

Linear Accelerator Pulsed Power Transistor, 160W, 12 μ s Pulse, 10% Duty 2.856 GHz

PH2856-160

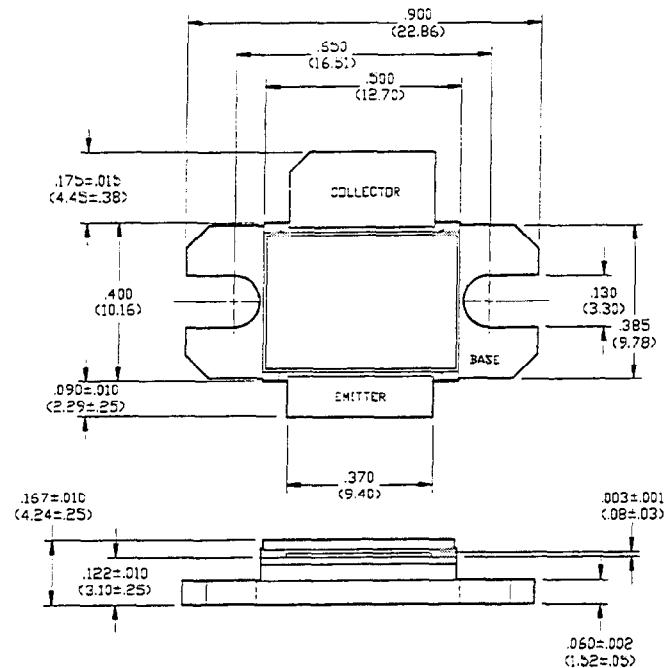
V2.00

Features

- NPN Silicon Microwave Power Transistor
- Common Base Configuration
- Class C Operation
- High Efficiency Interdigitated Geometry
- Diffused Emitter Ballasting Resistors
- Gold Metalization System
- Internal Input and Output Impedance Matching
- Hermetic Metal/Ceramic Package

Absolute Maximum Ratings at 25°C

| Parameter | Symbol | Rating | Units |
|---------------------------|-----------|-------------|-------|
| Collector-Emitter Voltage | V_{CES} | 65 | V |
| Emitter-Base Voltage | V_{EBO} | 3.0 | V |
| Collector Current (Peak) | I_C | 15.0 | A |
| Total Power Dissipation | P_{TOT} | 700 | W |
| Junction Temperature | T_J | 200 | °C |
| Storage Temperature | T_{STG} | -65 to +200 | °C |

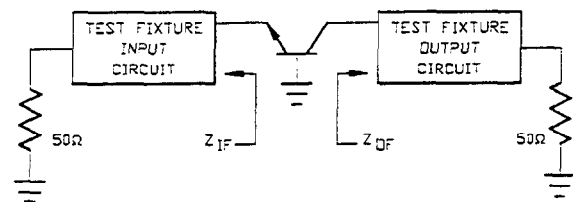


Electrical Characteristics at 25°C

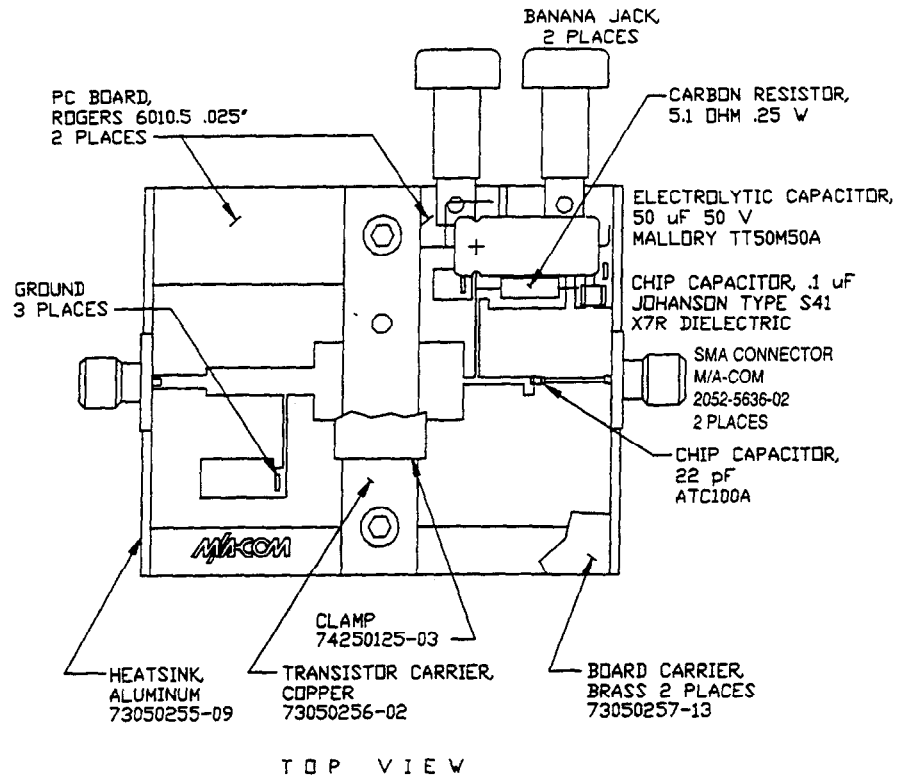
| Parameter | Symbol | Min | Max | Units | Test Conditions |
|-------------------------------------|--------------|-----|------|-------|---|
| Collector-Emitter Breakdown Voltage | BV_{CES} | 65 | - | V | $I_C=40$ mA |
| Collector-Emitter Leakage Current | I_{CES} | - | 7.5 | mA | $V_{CE}=36$ V |
| Thermal Resistance | $R_{TH(JC)}$ | - | 0.25 | °C/W | $V_{CC}=40$ V, $P_{OUT}=160$ W, $F=2.856$ GHz |
| Input Power | P_{IN} | - | 28.5 | W | $V_{CC}=40$ V, $P_{OUT}=160$ W, $F=2.856$ GHz |
| Power Gain | G_P | 7.5 | - | dB | $V_{CC}=40$ V, $P_{OUT}=160$ W, $F=2.856$ GHz |
| Collector Efficiency | η_C | 40 | - | % | $V_{CC}=40$ V, $P_{OUT}=160$ W, $F=2.856$ GHz |
| Input Return Loss | RL | 6 | - | dB | $V_{CC}=40$ V, $P_{OUT}=160$ W, $F=2.856$ GHz |
| Load Mismatch Tolerance | VSWR-T | - | 3:1 | - | $V_{CC}=40$ V, $P_{OUT}=160$ W, $F=2.856$ GHz |

Test Fixture Impedance

| F(GHz) | $Z_{IF}(\Omega)$ | $Z_{OF}(\Omega)$ |
|--------|------------------|------------------|
| 2.856 | 4.4 - j4.9 | 4.6 - j1.6 |



RF Test Fixture



Test Fixture PC Board Dimensions

