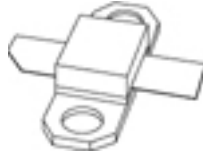


SILICON MICROWAVE POWER TRANSISTOR

PRODUCT DATA SHEET

FEATURES:

- Class C Characteristics
- High Output Power
8.0 W Typ.@ 1.35-1.85 GHz
- Gold Metallization
- BeO packaging for low thermal resistance



DESCRIPTION AND APPLICATIONS:

Bipolarics' BPT1419B08 is a high performance common base RF power transistor intended for 22V operation across the 1.35 to 1.85 GHz frequency band. Rated at 8 watts minimum output power, it may be used for both CW and PEP applications.

Absolute Maximum Ratings:

SYMBOL	PARAMETERS	RATING	UNITS
V_{CBO}	Collector-Base Voltage	50	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Collector Current (instantaneous)	2.0	A
$T_J^{(1)}$	Junction Temperature	200	°C
T_{STG}	Storage Temperature	-65 to 150	°C

(1) Depends on package

PERFORMANCE DATA:

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

SYMBOL	PARAMETERS & CONDITIONS $V_{CE} = 15\text{V}$, $I_C = 200\text{ mA}$, Class A, unless stated	UNIT	MIN.	TYP.	MAX.
BV_{CBO}	Collector-Base Break down Voltage $I_C = 5\text{ mA}$, $V_{BE} = 0\text{ V}$	V	50		
BV_{EBO}	Emitter-Base Breakdown Voltage $I_E = 5\text{ mA}$, $I_C = 0$	V	3.5	5	
G_{pe}	Gain $f = 1.35 - 1.85\text{ GHz}$, $V_{CC} = 22\text{ V}$, $P_{out} = 8\text{ W}$	dB	6.0		
η_C	Collector Efficiency $f = 1.35 - 1.85\text{ GHz}$, $V_{CC} = 22\text{ V}$, $P_{out} = 8\text{ W}$	%	40	50	
h_{FE}	DC Current Gain $I_C = 1\text{A}$, $V_{CE} = 5\text{V}$			100	
f_T	Cut off Frequency	GHz		6.0	
P_{out}	Output power	W	8		
I_{CBO}	Collector Current $V_{CB} = 28\text{V}$, $I_E = 0$	A			2
ψ	Load Mismatch $V_{CC} = 22\text{ V}$, $I_E = 2.0\text{ A}$, $f = 1.35 - 1.85\text{ GHz}$ $P_{out} = 8\text{ W}$			5:1	

BIPOLARICS, INC.**Part Number BPT1419B08****SILICON MICROWAVE POWER TRANSISTOR****PRODUCT DATA SHEET**

Frequency	Z Source		Z Load	
GHz	R	jX	R	jX
1.35	13.8	-14.0	4.2	0.0
1.5	11.2	-12.8	5.6	0.5
1.7	10.7	-8.4	6.0	-1.5
1.85	20.0	-9.3	4.2	-2.1