

## RF Linear Hybrid Amplifier 35 to 500 MHz

Rev. V3 Preliminary

### Features

- ULTRA HIGH LINEARITY
- HIGH GAIN: 38.0 dB (TYP.)
- LOW NOISE FIGURE 4.5 dB (TYP.)
- OPERATION OVER A WIDE VOLTAGE RANGE

### Description

The PAW1027-1 linear power amplifier is a discrete hybrid design, which uses thick film solder manufacturing processes for accurate performance and high reliability. The design has 2 gain stages, using a push pull cascode circuit configuration. Performance is very linear over a broadband frequency range, making it particularly suited for CATV, and commercial & military radio applications.

### Ordering Information

| Part Number | Package |
|-------------|---------|
| PAW1027-1   | SOT115J |

### Electrical Specifications: $Z_0 = 50\Omega$ , $V_{CC} = +24 V_{DC}$

| Parameter                                                                          | Units | Typical | Guaranteed     |
|------------------------------------------------------------------------------------|-------|---------|----------------|
|                                                                                    |       | 25°C    | -40°C to +70°C |
| Frequency                                                                          | MHz   | 35-500  | 35-500         |
| Power Gain (Min/Max)                                                               | dB    | 38.0    | 36.0 / 40.0    |
| Gain Flatness (max)<br>$f = 40$ to 500 MHz                                         | dB    | 0.5     | 1.0            |
| Input / Output Return Loss (min)<br>$f = 50$ to 500 MHz                            | dB    | 16.0    | 12.0           |
| Composite Triple Beat (CTB)<br>60 channels flat $V_{out} = +46$ dBmV               | dB    | -59.0   |                |
| Cross Modulation (XMOD)<br>60 channels flat $V_{out} = +46$ dBmV                   | dB    | -59.0   |                |
| Second Order IMD<br>2 tone $V_{out} = +46$ dBmV<br>$f_1 = 50$ MHz, $f_2 = 500$ MHz | dB    | -64.0   |                |
| Noise Figure (max)<br>$f = 500$ MHz                                                | dB    | 4.2     | 6.0            |
| Total Current (max)                                                                | mA    | 300     | 350            |

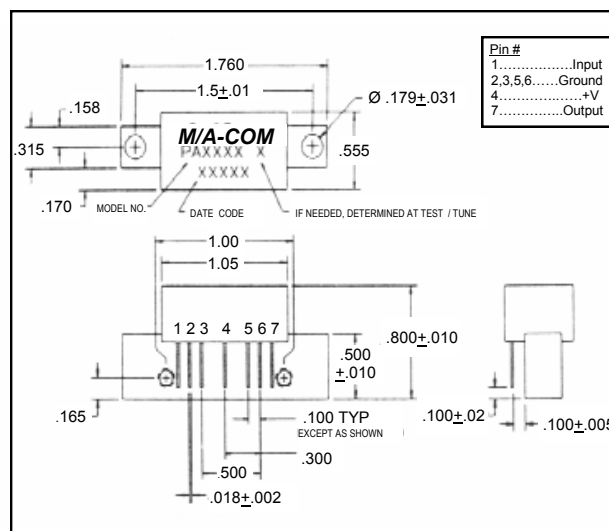
### Product Image



### Absolute Maximum Ratings

| Parameter                  | Absolute Maximum |
|----------------------------|------------------|
| Storage Temperature        | -40°C to +85°C   |
| Operation Base Temperature | +70°C            |
| RF Input Power             | +14 dBm          |
| DC Voltage                 | +28 volts        |

### Outline Drawing: SOT115J \*



\* Dimensions are inches ±0.015 unless otherwise specified.

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