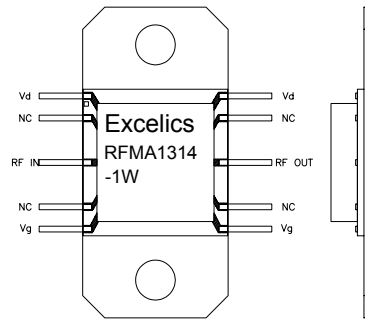


FEATURES

- 13.75– 14.50GHz Operating Frequency Range
- 29.5dBm Output Power at 1dB Compression
- 30.0 dB Typical Small Signal Gain
- -41dBc Typical OIM3 @ each tone Pout 18.5dBm

APPLICATIONS

- Point-to-point and point-to-multipoint radio
- Military Radar Systems



Different Packages Are Available



Caution! ESD sensitive device.

ELECTRICAL CHARACTERISTICS (T_a = 25 °C, 50 ohm, V_{dd}=7V, V_{gg}=-5V)

| SYMBOL | PARAMETER/TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|------------------|---|-------|------|-------|-------|
| F | Operating Frequency Range | 13.75 | | 14.50 | GHz |
| P _{1dB} | Output Power at 1dB Gain Compression | 28.5 | 29.5 | | dBm |
| G _{SS} | Small Signal Gain | 27.0 | 30.0 | | dB |
| OIMD3 | Output 3 rd Order Intermodulation Distortion @Δf=10MHz, Each Tone Pout 18.5dBm | | -41 | -38 | dBc |
| Input RL | Input Return Loss | | -10 | -7 | dB |
| Output RL | Output Return Loss | | -12 | -10 | dB |
| I _{dd} | Drain Current | | 900 | 1050 | mA |
| V _{dd} | Drain Supply Voltage | | 7 | 8 | V |
| R _{th} | Thermal Resistance (Au-Sn Eutectic Attach) | | 7 | | °C/W |
| T _b | Operating Base Plate Temperature | -30 | | +80 | °C |

MAXIMUM RATINGS @25°C

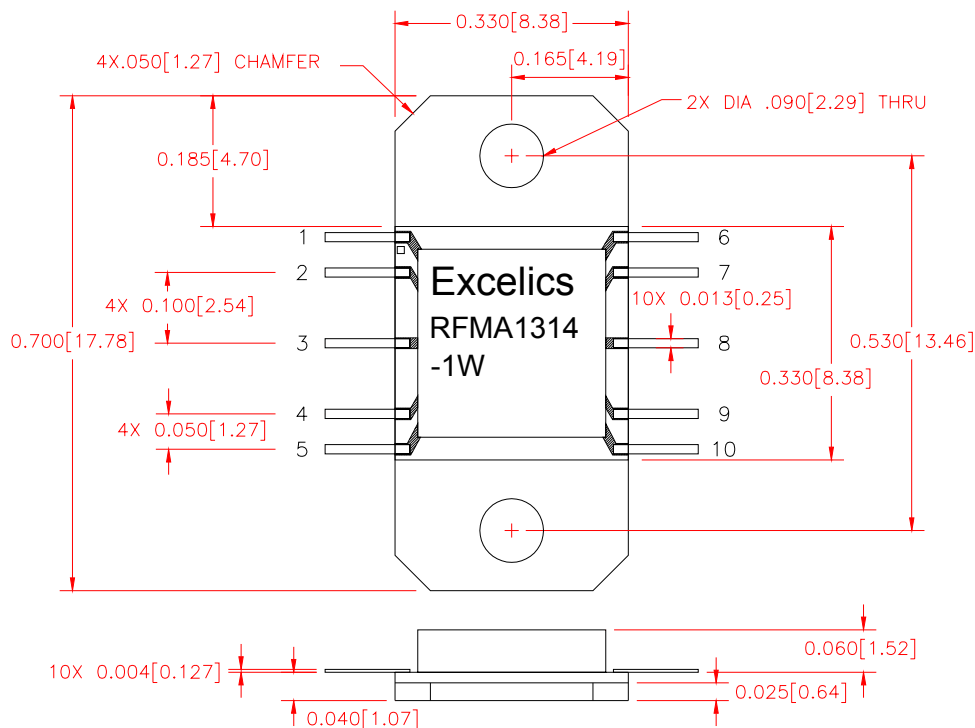
| SYMBOL | CHARACTERISTIC | ABSOLUTE | CONTINUOUS ^{1,2} |
|------------------|-------------------------|------------------|---------------------------|
| V _{DD} | Drain Supply Voltage | 12V | 8V |
| V _{GG} | Gate Supply Voltage | -8V | -3V |
| I _{DD} | Drain Current | I _{dss} | 1.1A |
| I _{GG} | Gate Current | 60mA | 10 mA |
| P _{IN} | Input Power | 20dBm | @ 3dB compression |
| T _{CH} | Channel Temperature | 175°C | 150°C |
| T _{STG} | Storage Temperature | -65/175°C | -65/150°C |
| P _T | Total Power Dissipation | 15.0W | 12.6W |

1. Operating the device beyond any of the above rating may result in permanent damage.

2. Bias conditions must also satisfy the following equation $V_{dd} \cdot I_{dd} < (T_{CH} - T_b) / R_{TH}$; where T_b = operating base plate temperature

UPDATED 01/03/2005

01 Package Outline



All dimensions in inches [mm]

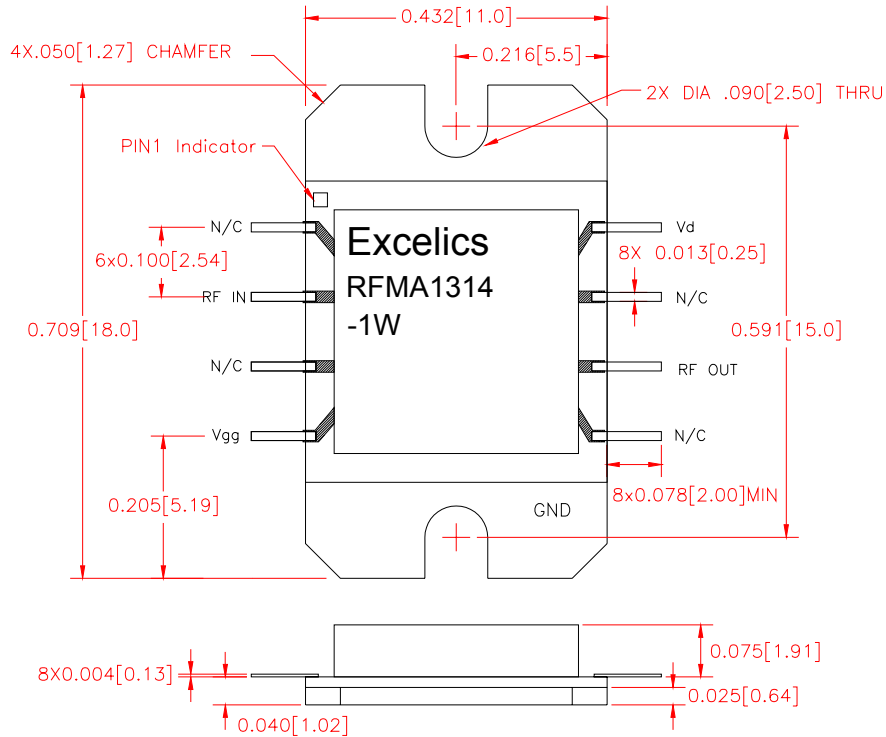
01 Package Pin Assignment

| | PIN 1 | PIN 2 | PIN 3 | PIN 4 | PIN 5 | PIN 6 | PIN 7 | PIN 8 | PIN 9 | PIN 10 |
|-----------------|-------|-------|-------|-------|-------|-------|-------|--------|-------|--------|
| RFMA1314-1W-01 | Vd | NC | RF IN | NC | Vg | Vd | NC | RF OUT | NC | Vg |
| RFMA1314-1W-01A | NA | Vd | RF IN | Vg | NA | NA | Vd | RF OUT | Vg | NA |
| RFMA1314-1W-01B | Vd | NA | RF IN | NA | Vg | Vd | NA | RF OUT | NA | Vg |

NOTE:

1. PACKAGE 01A: Recommend to Use
2. NC: Not Connected
3. NA: Not Available

02 Package Outline



All dimensions in inches [mm]

ORDERING INFORMATION

| Part Number | |
|-----------------|--------------------------|
| RFMA1314-1W-01 | Refer 01 Package Outline |
| RFMA1314-1W-01A | Refer 01 Package Outline |
| RFMA1314-1W-01B | Refer 01 Package Outline |
| RFMA1314-1W-02 | Refer 02 Package Outline |