SILICON NPN EPITAXIAL PLANAR TYPE

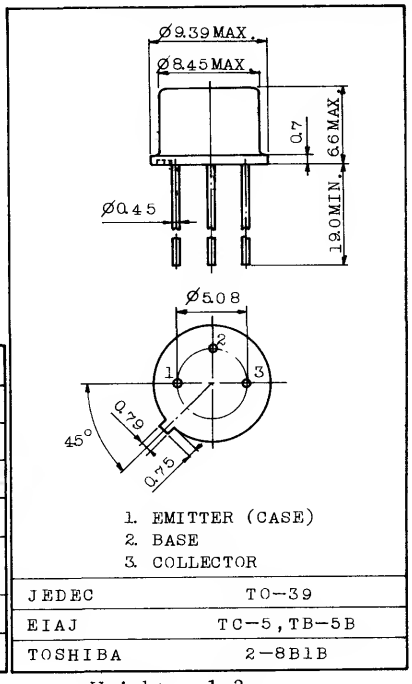
# 2SC1955

VHF BAND POWER AMPLIFIER APPLICATIONS.

FEATURES :

- Output Power : $P_O$=2.8W (Min.)
  ( f=175MHz, $V_{CC}$=13.5V, $P_i$=0.15W)
- 100% Tested for Load Mismatch Stress at All Phase Angles with 30:1 VSWR @ $V_{CC}$=13.5V, $P_O$=4W, f=175MHz

Unit in mm




1. EMITTER (CASE)
2. BASE
3. COLLECTOR

| | |
|---|---|
| JEDEC | TO-39 |
| EIAJ | TC-5, TB-5B |
| TOSHIBA | 2-8B1B |

Weight : 1.2g

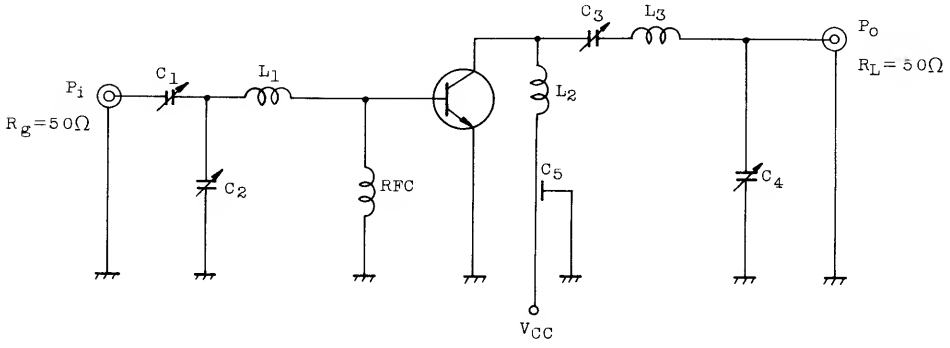
MAXIMUM RATINGS (Ta=25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|---|---|---|---|
| Collector-Base Voltage | $V_{CBO}$ | 35 | V |
| Collector-Emitter Voltage | $V_{CEO}$ | 17 | V |
| Emitter-Base Voltage | $V_{EBO}$ | 3.5 | V |
| Collector Current | $I_C$ | 0.8 | A |
| Collector Power Dissipation (Tc=25 °C) | $P_C$ | 7.5 | W |
| Junction Temperature | $T_j$ | 175 | °C |
| Storage Temperature Range | $T_{stg}$ | -65 ~ 175 | °C |

ELECTRICAL CHARACTERISTICS (Ta=25°C)

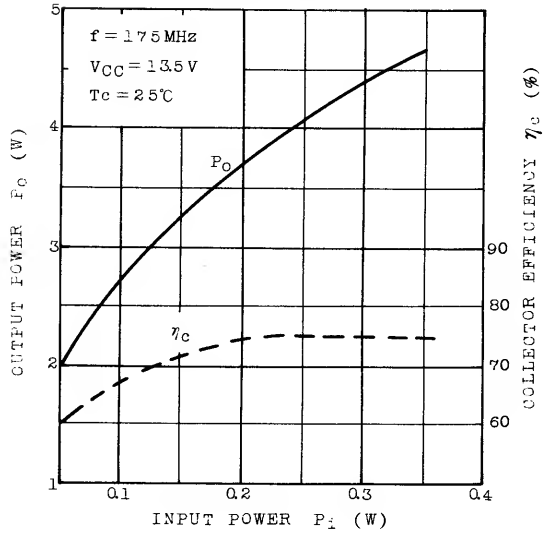
| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|---|---|---|---|---|---|---|
| Collector Cut-off Voltage | $I_{CBO}$ | $V_{CB}$=15V, $I_E$=0 | - | - | 1 | mA |
| Collector-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C$=1mA, $I_E$=0 | 35 | - | - | V |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C$=5mA, $I_B$=0 | 17 | - | - | V |
| Emitter-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E$=1mA, $I_C$=0 | 3.5 | - | - | V |
| DC Current Gain | $h_{FE}$ | $V_{CE}$=5V, $I_C$=0.5A | 10 | - | - | |
| Collector Output Capacitance | $C_{ob}$ | $V_{CB}$=10V, $I_E$=0, f=1MHz | - | - | 15 | pF |
| Output Power | $P_O$ | (Fig.) | 2.8 | 3.2 | - | W |
| Power Gain | $G_{pe}$ | $V_{CC}$=13.5V, f=175MHz, | 12.7 | 13.3 | - | dB |
| Collector Efficiency | $\eta_c$ | $P_i$=0.15W | 60 | 72 | - | % |

Fig. $P_O$ TEST CIRCUIT




$C_1, C_2, C_3, C_4$ : ~30pF
$C_5$ : 1000pF FEED THROUGH
$L_1, L_2$ : $\phi$1.2 SILVER PLATED COPPER WIRE, 8ID, IT
$L_3$ : $\phi$1.2 SILVER PLATED COPPER WIRE, 8ID, $1\frac{3}{4}$T
RFC : 1$\mu$H CHOKE COIL

$P_O, \eta_C - P_i$




$P_O - V_{CC}$