BIPOLARICS, INC. Part Number BPT1819E08

NPN SILICON MICROWAVE POWER TRANSISTORS

PRODUCT DATA SHEET

FEATURES:

- High Output Power
  8 W @ 1.8 GHz
- High Gain Bandwidth Product
  f_t = 6.0 GHz typ @ I_C = 1.28 A
- High Gain
  G_{PE} = 9.0 dB @ 1.8 GHz
- Gold Metallization System
- High thermal efficiency BeO 6 Lead Flange package (package 36)

DESCRIPTION AND APPLICATIONS:

Bipolarics' BPT1819E08 is a high performance silicon bipolar transistor intended for linear power applications at frequencies of 1.8 to 1.9 GHz. Typical applications include amplifiers in aeronautical, maritime and personal communication applications. The BPT1819E08 is bonded common emitter for linear applications. Linear output power of 8 Watts can be achieved. BeO flange packaging makes this device excellent for industrial and military products. Uniformity and reliability are assured by the use of ion implanted junctions, ion implanted ballast resistors and gold metallization.

Absolute Maximum Ratings:

SYMBOL	PARAMETERS	RATING	UNITS
V_{CES}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	20	V
V_{EBO}	Emitter-Base Voltage	3.0	V
I_C	Collector Current	2.56	A
T_J	Junction Temperature	200	°C
T_{STG}	Storage Temperature	-65 to 200	°C
θ_{JC}	Thermal Resistance	4.5	C/W

PERFORMANCE DATA:

- Electrical Characteristics (T_A = 25°C)

SYMBOL	PARAMETERS & CONDITIONS V_{CE} = 15V, I_C = 1.28 A, Class A,Common Emitter unless stated		UNIT	MIN.	TYP.	MAX.
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = 0.1 mA	V	20		
P_{1dB}	Output Power at 1dB compression	f = 1.8 GHz	W		8.0	
G_{PE}	Class A P_{OUT} = 8 W	f = 1.8 GHz	dB		9.0	
η	Efficiency:	Class A Class C	%		30 65	
h_{FE}	Forward Current Transfer Ratio: V_{CE} = 8.0V, I_C = 800 mA	f = 1.0 MHz		20	60	100
C_{CB}	Collector Base Capacitance:	f = 1.0 MHz I_E = 0	pF		16.0	
P_T	Total Power Dissipation		W			24