

SILICON MICROWAVE POWER TRANSISTOR

PRODUCT DATA SHEET

FEATURES:

- Common Base Package Configuration
- High Output Power
12 W @ 1.0 GHz
- High Gain Bandwidth Product
 $f_t = 6.0 \text{ GHz @ } I_C = 1200 \text{ mA}$
- High Gain
 $G_{PE} = 7.5 \text{ dB @ } 1.0\text{GHz}$
- High Reliability
Gold Metallization
Nitride Passivation
- Diffused Ballast Resistors
- Ceramic & Pill Packages available

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) | 1800 | mA |
| T_J | Junction Temperature | 200 | °C |
| T_{STG} | Storage Temperature | -65 to 200 | °C |

PERFORMANCE DATA:

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

| SYMBOL | PARAMETERS & CONDITIONS $V_{CE} = 15\text{V}, I_C = 1200 \text{ mA}, \text{Class C}$ | UNIT | MIN. | TYP. | MAX. |
|-----------|---|------|------|------|------|
| P_{1dB} | Power output at 1 dB compression: $f = 1.0 \text{ GHz}$ | W | | 12 | |
| η | Collector Efficiency Class C | % | | 65 | |
| h_{FE} | Forward Current Transfer Ratio: $V_{CB} = 8\text{V}, I_C = 600 \text{ mA}$ | | 20 | 60 | 100 |
| C_{OB} | Output Capacitance: $f = 1 \text{ MHz}, I_E = 0$ | pF | | 12.0 | |
| P_T | Total Power Dissipation | W | | 18 | |