

NPN SILICON MICROWAVE POWER TRANSISTORS

9/20/94

PRODUCT DATA SHEET

FEATURES:

- Command Base
- High Gain Bandwidth Product
 $f_t = 6.0 \text{ GHz typ @ } I_C = 2.0 \text{ A}$
- High Gain
 $G_{PE} = 5.5 \text{ dB @ } 1.0 \text{ GHz}$
- High thermal efficiency BeO 6 Lead Flange package



DESCRIPTION AND APPLICATIONS:

Bipolarics' BPT0349 is high performance silicon bipolar transistors intended for medium and high power applications. Typical applications include amplifiers in aeronautical, maritime and personal communication applications. Output power of 33 Watts can be achieved. BeO flange packaging makes this device excellent for industrial and military products

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

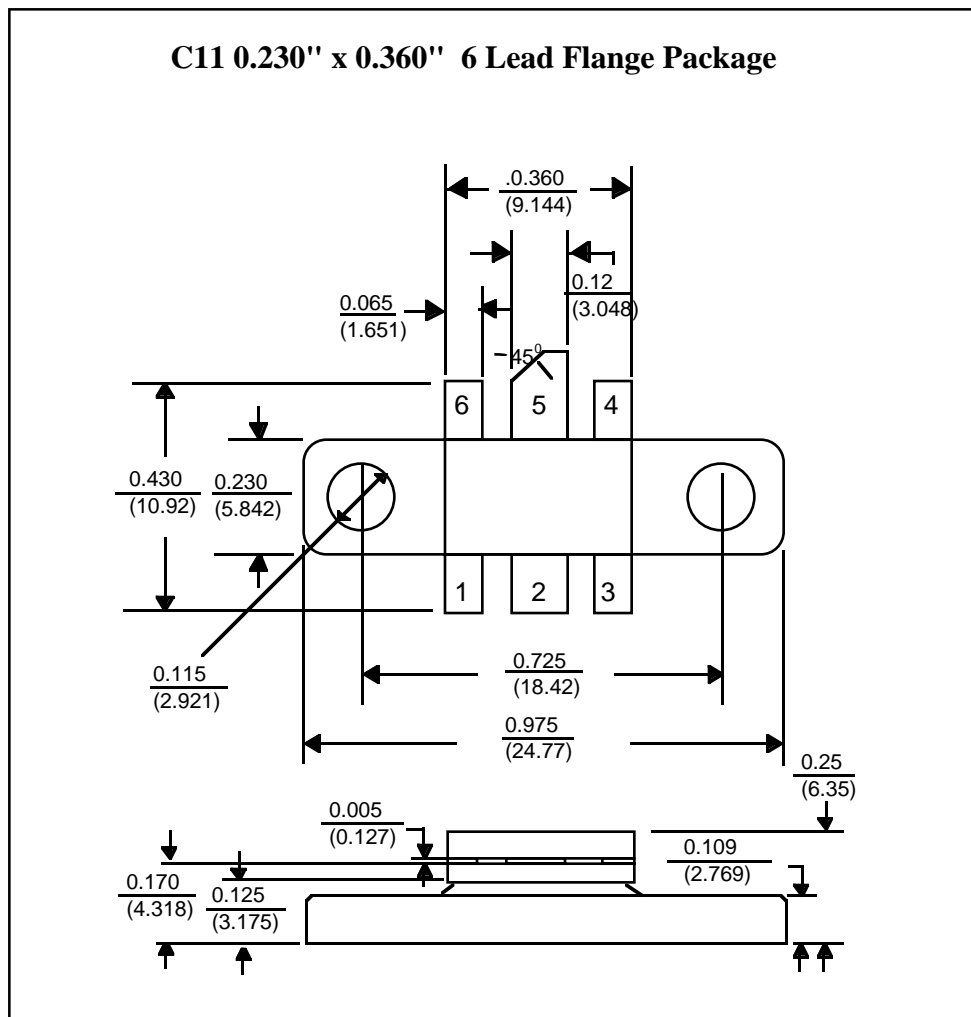
θ_{JC}	Thermal Resistance	2.2	C/W
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PERFORMANCE DATA:

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

SYMBOL	PARAMETERS & CONDITIONS $V_{CE} = 24\text{V}, I_C = 2.2 \text{ A}, \text{Class C, Common Base}$	UNIT	MIN.	TYP.	MAX.
P_{1dB}	Power output at 1 dB compression: $f = 1.0 \text{ GHz}$	W		33	
G_{PE}	$P_{OUT} = 33\text{W}$ $f = 1.0 \text{ GHz}$	dB		5.5	
η	Efficiency:	%		65	
h_{FE}	Forward Current Transfer Ratio: $V_{CE} = 8.0\text{V}, I_C = 400 \text{ mA}$ $f = 1.0 \text{ MHz}$		20	50	100
C_{CB}	Collector Base Capacitance: $I_E = 0$ $f = 1.0 \text{ MHz}$	pF		36.0	
P_T	Total Power Dissipation	W			52

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Drawings are not to scale.

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

BIPOLARICS INC.
 46766 Lakeview Blvd.
 Fremont, CA 94538
 Phone: (510)226-6565 FAX: (510) 226-6765

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