				
$V_{sup} = +28VDC, I_{DQ} = 0.60A, P_{out} = 50W, T_{base} = 25^{\circ}C$				
Parameter	Min	Typ	Max	Units
Freq. Range	400		1000	MHz
P_{1dB}	50	See Figure 2		W
Input Power		-5	-2	dBm
Gain	49	52		dB
Gain Flatness		+/-1.0	+/-1.5	dB
Drain Current		3.8	4.5	A
Efficiency	40	47		%
IRL		-20	-14	dB
f_2		-35	-24	dBc
f_3		-40	-20	dBc
IMD_3 50W PEP, $\Delta f=10kHz$		-31	-26	dBc
Dimensions	4.80 X 1.85 X 1.20 (121.92 X 46.99 X 30.48)			inch (mm)

Maximum Ratings	
Operation beyond these ratings will void warranty.	
Parameter	Value
V_{sup}	24-28VDC
Bias Current ¹	1.0A
Drain Current	5.0A
Load Mismatch ²	3:1
Baseplate Temp.	65°C
Storage Temp.	-40°C to 85°C

¹ Consult factory for biasing options and special operating conditions.

² All phase angles, 50W forward power, current limited to 5.0A for 3 seconds max.

Option Ordering Info

SMA connectors	HD30579-SMA
Heatsink and fan	HD30579-HSF
Enclosure with DC supply and fan	HD30579

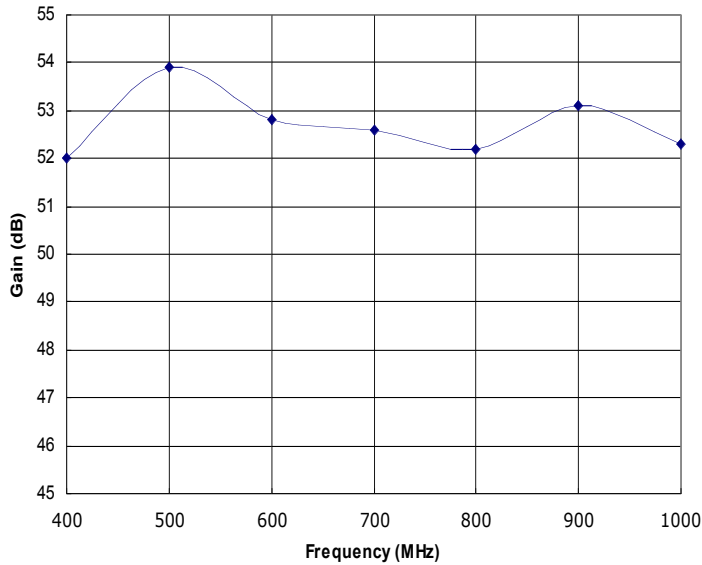


Figure 1: RFP400-1000-50 Typical Gain vs. Frequency @ $P_{out} = 50W$

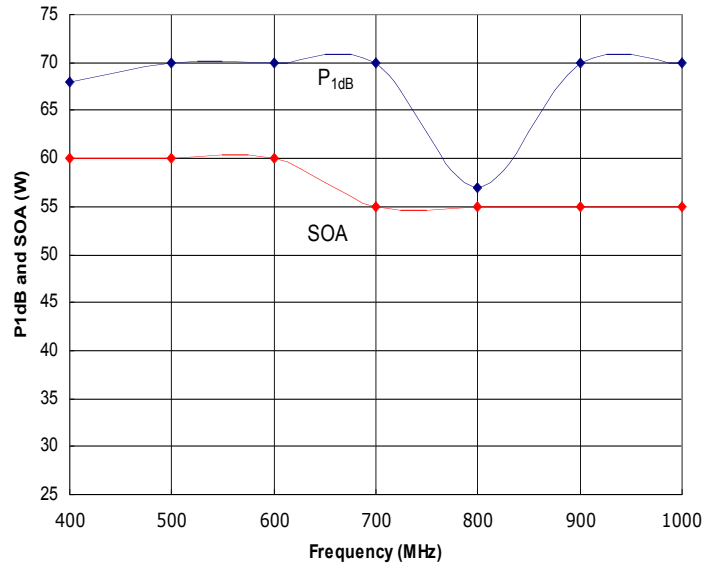


Figure 2: RFP400-1000-50 Typical P_{1dB} and CW Safe Operating Area (SOA)

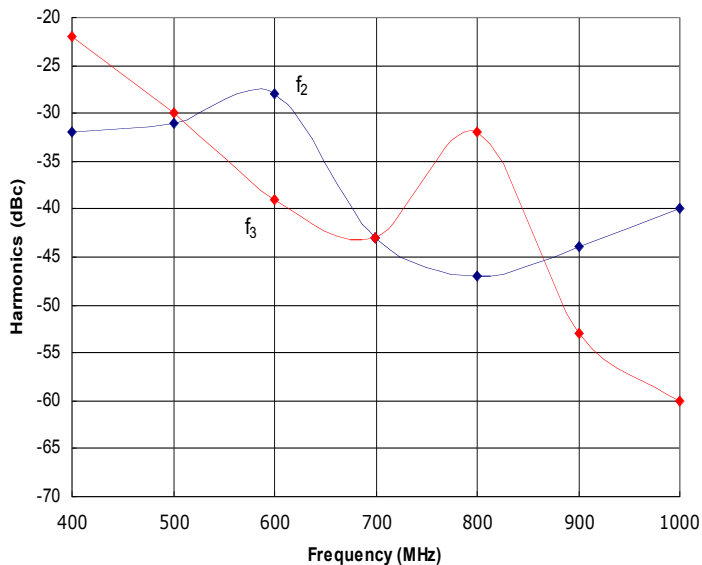


Figure 3: RFP400-1000-50 Typical f_2 and f_3 vs. Frequency @ $P_{out} = 50W$

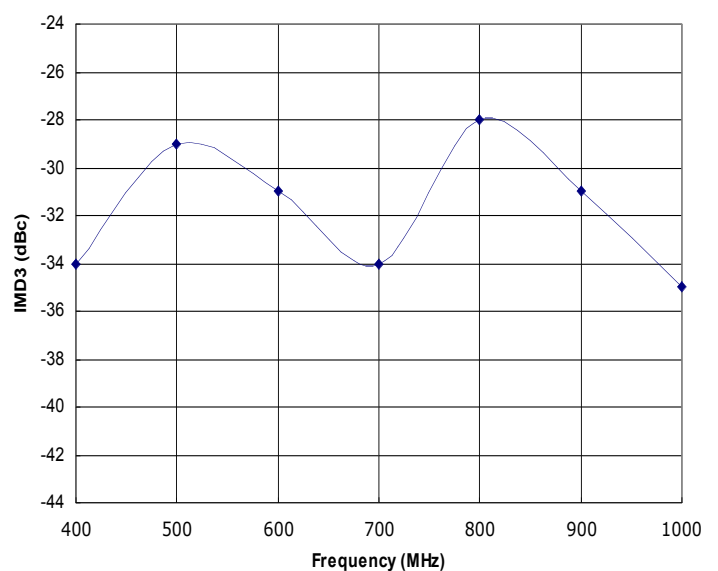
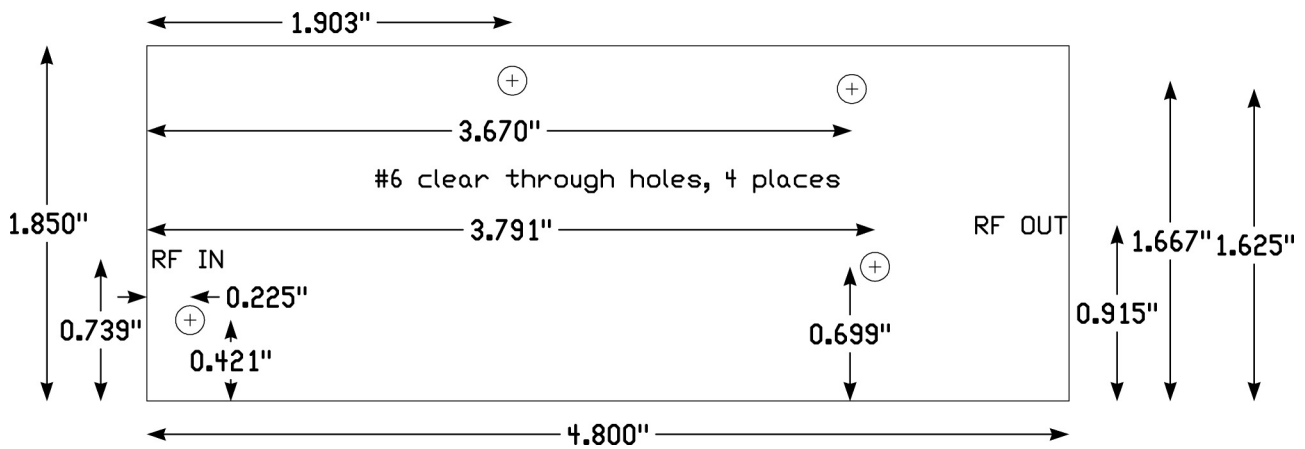


Figure 4: RFP400-1000-50 Typical IMD_3 , $\Delta f=10kHz$, @ $P_{out} = 50W$ PEP



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Amplifier Dimensions and Mounting Hole Locations





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Instructions for Amplifier Use

- 1) If not supplied with a heatsink, apply a layer of high quality thermal grease to the underside the amplifier baseplate. Thinner is better, but ensure that when mounted to the heatsink, contact across the entire baseplate is made. Gaps and air bubbles will significantly reduce cooling, leading to possible amplifier damage.
- 2) Guarantee sufficient airflow through the heatsink fins to keep the maximum baseplate temperature at or less than that specified in the Maximum Ratings section.
- 3) Connect proper source to RF IN pad/connector, and desired load to the RF OUT pad/connector. Torque connectors, if applicable, to industry standards for the type supplied with the amplifier.
- 4) Connect DC V_{sup} and Ground wires to the terminal and pad provided. Ensure that the connections are of proper polarity.
- 5) Apply DC power and sufficient RF drive to achieve desired output level. Ensure that the Safe Operating Area (SOA) power level indicated on Figure 2 is not exceeded, or amplifier damage may occur, and will void the warranty.
- 6) To disconnect the amplifier, first remove the RF drive, then DC power, then the RF connections.

This is a very versatile amplifier capable of pulsed or peak power beyond the CW SOA specified in Figure 2. Contact the factory at sales@rfcomp.com to discuss your application, or for any other questions, special options, frequency extensions and/or testing requirements.

Document Control

Revision	Date	Notes
Pre	3-19-2015	Preliminary release