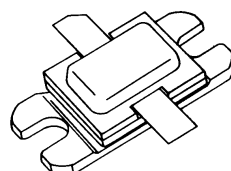


## RF & MICROWAVE TRANSISTORS L-BAND RADAR APPLICATIONS

PRELIMINARY DATA

- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- LOW THERMAL RESISTANCE
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- $P_{OUT} = 100 \text{ W MIN. WITH } 6.0 \text{ dB GAIN}$



**.400 x .500 2LFL (S038)**  
hermetically sealed

**ORDER CODE**  
AM1214-100

**BRANDING**  
1214-100

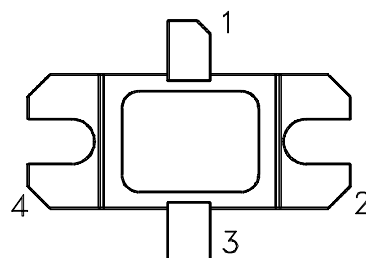
### DESCRIPTION

The AM1214-100 device is a high power Class C transistor specifically designed for L-Band Radar pulsed driver applications.

This device is capable of operation over a wide range of pulse widths, duty cycles, and temperatures and is capable of withstanding 3:1 output VSWR at rated RF conditions. Low RF thermal resistance and computerized automatic wire bonding techniques ensure high reliability and product consistency.

AM1214-100 is supplied in the grounded IMPAC™ hermetic metal/ceramic package with internal input/output matching structures.

### PIN CONNECTION



- |              |            |
|--------------|------------|
| 1. Collector | 3. Emitter |
| 2. Base      | 4. Base    |

### ABSOLUTE MAXIMUM RATINGS ( $T_{case} = 25^{\circ}\text{C}$ )

| Symbol     | Parameter                                             | Value        | Unit               |
|------------|-------------------------------------------------------|--------------|--------------------|
| $P_{DISS}$ | Power Dissipation* ( $T_C \leq 100^{\circ}\text{C}$ ) | 270          | W                  |
| $I_C$      | Device Current*                                       | 13.5         | A                  |
| $V_{CC}$   | Collector-Supply Voltage*                             | 32           | V                  |
| $T_J$      | Junction Temperature (Pulsed RF Operation)            | 250          | $^{\circ}\text{C}$ |
| $T_{STG}$  | Storage Temperature                                   | - 65 to +200 | $^{\circ}\text{C}$ |

### THERMAL DATA

|               |                                   |      |                      |
|---------------|-----------------------------------|------|----------------------|
| $R_{TH(j-c)}$ | Junction-Case Thermal Resistance* | 0.55 | $^{\circ}\text{C/W}$ |
|---------------|-----------------------------------|------|----------------------|

\*Applies only to rated RF amplifier operation

## AM1214-100

### ELECTRICAL SPECIFICATIONS ( $T_{case} = 25^{\circ}C$ )

#### STATIC

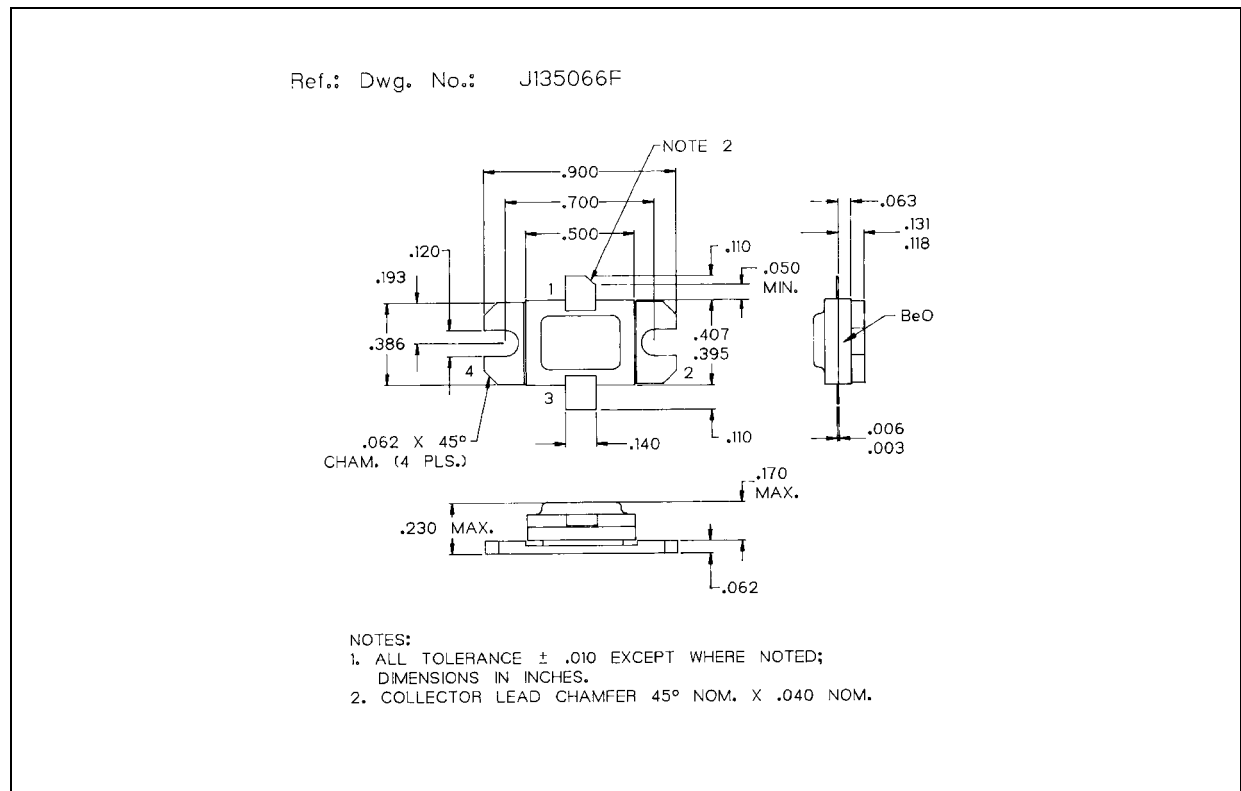
| Symbol     | Test Conditions              | Value |      |      | Unit |
|------------|------------------------------|-------|------|------|------|
|            |                              | Min.  | Typ. | Max. |      |
| $BV_{CBO}$ | $I_C = 50mA$ $I_E = 0mA$     | 65    | —    | —    | V    |
| $BV_{EBO}$ | $I_E = 10mA$ $I_C = 0mA$     | 3.5   | —    | —    | V    |
| $BV_{CES}$ | $I_C = 100mA$                | 65    | —    | —    | V    |
| $I_{CES}$  | $V_{BE} = 0V$ $V_{CE} = 32V$ | —     | —    | 20   | mA   |
| $h_{FE}$   | $V_{CE} = 5V$ $I_C = 5A$     | 15    | —    | —    | —    |

#### DYNAMIC

| Symbol    | Test Conditions                                    | Value |      |      | Unit |
|-----------|----------------------------------------------------|-------|------|------|------|
|           |                                                    | Min.  | Typ. | Max. |      |
| $P_{OUT}$ | $f = 1215 - 1400MHz$ $P_{IN} = 25W$ $V_{CC} = 28V$ | 100   | —    | —    | W    |
| $\eta_c$  | $f = 1215 - 1400MHz$ $P_{IN} = 25W$ $V_{CC} = 28V$ | 50    | —    | —    | %    |
| $G_P$     | $f = 1215 - 1400MHz$ $P_{IN} = 25W$ $V_{CC} = 28V$ | 6.0   | —    | —    | dB   |

Note: Pulse Width = 100 $\mu$ Sec  
Duty Cycle = 10%

### PACKAGE MECHANICAL DATA



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