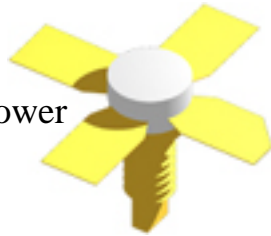


SILICON MICROWAVE POWER TRANSISTOR

PRODUCT DATA SHEET

FEATURES:

- High Output Power
3 W @ 1 GHz
- High Gain Bandwidth Product
 $f_t = 6.0 \text{ GHz @ } I_C = 600 \text{ mA}$
- High Gain
 $|S_{21}|^2 = 12.0 \text{ dB @ } 1.0 \text{ GHz}$
- Stud Mount packaging available



DESCRIPTION AND APPLICATIONS:

Bipolarics' BPT1E3 is a high performance silicon bipolar transistor intended for medium power applications at VHF and UHF frequencies to 1.0 GHz. Typical applications include wide band oscillators and amplifiers in CATV, aeronautical, maritime and personal communication applications. The BPT1E3 is bonded common emitter for linear applications. Linear output power of 3 watt can be achieved. Stud Mount 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_{CBO}	Collector-Base Voltage @ 100 μ A	40	V
V_{CEO}	Collector-Emitter Voltage @ 100 μ A	20	V
V_{EBO}	Emitter-Base Voltage @ 10 μ A	3.0	V
I_C	Collector Current (instantaneous)	900	mA
T_J (1)	Junction Temperature	200	$^{\circ}$ C
T_{STG}	Storage Temperature	-65 to 150	$^{\circ}$ C

(1) Depends on package

PERFORMANCE DATA:

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

SYMBOL	PARAMETERS & CONDITIONS $V_{CE} = 15V, I_C = 600 \text{ mA, Class A, unless stated}$	UNIT	MIN.	TYP.	MAX.
P_{1dB}	Power output at 1 dB compression: $f = 1.0 \text{ GHz}$	W		3.0	
G_{1dB}	Gain at 1dB compression: $f = 1.0 \text{ GHz}$	dB		12.0	
η	Collector Efficiency Class A	%		30	
C_{CB}	Collector Base Capacitance: $f = 1 \text{ MHz, } I_E = 0$	pF		6.0	
h_{FE}	Forward Current Transfer Ratio: $V_{CE} = 8V, I_C = 300 \text{ mA}$		20	60	100
P_T	Total Power Dissipation ($T_C = 25^{\circ}$ C)	W		9	