1-33-13

**PT9798**

2

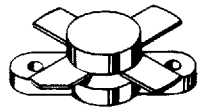
## The RF Line

# SSB Power Transistor

. . . designed primarily for wideband, large-signal output and driver amplifier stages in the 2 to 30 MHz frequency range.

- Designed for Class A, AB or C Power Amplifiers
- Specified 50 Volt, 28 MHz Characteristics:
  - Output Power — 75 Watts
  - Power Gain — 15 dB Min
- 100% Tested for Load Mismatch at all Phase Angles with ∞:1 VSWR
- Gold Metallization for Improved Reliability
- Diffused Ballast Resistors

**2–30 MHz**
**75 WATTS**
**50 VOLT**
**SSB POWER**
**TRANSISTOR**
**NPN SILICON**



CASE 211-07, STYLE 1
(.380 SOE F)

**MAXIMUM RATINGS**

| Rating | Symbol | Value | Unit |
|---|---|---|---|
| Collector-Emitter Voltage | $V_{CEO}$ | 55 | Vdc |
| Collector-Base Voltage | $V_{CBO}$ | 110 | Vdc |
| Emitter-Base Voltage | $V_{EBO}$ | 4 | Vdc |
| Collector Current — Continuous | $I_C$ | 15 | Adc |
| Total Device Dissipation @ $T_C$ = 25°C<br>Derate above 25°C | $P_D$ | 150<br>1 | Watts<br>W/°C |
| Operating Junction Temperature | $T_J$ | 200 | °C |
| Storage Temperature Range | $T_{stg}$ | −65 to +150 | °C |

**THERMAL CHARACTERISTICS**

| Characteristic | Symbol | Max | Unit |
|---|---|---|---|
| Thermal Resistance, Junction to Case | $R_{\theta JC}$ | 1 | °C/W |

**ELECTRICAL CHARACTERISTICS**

| Characteristic | Symbol | Min | Typ | Max | Unit |
|---|---|---|---|---|---|
| **OFF CHARACTERISTICS** | | | | | |
| Collector-Emitter Breakdown Voltage ($I_C$ = 50 mA, $I_B$ = 0) | $V_{(BR)CEO}$ | 55 | — | — | Vdc |
| Collector-Base Breakdown Voltage ($I_C$ = 100 mA, $I_E$ = 0) | $V_{(BR)CBO}$ | 110 | — | — | Vdc |
| Emitter-Base Breakdown Voltage ($I_E$ = 5 mA, $I_C$ = 0) | $V_{(BR)EBO}$ | 4 | — | — | Vdc |
| **ON CHARACTERISTICS** | | | | | |
| DC Current Gain ($I_C$ = 1 A, $V_{CE}$ = 5 V) | $h_{FE}$ | 10 | — | 70 | — |
| **FUNCTIONAL TESTS** | | | | | |
| Common-Emitter Amplifier Power Gain ($V_{CE}$ = 50 V, $P_{out}$ = 75 W, f = 28 MHz) | $G_{PE}$ | 15 | — | — | dB |
| Load Mismatch ($V_{CE}$ = 50 V, $P_{out}$ = 75 W PEP, f = 28 MHz, Load VSWR = ∞:1, All Phase Angles) | $\psi$ | No Degradation in Output Power | | | |
| Intermodulation Distortion ($V_{CE}$ = 50 Vdc, $P_{out}$ = 75 W, f = 28 MHz) | IMD | — | — | −32 | dB |

## TYPICAL CHARACTERISTICS

2

CONDITIONS:
$V_{CC}$ = 50 V
$I_{CQ}$ = 60 mA
$P_{out}$ = 75 WATTS

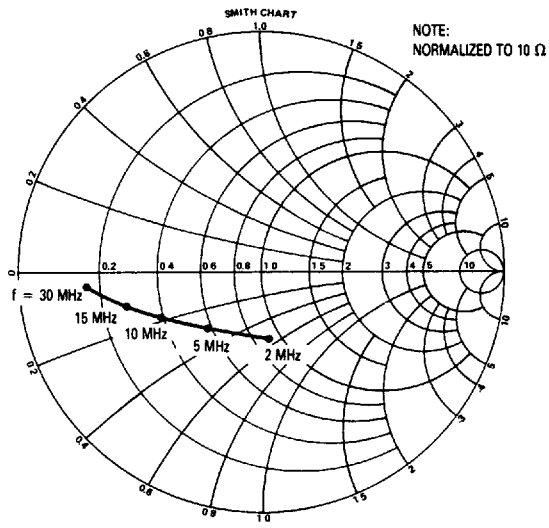



**Figure 1. Series Equivalent Input Impedance**