

SILICON MICROWAVE POWER TRANSISTOR

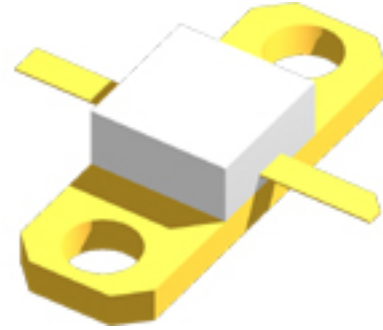
PRODUCT DATA SHEET

FEATURES:

- Common Base, Class C Package Configuration
- High Output Power
2 W @ 1.4 to 1.7 GHz
- High Gain Bandwidth Product
 $f_t = 6.0 \text{ GHz @ } I_C = 320 \text{ mA}$
- 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:

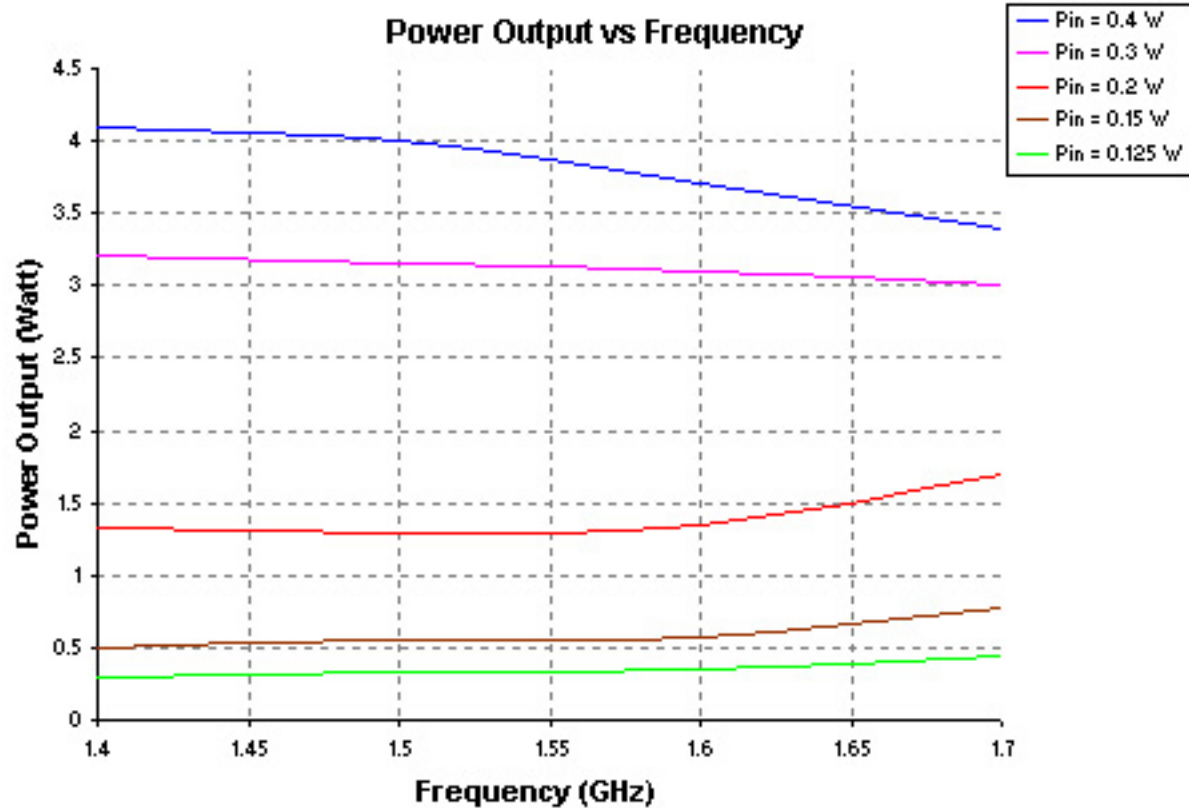
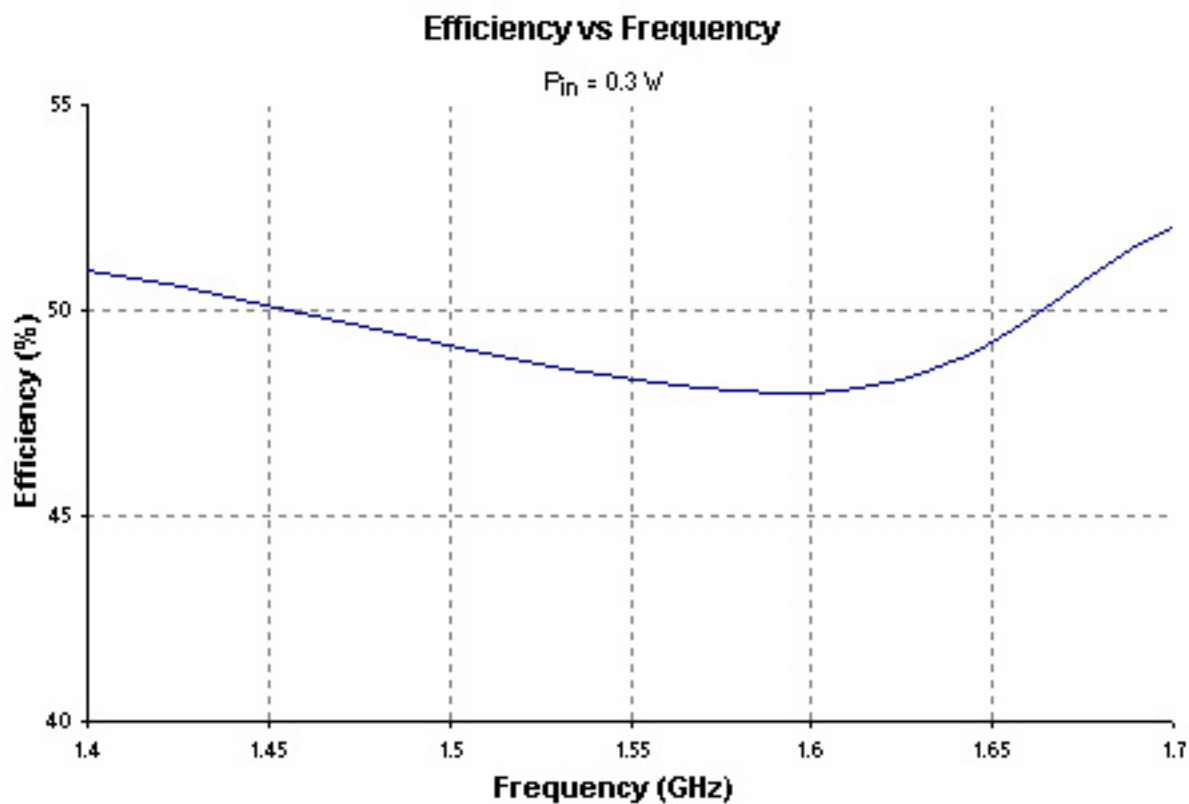
- Electrical Characteristics ($T_A = 25^\circ\text{C}$)



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)	320	mA
T_J	Junction Temperature	200	$^\circ\text{C}$
T_{STG}	Storage Temperature	-65 to 200	$^\circ\text{C}$
θ_{JC}	Thermal Resistance	6.5	C/W

SYMBOL	PARAMETERS & CONDITIONS $V_{CE} = 28\text{V}, I_C = 320 \text{ mA}, \text{Class C}$	UNIT	MIN.	TYP.	MAX.
P_{1dB}	Power output at 1 dB compression: $f = 1.4 \text{ GHz}$	W		2	
η	Collector Efficiency Class C	%		50	
h_{FE}	Forward Current Transfer Ratio: $V_{CB} = 5\text{V}, I_C = 100 \text{ mA}$		10	60	100
C_{OB}	Output Capacitance: $f = 1 \text{ MHz}, I_E = 0$	pF		4.5	
P_T	Total Power Dissipation	W		4	

BIPOLARICS, INC. Part Number BMT1417B02**SILICON MICROWAVE POWER TRANSISTOR**

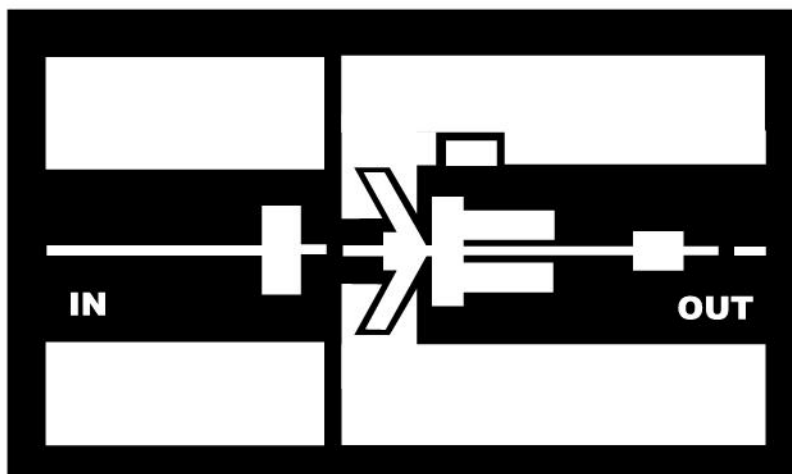
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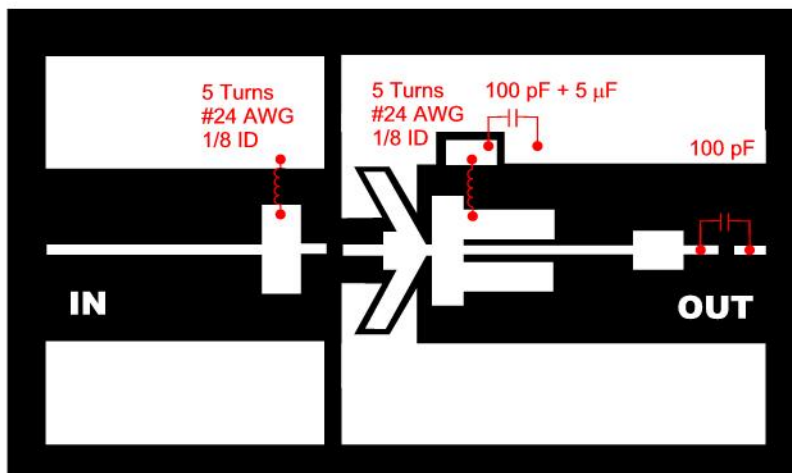
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Test Board Layout



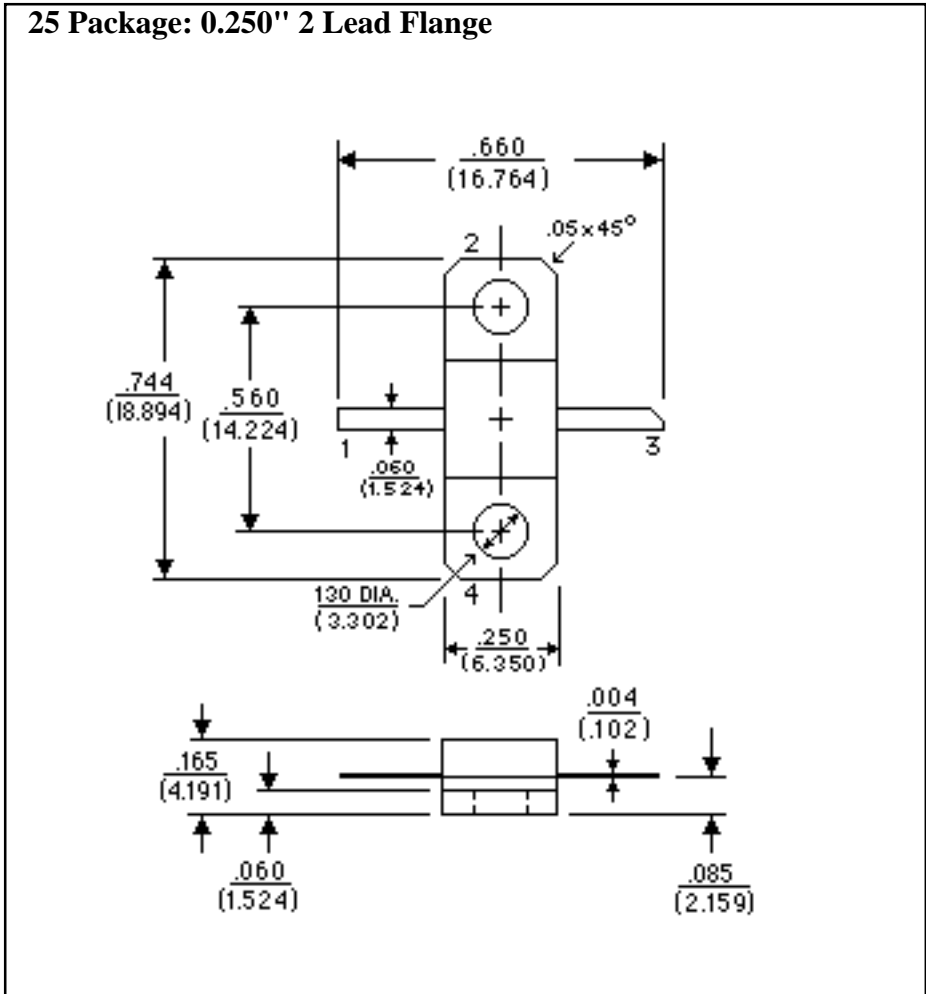
Test Board Components



Substrate: 0.030" thick teflon fiberglass $\epsilon_R = 2.55$

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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

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