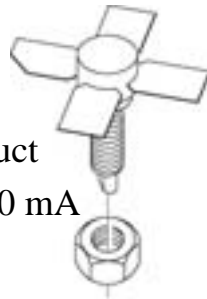


## SILICON MICROWAVE POWER TRANSISTOR

### PRODUCT DATA SHEET

#### FEATURES:

- High Gain Bandwidth Product  
 $f_t = 8 \text{ GHz typ @ } I_C = 140 \text{ mA}$
- High Gain  
 $|S_{21}|^2 = 14.2 \text{ dB @ } 1.0 \text{ GHz}$   
 $8.2 \text{ dB @ } 2.0 \text{ GHz}$
- Stud Mount package (package 28S)



#### DESCRIPTION AND APPLICATIONS:

Bipolarics' BPT15V1E1E is a high performance silicon bipolar transistor intended for medium power linear and Class C applications at VHF, UHF and microwave frequencies in 7.2 and 12V systems. Depending on package type, the BPT15V1E1E can operate at up to 1.0W. These applications include high intermod receivers, CATV and instrumentation amplifiers as well as pre-drivers, drivers and final stages in transmitter applications such as cellular telephone. Stud Mount packaging makes this device excellent for industrial and military products.

#### Absolute Maximum Ratings:

SYMBOL	PARAMETERS	RATING	UNITS
$V_{CBO}$	Collector-Base Voltage	25	V
$V_{CEO}$	Collector-Emitter Voltage	15	V
$V_{EBO}$	Emitter-Base Voltage	1.5	V
$I_C$	Collector Current (continuous)	240	mA
$I_C^{MAX}$	Collector Current (instantaneous)	360	mA
$T_J$	Junction Temperature	200	°C
$T_{STG}$	Storage Temperature	-65 to 150	°C
$\theta_{JA}$	Thermal Resistance	50	C/W

#### PERFORMANCE DATA:

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

SYMBOL	PARAMETERS & CONDITIONS $V_{CE} = 8V, I_C = 120 \text{ mA}$ , Class A, unless stated	UNIT	MIN.	TYP.	MAX.
$f_t$	Gain Bandwidth Product	GHz		8.0	
$ S_{21} ^2$	Insertion Power Gain: f = 1.0 GHz f = 2.0 GHz	dB dB		14.2 8.2	
$P_{1dB}$	Power output at 1dB compression: f = 1.0 GHz $I_C = 150 \text{ mA}$	dBm		30.0	
NF	Noise Figure: $V_{CE} = 5V, I_C = 20 \text{ mA}$ f = 1.0 GHz	dB		1.6	
$h_{FE}$	Forward Current Transfer Ratio: $V_{CE} = 5V, I_C = 30 \text{ mA}$		30	100	300
$I_{CBO}$	Collector Cutoff Current : $V_{CB} = 8V$	$\mu\text{A}$			0.8
$C_{CB}$	Collector Base Capacitance: $V_{CB} = 8V$ f = 1MHz	pF		.75	