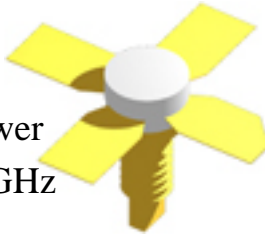


SILICON MICROWAVE POWER TRANSISTOR

PRODUCT DATA SHEET

FEATURES:

- High Output Power
4 Watts @ 3.0 GHz
- High Gain Bandwidth Product
 $f_t = 6.0 \text{ GHz @ } I_C = 800 \text{ mA}$
- High Gain
 $|S_{21}|^2 = 9.0 \text{ dB @ } 3.0 \text{ GHz}$
- Stud Mount Package (Package 28S)



DESCRIPTION AND APPLICATIONS:

Bipolarics' BPT30E04S is a high performance silicon bipolar transistor intended for linear power applications at UHF frequencies to 6.0 GHz. Typical applications include amplifiers in aeronautical, maritime and personal communication applications. The BPT30E04S is bonded common emitter for linear applications. Linear output power of 4 Watts can be achieved. Stud Mount Package 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.

PERFORMANCE DATA:

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

Absolute Maximum Ratings:

SYMBOL	PARAMETERS	RATING	UNITS
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	20	V
V_{EBO}	Emitter-Base Voltage	3.0	V
I_C	Collector Current (instantaneous)	1.2	A
T_J	Junction Temperature	200	$^\circ\text{C}$
T_{STG}	Storage Temperature	-65 to 150	$^\circ\text{C}$
θ_{JC}	Thermal Resistance	11	C/W

SYMBOL	PARAMETERS & CONDITIONS $V_{CE} = 15\text{V}, I_C = 800 \text{ mA}, \text{Class A}, \text{unless stated}$	UNIT	MIN.	TYP.	MAX.
P_{1dB}	Power output at 1 dB compression: $f = 3.0 \text{ GHz}$	W		4.0	
G_{1dB}	Gain at 1dB compression: $f = 3.0 \text{ GHz}$	dB		8.0	
η	Collector Efficiency Class A	%		30	
C_{CB}	Collector Base Capacitance: $f = 1 \text{ MHz}, I_E = 0$	pF		8.0	
h_{FE}	Forward Current Transfer Ratio: $V_{CE} = 8\text{V}, I_C = 400 \text{ mA}$		20	60	100
P_T	Total Power Dissipation ($T_C = 25^\circ\text{C}$)	W		12.0	