



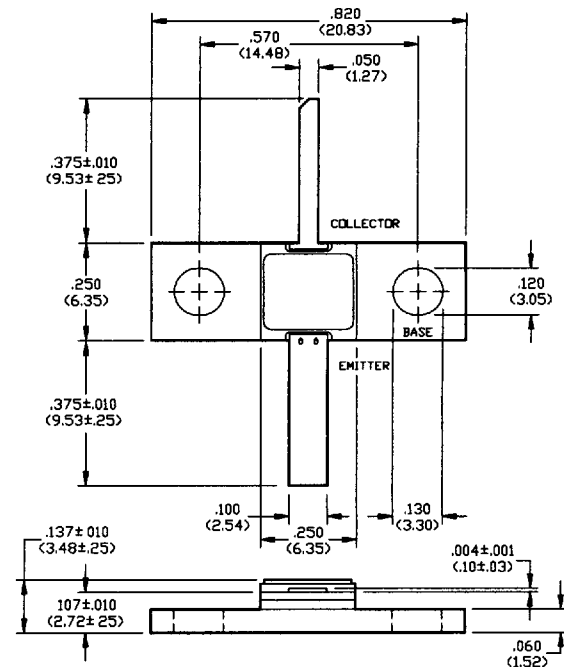
Preliminary

30 Watts, 1030-1090 MHz, 10  $\mu$ s Pulse, 1% Duty

## Features

- Designed for Short Pulse IFF Applications
- NPN Silicon Microwave Power Transistor
- Common Base Configuration
- Broadband Class C Operation
- High Efficiency Interdigitated Geometry
- Diffused Emitter Ballasting Resistors
- Gold Metallization System
- Internal Input Impedance Matching
- Hermetic Metal/Ceramic Package

## Outline Drawing



UNLESS OTHERWISE NOTED, TOLERANCES ARE INCHES  $\pm .005$   
(MILLIMETERS  $\pm .13$ MM)

## Absolute Maximum Ratings at 25°C

| Parameter                 | Symbol    | Rating      | Units |
|---------------------------|-----------|-------------|-------|
| Collector-Emitter Voltage | $V_{CES}$ | 70          | V     |
| Emitter-Base Voltage      | $V_{EBO}$ | 3.0         | V     |
| Collector Current (Peak)  | $I_C$     | 2.1         | A     |
| Power Dissipation         | $P_D$     | 75          | W     |
| Junction Temperature      | $T_J$     | 200         | °C    |
| Storage Temperature       | $T_{STG}$ | -65 to +200 | °C    |

## Electrical Characteristics at 25°C

| Parameter                           | Symbol       | Min | Max   | Units | Test Conditions                             |
|-------------------------------------|--------------|-----|-------|-------|---------------------------------------------|
| Collector-Emitter Breakdown Voltage | $BV_{CES}$   | 70  | -     | V     | $I_C=25$ mA                                 |
| Collector-Emitter Leakage Current   | $I_{CES}$    | -   | 3.0   | mA    | $V_{CE}=40$ V                               |
| Thermal Resistance                  | $R_{TH(JC)}$ | -   | 1.3   | °C/W  | $V_{CC}=28$ V, $P_{OUT}=30$ W, $F=1090$ MHz |
| Input Power                         | $P_{IN}$     | -   | 3.8   | W     | $V_{CC}=28$ V, $P_{OUT}=30$ W, $F=1090$ MHz |
| Power Gain                          | $G_P$        | 9.0 | -     | dB    | $V_{CC}=28$ V, $P_{OUT}=30$ W, $F=1090$ MHz |
| Collector Efficiency                | $\eta_C$     | 55  | -     | %     | $V_{CC}=28$ V, $P_{OUT}=30$ W, $F=1090$ MHz |
| Input Return Loss                   | RL           | 9   | -     | dB    | $V_{CC}=28$ V, $P_{OUT}=30$ W, $F=1090$ MHz |
| Load Mismatch Tolerance             | VSWR-T       | -   | 10:1  | -     | $V_{CC}=28$ V, $P_{OUT}=30$ W, $F=1090$ MHz |
| Load Mismatch Stability             | VSWR-S       | -   | 1.5:1 | -     | $V_{CC}=28$ V, $P_{OUT}=30$ W, $F=1090$ MHz |

## Broadband Test Fixture Impedances

| F(MHz) | $Z_{IF}(\Omega)$ | $Z_{OF}(\Omega)$ |
|--------|------------------|------------------|
| 1030   | TBD              | TBD              |
| 1090   | TBD              | TBD              |

