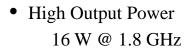
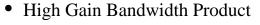
BIPOLARICS, INC. Part Number BPT1819E16

NPN SILICON MICROWAVE POWER TRANSISTORS

PRODUCT DATA SHEET

FEATURES:





$$f_t = 6.0 \text{ GHz typ } @ I_C = 2.56 \text{ A}$$

High Gain

$$G_{PE}$$
 = 9.0 dB @ 1.8 GHz

- Gold Metallization System
- High thermal efficiency BeO 6 Lead Flange package (package 36)

PERFORMANCE DATA:

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

DESCRIPTION AND APPLICATIONS:

Bipolarics' BPT1819E016 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 BPT1819E16 is bonded common emitter for linear applications. Linear output power of 16 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 | 5.12 | Α |
| T ₁ | Junction Temperature | 200 | °C |
| T _{STG} | Storage Temperature | -65 to 200 | °C |

| θјс | Thermal Resistance | 4.5 | C/W |
|-----|--------------------|-----|-------|
| 030 | Thomas Robiotarioo | 1.0 | O, 11 |

| SYMBOL | PARAMETERS & CONDITIONS V _{CE} = 15V, I _C =2.56 A, Class A,Common Emitter unless stated | | UNIT | MIN. | TYP. | MAX. |
|------------------|--|-----------------------------------|------|------|----------|------|
| BVceo | Collector-Emitter Breakdown Voltage | Ic = 0.1 mA | V | 20 | | |
| P _{1dB} | Output Power at 1dB compression | f = 1.8 GHz | W | | 16.0 | |
| G _{PE} | Class A P _{OUT} = 16W | 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 =1.6 A | f = 1.0 MHz | | 20 | 60 | 100 |
| С _{СВ} | Collector Base Capacitance: | f = 1.0 MHz I _E = 0 | pF | | 32.0 | |
| P _T | Total Power Dissipation | | W | | | 48 |