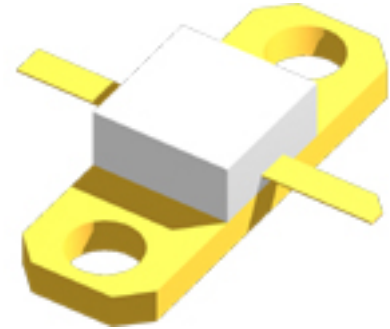


SILICON MICROWAVE POWER TRANSISTOR

PRODUCT DATA SHEET



FEATURES:

- Common Base, Class C Package Configuration
- High Output Power
26 W @ 1.4 to 1.7 GHz
- High Gain Bandwidth Product
 $f_t = 6.0 \text{ GHz @ } I_C = 4.16 \text{ A}$
- High Gain
 $G_{PE} = 7.0 \text{ dB to } 8.2 \text{ dB}$
- High Reliability
Gold Metallization
Nitride Passivation
- Diffused Ballast Resistors
- BeO Packaging
- Built-In Matching Network for Broadband Operation

PERFORMANCE DATA:

- Electrical Characteristics ($T_A = 25^\circ\text{C}$)

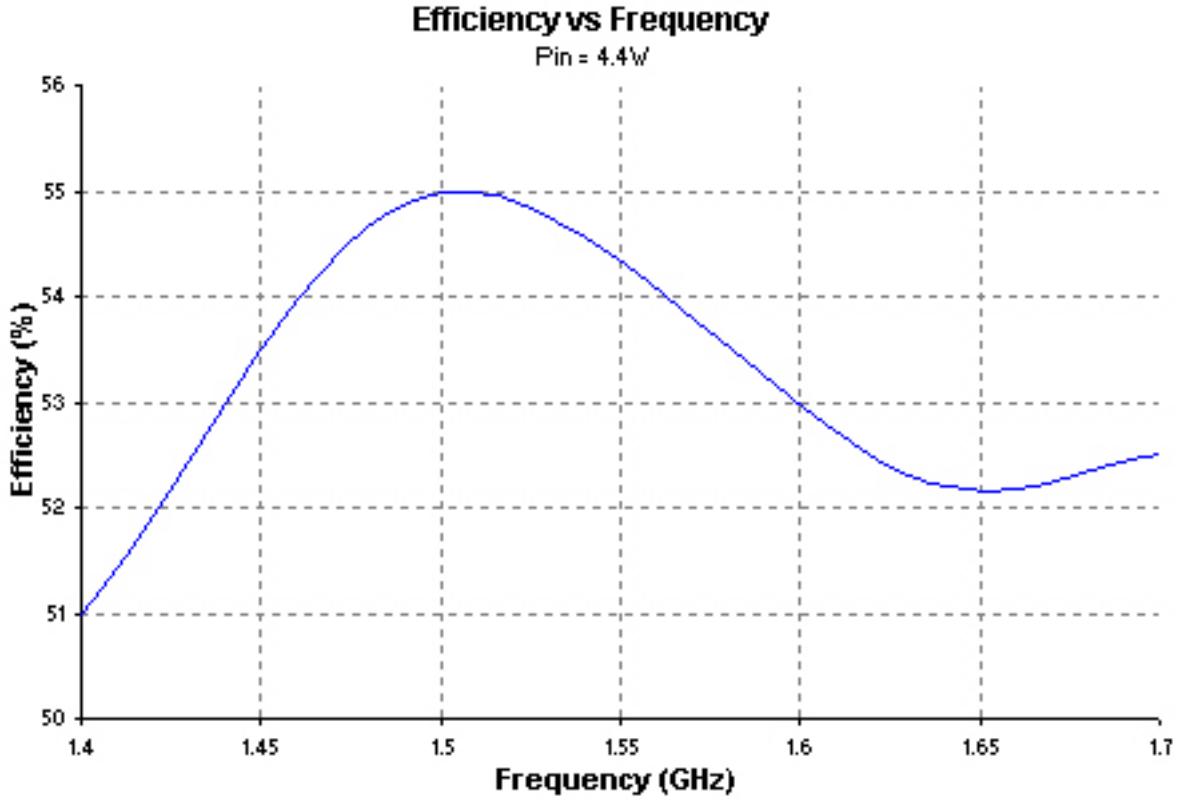
Absolute Maximum Ratings:

| SYMBOL | PARAMETERS | RATING | UNITS |
|---------------|-----------------------------------|------------|-------|
| V_{CBO} | Collector-Base Voltage | 50 | V |
| V_{CEO} | Collector-Emitter Voltage | 28 | V |
| V_{EBO} | Emitter-Base Voltage | 3.5 | V |
| I_C | Collector Current (instantaneous) | 4.16 | A |
| T_J | Junction Temperature | 200 | °C |
| T_{STG} | Storage Temperature | -65 to 200 | °C |
| θ_{JC} | Thermal Resistance | 6.5 | C/W |

| SYMBOL | PARAMETERS & CONDITIONS $V_{CE} = 28\text{V}, I_C = 4.16 \text{ A}, \text{Class C}$ | UNIT | MIN. | TYP. | MAX. |
|-----------|--|------|------|------|------|
| P_{1dB} | Power output at 1 dB compression: $f = 1.4 \text{ GHz}$ | W | | 26 | |
| η | Collector Efficiency Class C | % | | 50 | |
| h_{FE} | Forward Current Transfer Ratio: $V_{CB} = 5\text{V}, I_C = 800 \text{ mA}$ | | 10 | --- | 100 |
| C_{OB} | Output Capacitance: $f = 1 \text{ MHz}, I_E = 0$ | pF | | 24 | |
| P_T | Total Power Dissipation | W | | 52 | |

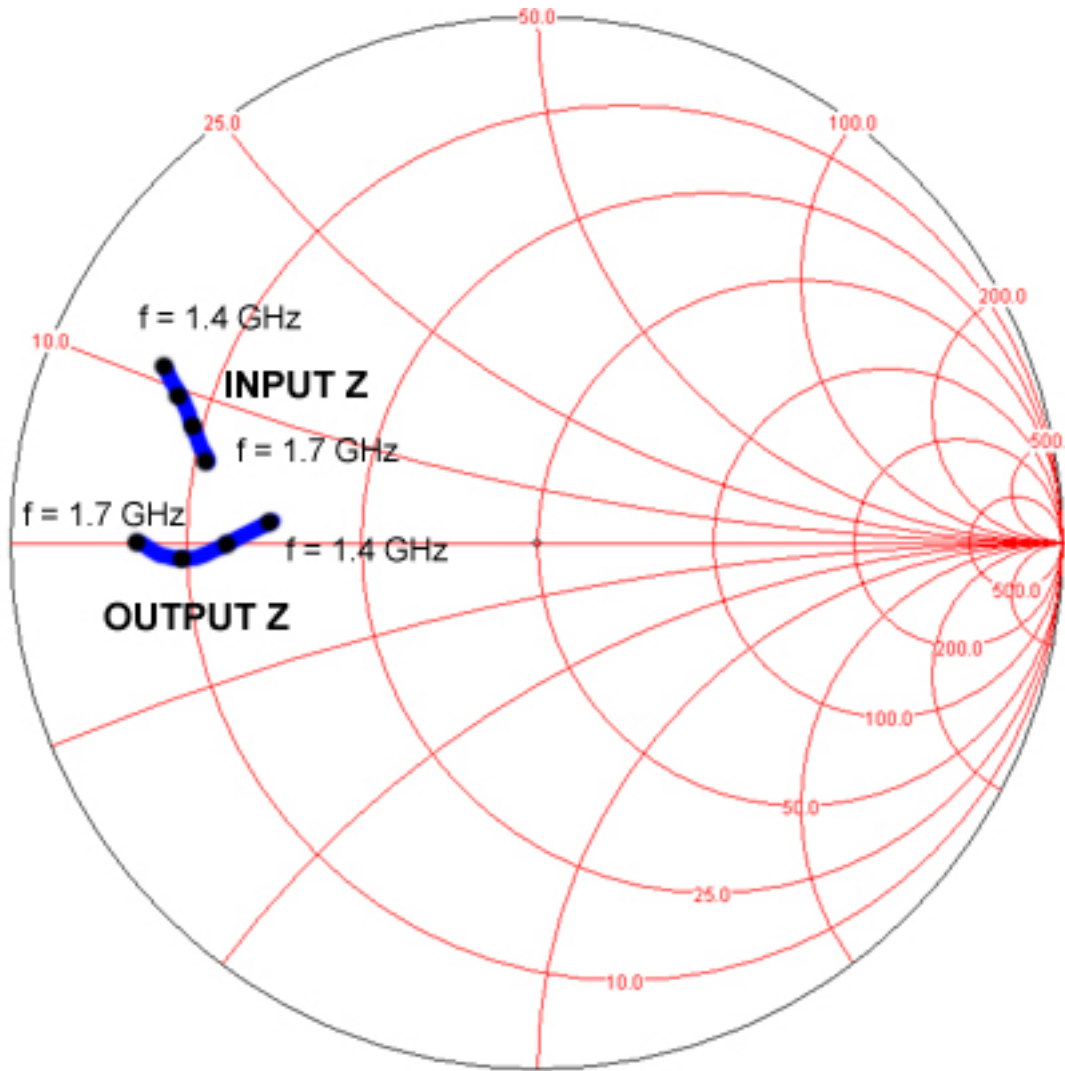
BIPOLARICS, INC. Part Number BMT1417B26

SILICON MICROWAVE POWER TRANSISTOR



BIPOLARICS, INC. Part Number BMT1417B26

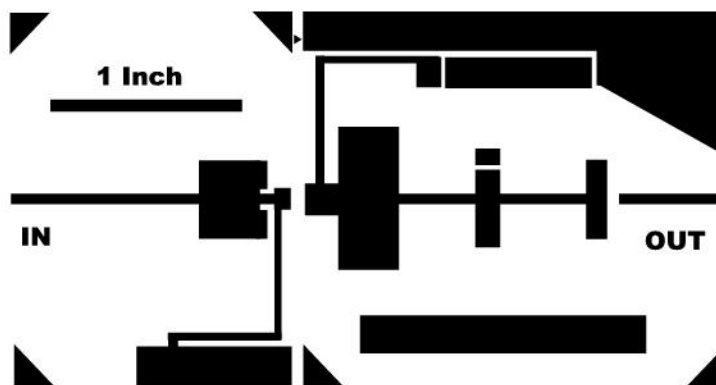
SILICON MICROWAVE POWER TRANSISTOR



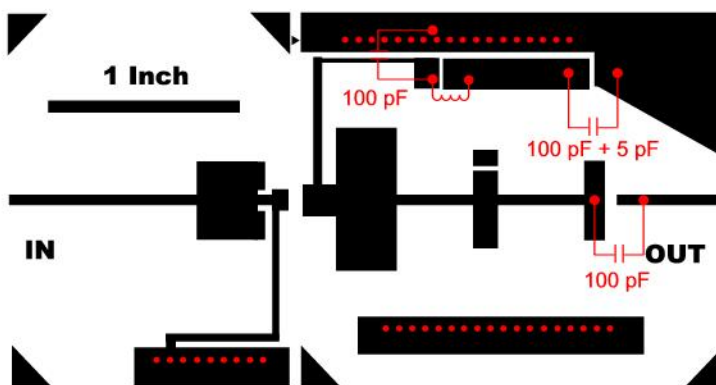
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SILICON MICROWAVE POWER TRANSISTOR

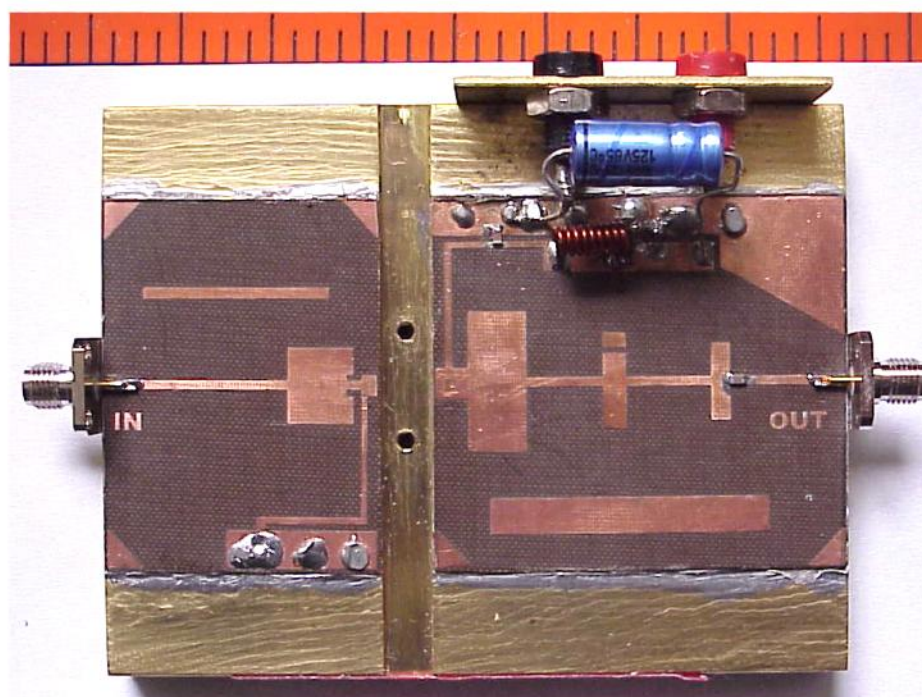
Test Board Layout



Test Board Components

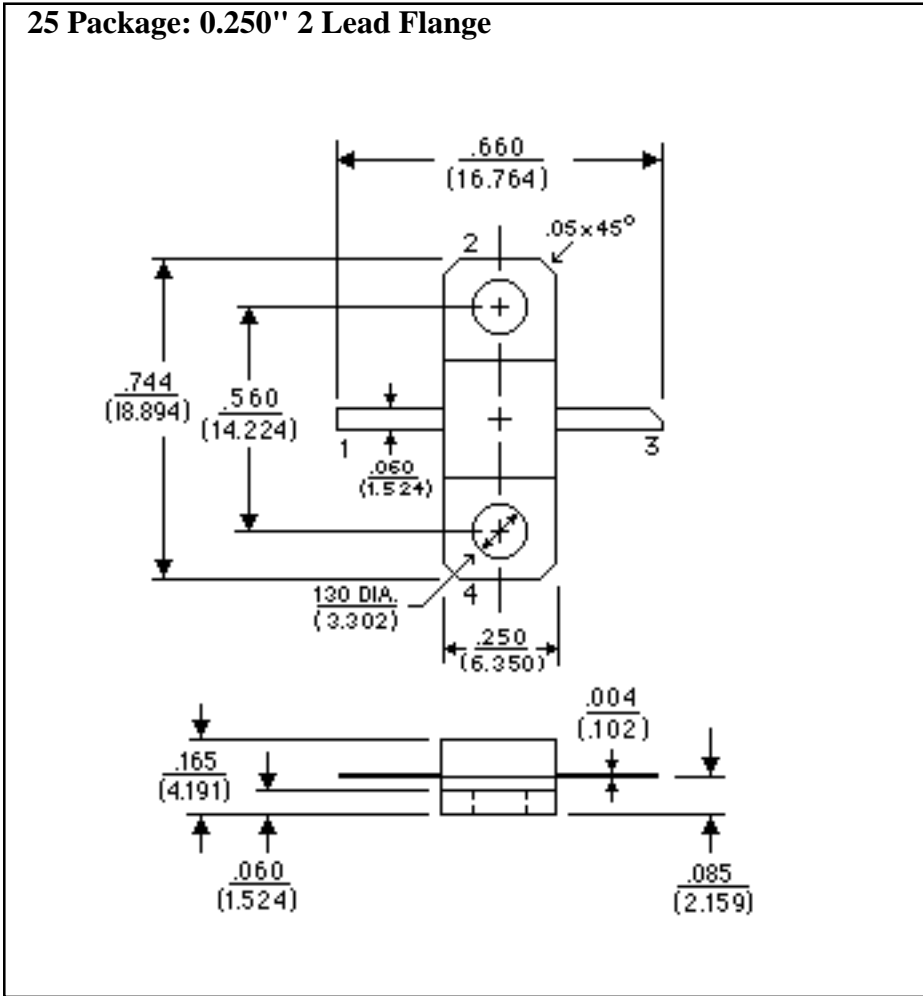


Substrate: 18 mil thick teflon fiberglass
••• Ground connection thru substrate



BIPOLARICS, INC. Part Number BMT1417B26

SILICON MICROWAVE POWER TRANSISTOR



NOTES: (unless otherwise specified)

1. Dimensions are $\frac{\text{in}}{\text{mm}}$
2. Tolerances:
 in .xxx = $\pm .005$
 mm .xx = $\pm .13$
3. All dimensions nominal; subject to change without notice

| LEAD | 1 | 2 | 3 | 4 |
|------------|---------|------|-----------|------|
| 25 Package | Emitter | Base | Collector | Base |

BIPOLARICS, INC.
 602 Charcot Ave.
 San Jose, CA 95131
 Phone: (408) 456-0430 FAX: (408) 456-0431