

Wireless Bipolar Power Transistor 33W, 1805-1880 MHz

M/A-COM Products
Released - Rev. 08.07

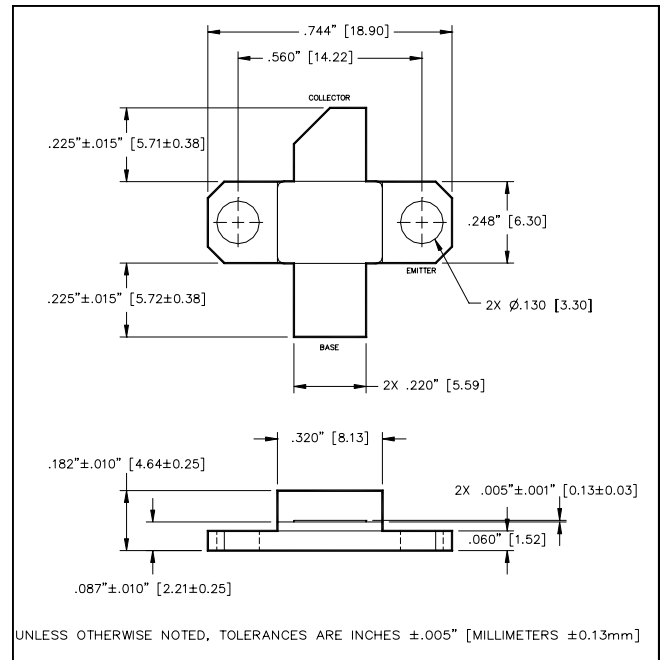
Features

- NPN silicon microwave power transistor
- Common emitter Class AB operation
- Internal input and output impedance matching
- Diffused emitter ballasting
- Gold metallization system
- RoHS Compliant

ABSOLUTE MAXIMUM RATING AT 25°C

| Parameter | Symbol | Rating | Units |
|---------------------------|---------------|--------------|-------|
| Collector-Base Voltage | V_{CBO} | 25 | V |
| Collector-Emitter Voltage | V_{CES} | 65 | V |
| Emitter-Base Voltage | V_{EBO} | 3.0 | V |
| Collector Current | I_C | 4.7 | A |
| Power Dissipation | P_D | 91 | W |
| Junction Temperature | T_J | 200 | °C |
| Storage Temperature | T_{STG} | -55 to + 150 | °C |
| Thermal Resistance | θ_{JC} | 3.0 | °C/W |

Outline Drawing

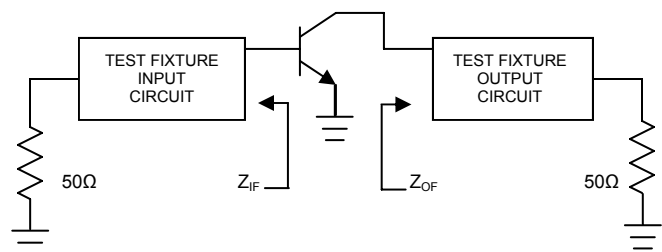


ELECTRICAL SPECIFICATIONS AT 25°C

| Parameter | Symbol | Min | Max | Units | Test Conditions |
|-------------------------|----------|-----|-----|-------|--|
| Power Gain | G_P | 7.0 | - | dB | $V_{CC} = 25V, I_{CQ} = 200\text{ mA}, P_{out} = 33\text{ W}, F = 1805, 1880\text{ MHz}$ |
| Collector Efficiency | η_C | 40 | - | % | $V_{CC} = 25V, I_{CQ} = 200\text{ mA}, P_{out} = 33\text{ W}, F = 1805, 1880\text{ MHz}$ |
| Input Return Loss | RL | 10 | - | dB | $V_{CC} = 25V, I_{CQ} = 200\text{ mA}, P_{out} = 33\text{ W}, F = 1805, 1880\text{ MHz}$ |
| Load Mismatch Tolerance | VSWR | - | 2:1 | - | $V_{CC} = 25V, I_{CQ} = 200\text{ mA}, P_{out} = 33\text{ W}, F = 1805, 1880\text{ MHz}$ |

TYPICAL OPTIMUM DEVICE IMPEDANCES

| F (GHz) | Z_{IN} (Ω) | Z_{LOAD} (Ω) |
|---------|-----------------------|-------------------------|
| 1805 | 1.8 - j5.5 | 4.0 - j1.4 |
| 1850 | 1.6 - j5.1 | 3.9 - j1.4 |
| 1880 | 1.7 - j4.8 | 4.0 - j0.9 |



ADVANCED: Data Sheets contain information regarding a product M/A-COM is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

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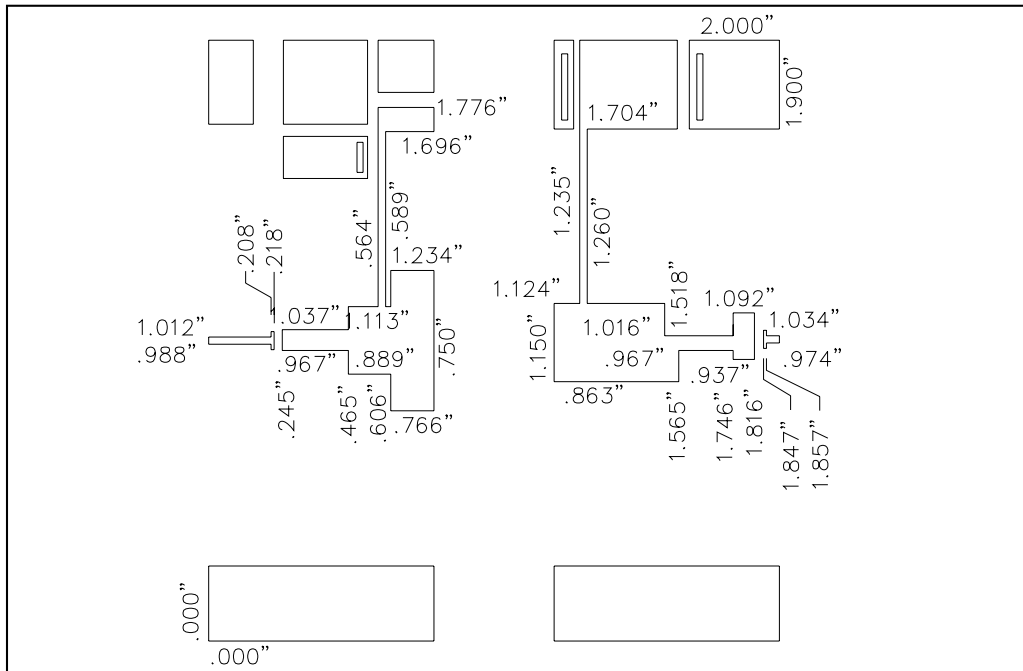
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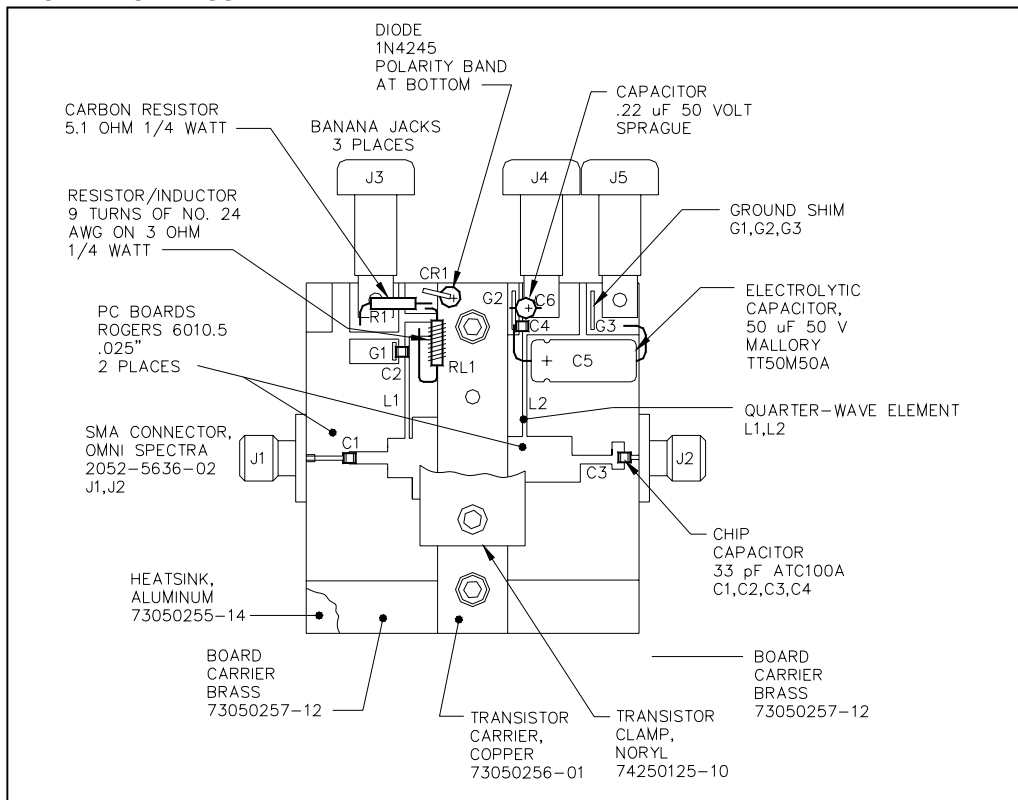
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TEST FIXTURE DIMENSIONS



TEST FIXTURE ASSEMBLY



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