

## NPN SILICON MICROWAVE POWER TRANSISTORS

### PRODUCT DATA SHEET

#### FEATURES:

- High Gain Bandwidth Product  
 $f_t = 6.0 \text{ GHz typ @ } I_C = 2.0 \text{ A}$
- High Gain  
 $G_{PE} = 8.0 \text{ dB @ } 1.0 \text{ GHz}$
- High thermal efficiency BeO 6L Flange package



#### DESCRIPTION AND APPLICATIONS:

Bipolarics' BPT0342 are high performance silicon bipolar transistors intended for medium and high power, linear and CW applications to 1.0 GHz. BeO 6 Lead flange packages are planned 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	3.2	A
$T_J$	Junction Temperature	200	°C
$T_{STG}$	Storage Temperature	-65 to 200	°C

#### PERFORMANCE DATA:

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

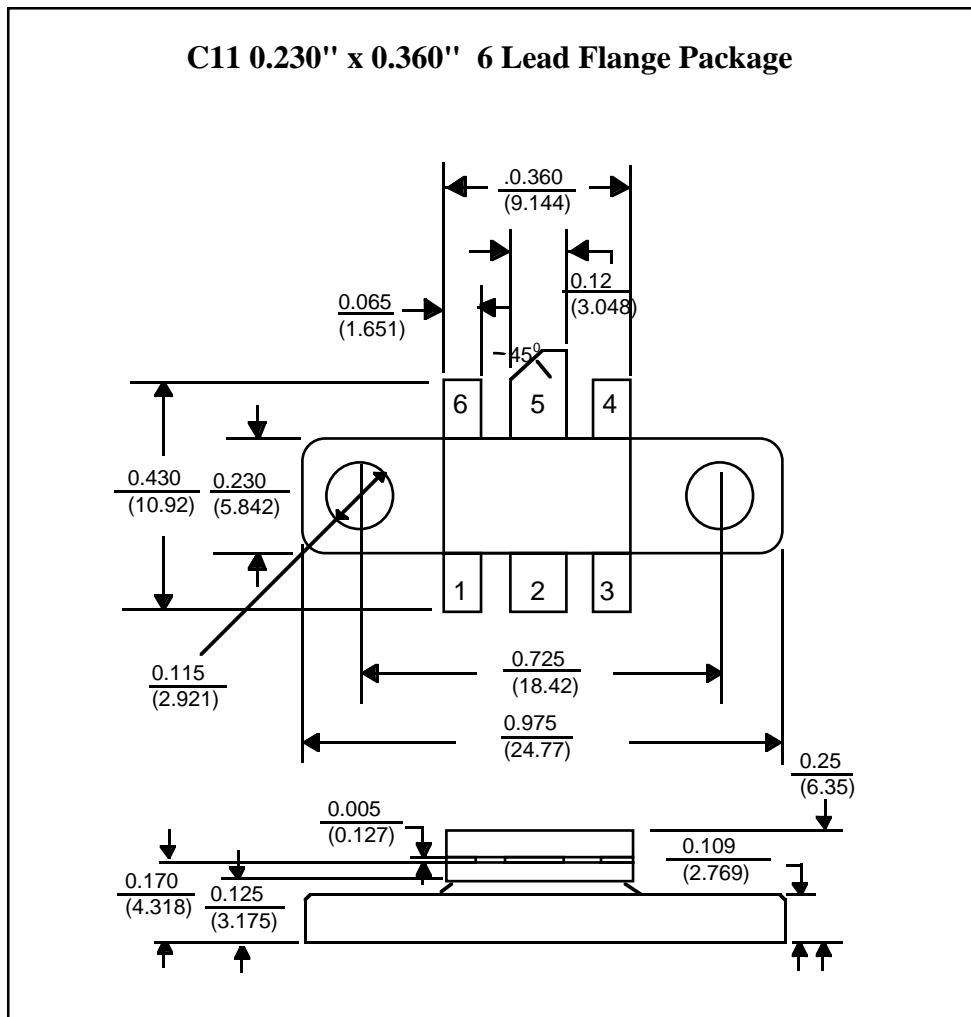
$\theta_{JC}$	Thermal Resistance	2.2	C/W
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SYMBOL	PARAMETERS & CONDITIONS		UNIT	MIN.	TYP.	MAX.
	$V_{CE} = 24\text{V}, I_C = 2.2 \text{ A}, \text{Class A, Common Emitter unless stated}$					
$P_{1dB}$	Output Power at 1dB compression	$f = 1.0 \text{ GHz}$	W		16.0	
$G_{PE}$	$P_{OUT} = 16\text{W}$	$f = 1.0 \text{ GHz}$	dB		8.0	
$\eta$	Efficiency:	Class A	%		30	
$h_{FE}$	Forward Current Transfer Ratio: $V_{CE} = 8.0\text{V}, I_C = 400 \text{ mA}$	$f = 1.0 \text{ MHz}$		20	40	100
$C_{CB}$	Collector Base Capacitance:	$f = 1.0 \text{ MHz}$ $I_E = 0$	pF		36.0	
$P_T$	Total Power Dissipation		W			52

**BIPOLARICS, INC**

**Part Number BPT0342**

**SILICON MICROWAVE POWER TRANSISTOR**



Drawings are not to scale.

LEAD	1	2	3	4	5	6
-C11 Package	Emitter	Base	Emitter	Emitter	Collector	Emitter

**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

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