

## NPN SILICON MICROWAVE POWER TRANSISTORS

### PRODUCT DATA SHEET

#### FEATURES:

- High Gain Bandwidth Product  
 $f_t = 6.0 \text{ GHz typ @ } I_C = 500 \text{ mA}$
- High Gain  
 $G_{PE} = 9.0 \text{ dB @ } 1.0 \text{ GHz}$
- Dice, 6 Lead Flange, Pill, and Ceramic package available

#### PERFORMANCE DATA:

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

#### DESCRIPTION AND APPLICATIONS:

Bipolarics' B30V2240 Series are high performance silicon bipolar transistors intended for medium and high power, linear and CW applications to 1.0 GHz. High  $f_t$  and high breakdown voltages make the B30V2240 Series an excellent choice for many 12V and 24V communication systems. A wide range of packages are available to permit CATV and instrumentation amplifiers as well as pre-drivers, drivers and final amplifiers in transmitter applications.

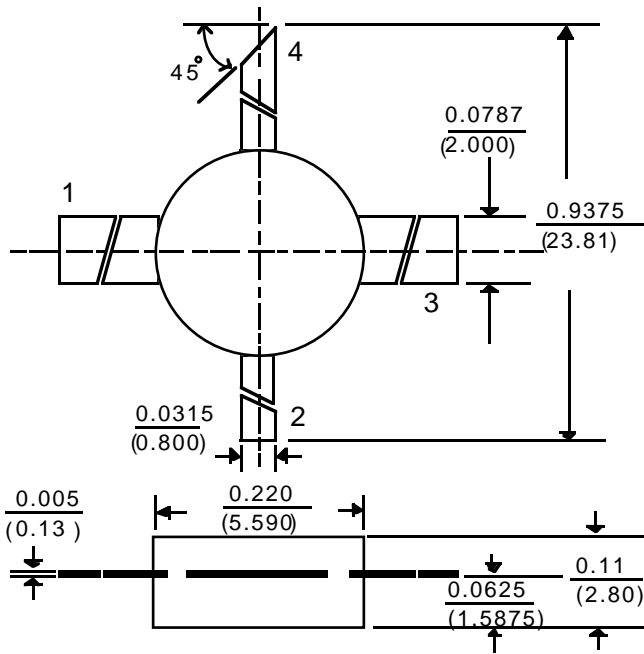
#### Absolute Maximum Ratings:

SYMBOL	PARAMETERS	RATING	UNITS
$V_{CES}$	Collector-Base Voltage	50	V
$V_{CEO}$	Collector-Emitter Voltage	30	V
$V_{EBO}$	Emitter-Base Voltage	3.5	V
$I_C$	Collector Current	800	mA
$T_J$	Junction Temperature	200	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	-65 to 200	$^\circ\text{C}$

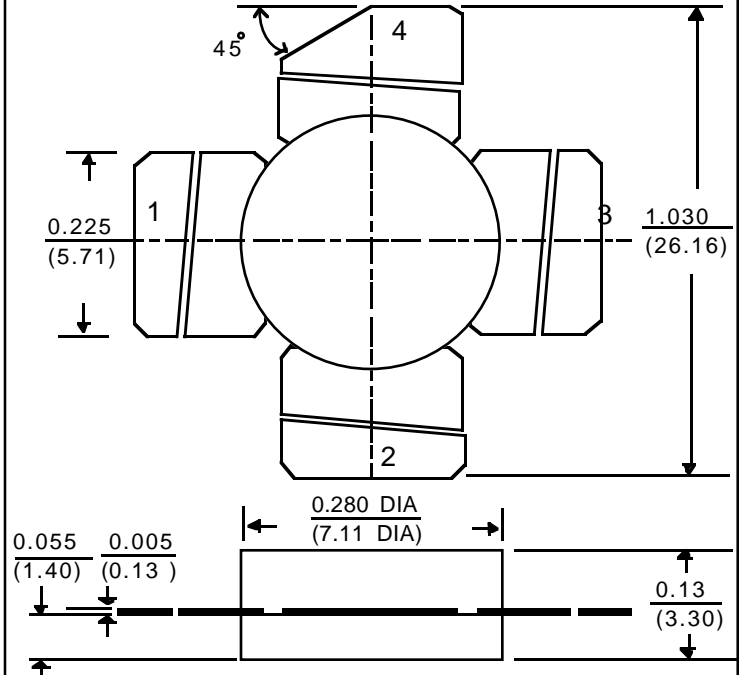
SYMBOL	PARAMETERS & CONDITIONS	UNIT	MIN.	TYP.	MAX.
	$V_{CE} = 24\text{V}, I_C = 550 \text{ mA}, \text{Class A, Common Emitter unless stated}$				
$P_{1dB}$	Output Power at 1dB compression			4.0	
	$f = 1.0 \text{ GHz}$	W			
$P_{1dB}$	Class C Common Base			8.0	
	$f = 1.0 \text{ GHz}$	W			
$G_{PE}$	Class A			9.0	
	$f = 1.0 \text{ GHz}$	dB			
$\eta$	Efficiency:			30	
	Class A	%		65	
	Class C				
$h_{FE}$	Forward Current Transfer Ratio:		20	40	100
	$V_{CE} = 8.0\text{V}, I_C = 100 \text{ mA}$				
$C_{CB}$	Collector Base Capacitance:			9.0	
	$f = 1.0 \text{ MHz}$	pF			
	$I_E = 0$				
$P_T$	Total Power Dissipation	W			13

## SILICON MICROWAVE POWER TRANSISTOR

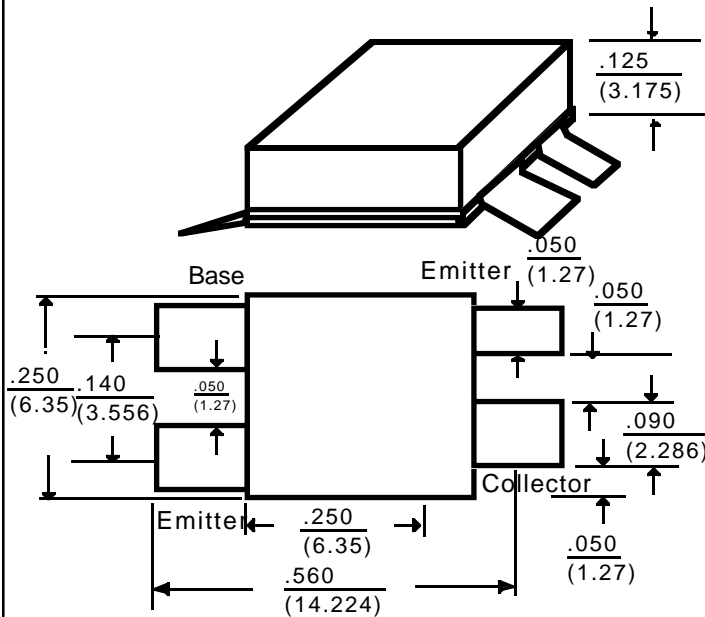
**-22 220 mil Pill Package**



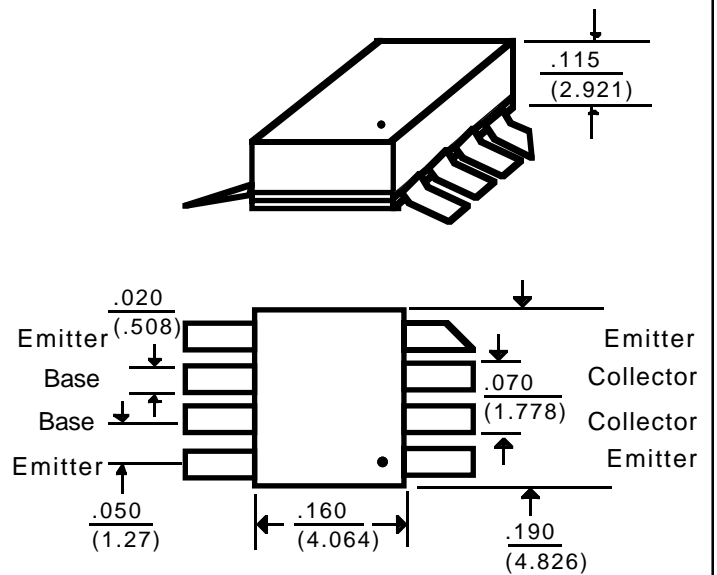
**-28 280 mil Pill Package**



**-50 Ceramic 4 Lead PAK Surface Mount**



**-18 Ceramic SO8 Package**



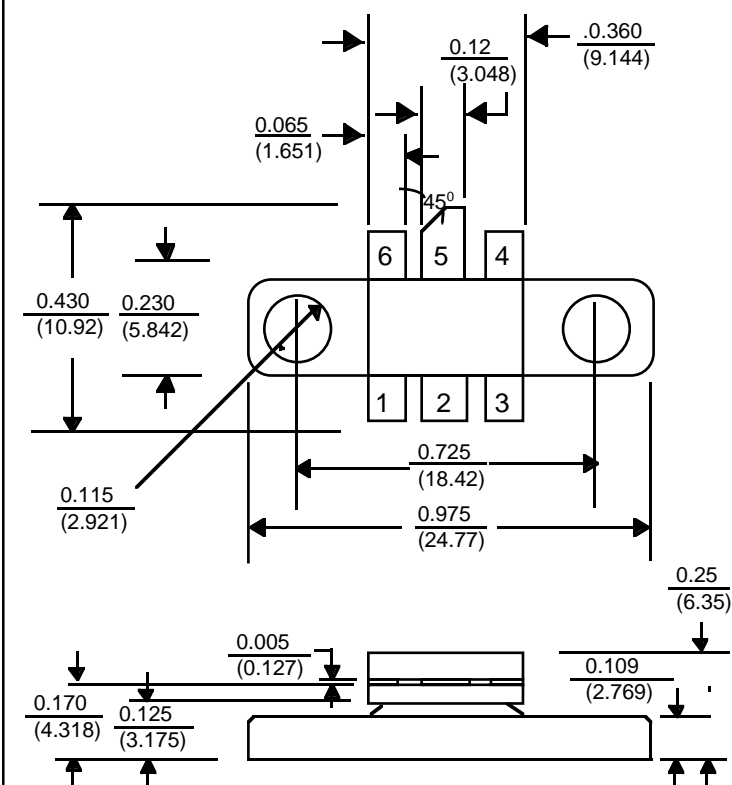
**NOTES:** (unless otherwise specified)

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

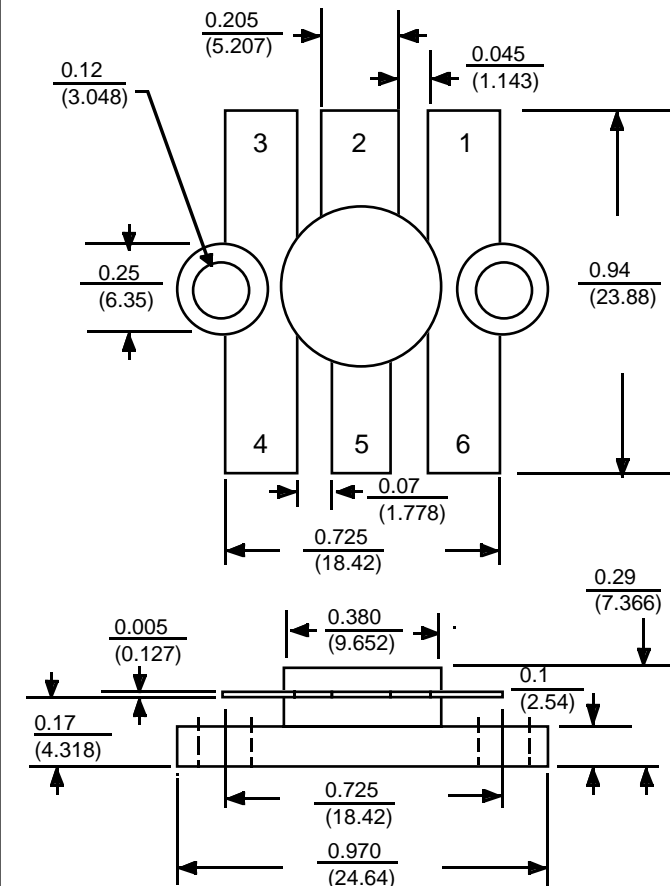
<b>LEAD</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
220&280 mil Pill	Emitter	base	Emitter	Collector	
Package					

## SILICON MICROWAVE POWER TRANSISTOR

**-36 230 mil x 360 mil 6 Lead Flange Package**



**-38 380 mil RD 6 Lead Flange Package**



LEAD	1	2	3	4	5	6
- 36 & -38 Package	Emitter	Base	Emitter	Emitter	Collector	Emitter

Drawings are not to scale.

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 FAX: (408)379-0918

**NOTES:** (unless otherwise specified)

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