

# RF AMPLIFIER

Available as: QBH-8708, 0.500" Sq. Package (080-10117-0001)

## MODEL QBH-8708

### Features

- Balanced Configuration
- High Dynamic Range
- 3rd Order OIP: +38 dBm @ +25 °C
- Low Noise Figure: 2.2 dB Typical

### Absolute Maximum (No Damage) Ratings

Ambient Operating Temperature ..... -40 °C to +85 °C  
 Storage Temperature ..... -55 °C to +125 °C  
 DC Voltage ..... +16 Volts  
 Continuous RF Input Power<sup>2</sup> ..... +17 dBm

### Specifications<sup>1</sup>

CHARACTERISTIC	TYPICAL T <sub>a</sub> = 25 °C	MIN/MAX T <sub>a</sub> = -40 °C to +70 °C
Frequency	800 - 960 MHz	800 - 960 MHz
Gain (dB)	12.8 ± 0.8	—
Gain vs. Temperature (dB)	—	+0.5 / -0.5 Max.
Gain Flatness (dB)	+0.5	+1.0 Max.
Reverse Isolation (dB)	18	13 Min.
VSWR In	1.3:1	1.5:1 Max.
VSWR Out	1.3:1	1.5:1 Max.
1 dB Compression (dBm)	+24	+23 Min.
Output Intercept point 3rd Order	+38	+37 Min.
Noise Figure (dB)	2.2	3.5 Max.
Power Vdc	+15	+15
Power mA	150	160 Max.

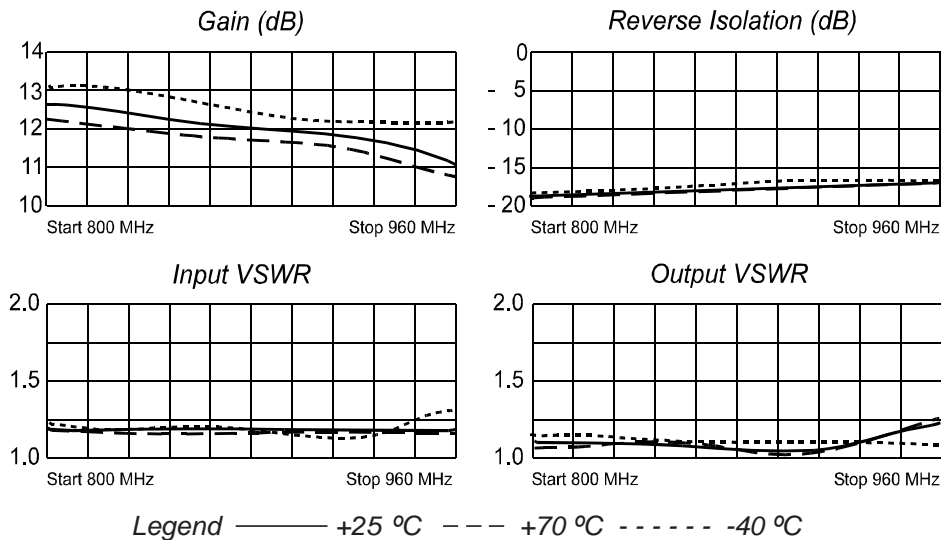
### Notes:

1. All specification ratings are based on measurements in a 50 Ohm system with a DC supply voltage tolerance of +1%.
2. RF output terminated into 50 ohms.



Revision 10/1/2013

### Typical Performance Data



### S-Parameters

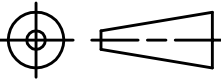
FREQ. MHz	-- S11 --		-- S21 --		-- S12 --		-- S22 --	
	dB	Ang	dB	Ang	dB	Ang	dB	Ang
800	-21.0	92.2	12.7	96.5	-19.6	92.8	-23.3	-20.8
840	-21.0	87.8	12.5	79.6	-19.1	78.3	-25.4	-31.8
880	-21.1	82.2	12.2	63.7	-18.6	64.5	-27.9	-28.2
900	-21.2	79.9	12.0	56.1	-18.3	57.7	-28.5	-12.0
920	-21.4	78.0	11.9	48.7	-18.0	50.7	-27.9	3.6
960	-20.9	119.0	11.0	38.0	-17.9	27.7	-18.7	-36.0

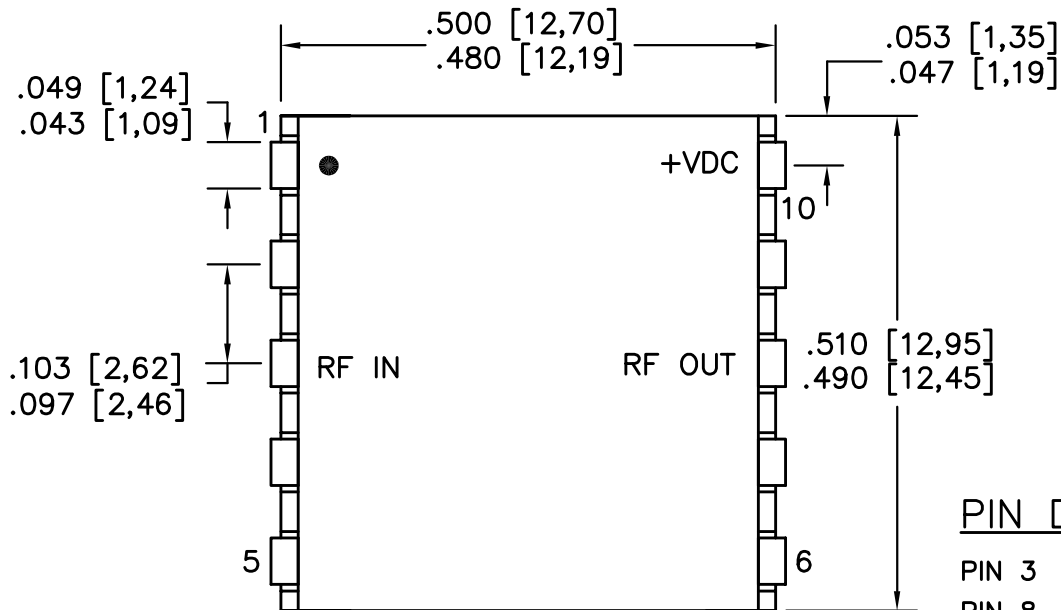


Spectrum Microwave · 2144 Franklin Drive N.E. · Palm Bay, Florida 32905 · PH (888) 553-7531 · Fax (888) 553-7532

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NOTES: UNLESS OTHERWISE SPECIFIED,

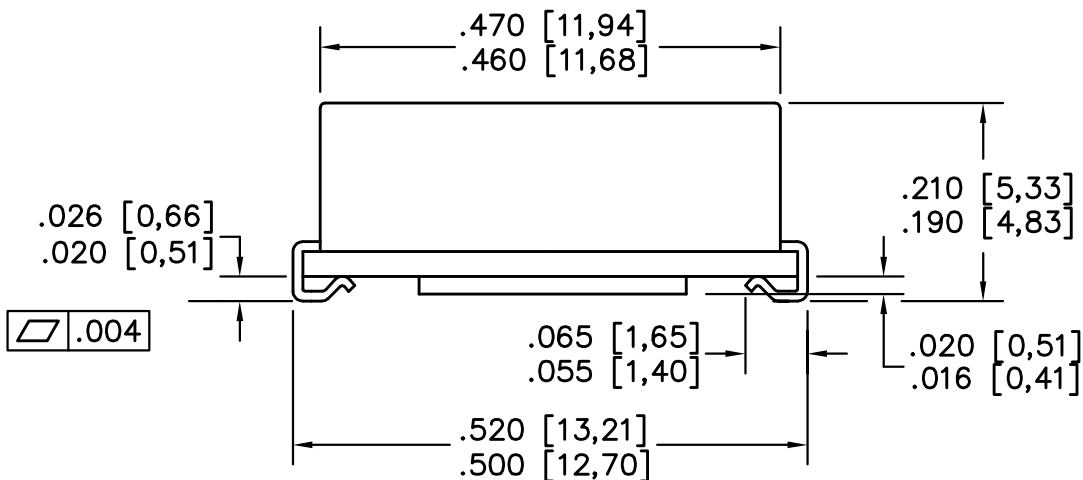
1. INTERPRET DWG PER ASME Y14.100.
2. INTERPRET THIRD ANGLE PROJECTION  (ISO-A).
3. DIMENSIONS ARE IN INCHES [MM].
4. INTERPRET DIMENSIONING SYMBOLS PER ASME Y14.5M.
5. DO NOT SCALE THIS DRAWING.
6. ALL PRINTED PATTERN TOLERANCES:  $\pm .001$ .
7. ALL DRILLED FEATURES:  $\pm .002$ .



TOP VIEW

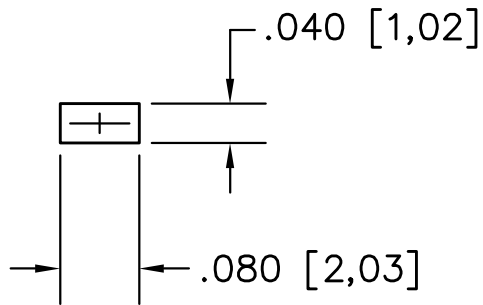
PIN DESIGNATIONS:

PIN 3 RF INPUT  
 PIN 8 RF OUTPUT  
 PIN 10 DC VOLTAGE  
 ALL OTHERS GROUND

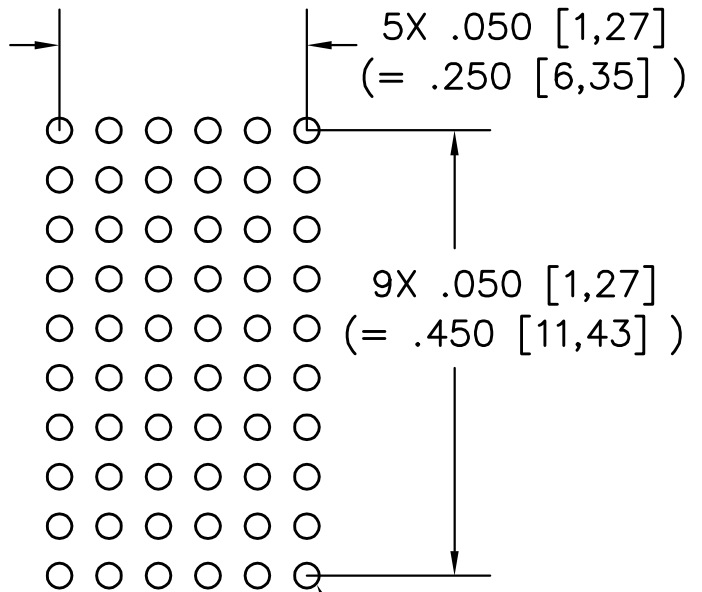


FRONT VIEW

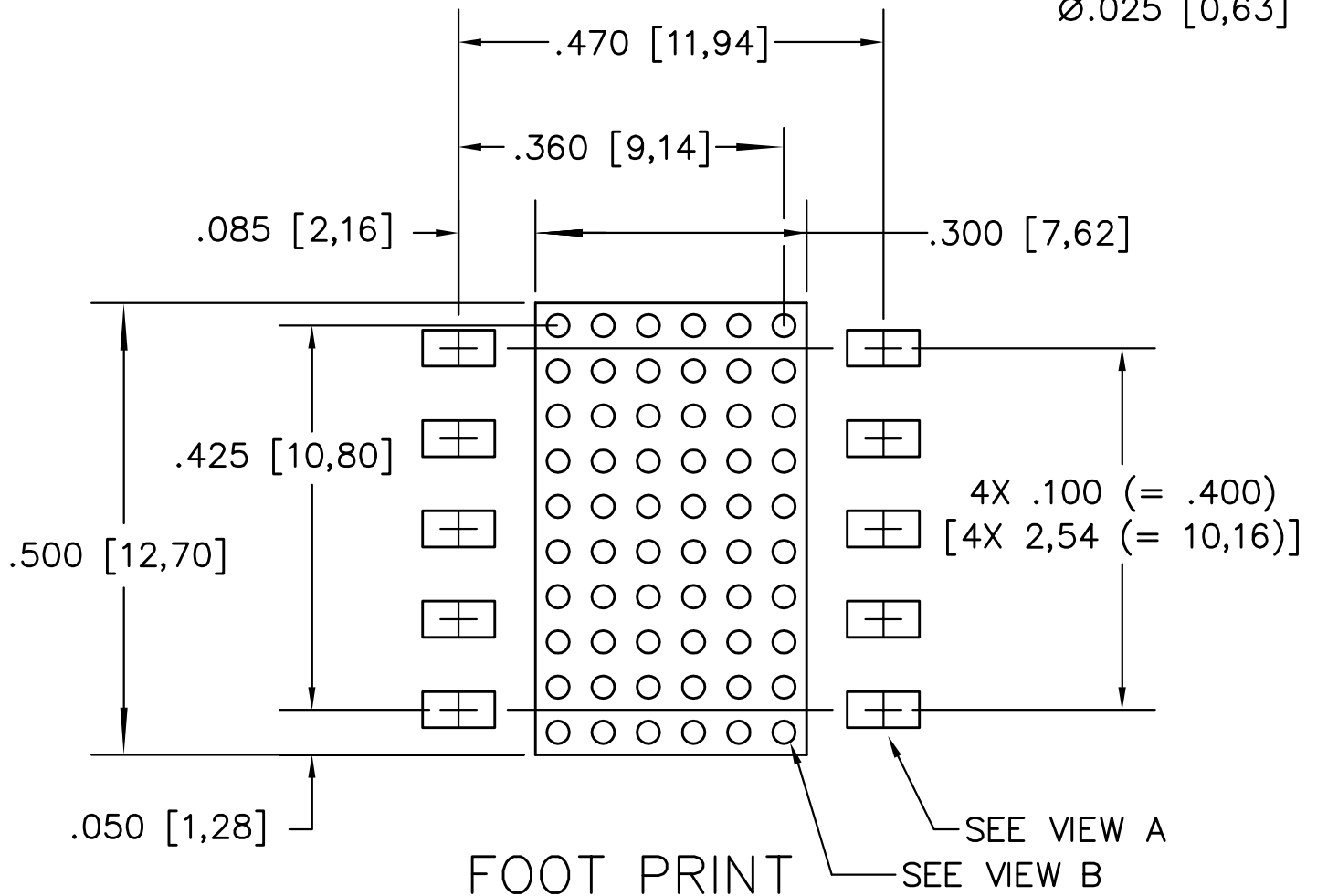
<b>SPECTRUM MICROWAVE, INC</b>	SIZE	CAGE CODE	DWG NO.
	A	55027	080-10117-0001
TITLE	SCALE:	REV	SHEET
OUTLINE DRAWING	5/1	F.2	2 OF 3



VIEW A  
10 PLACES



VIEW B



FOOT PRINT

<b>SPECTRUM MICROWAVE, INC</b> TITLE OUTLINE DRAWING	SIZE <b>A</b>	CAGE CODE <b>55027</b>	DWG NO. <b>080-10117-0001</b>		
	SCALE: <b>5/1</b>	REV <b>F.2</b>	SHEET <b>3</b>	OF <b>3</b>	