

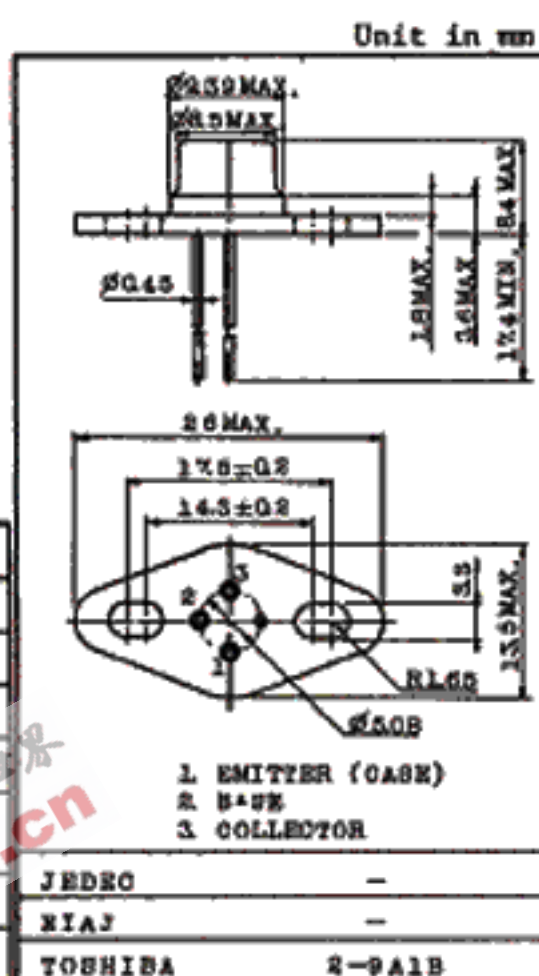
# VHF BAND POWER AMPLIFIER APPLICATIONS.

## FEATURES :

- Output Power :  $P_o=5W$  (Min.)  
( $f=175MHz$ ,  $V_{CC}=13.5V$ ,  $P_i=0.6W$ )
- 100% Tested for Load Mismatch Stress at All Phase Angles with 30:1 VSWR @  $V_{CC}=15V$ ,  $P_i=0.6W$ ,  $f=175MHz$

## MAXIMUM RATINGS ( $T_a=25^{\circ}C$ )

| 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                                    | $I_C$     | 1.4       | A           |
| Collector Power Dissipation<br>( $T_c=25^{\circ}C$ ) | $P_C$     | 10        | W           |
| Junction Temperature                                 | $T_j$     | 175       | $^{\circ}C$ |
| Storage Temperature Range                            | $T_{stg}$ | -65 ~ 175 | $^{\circ}C$ |

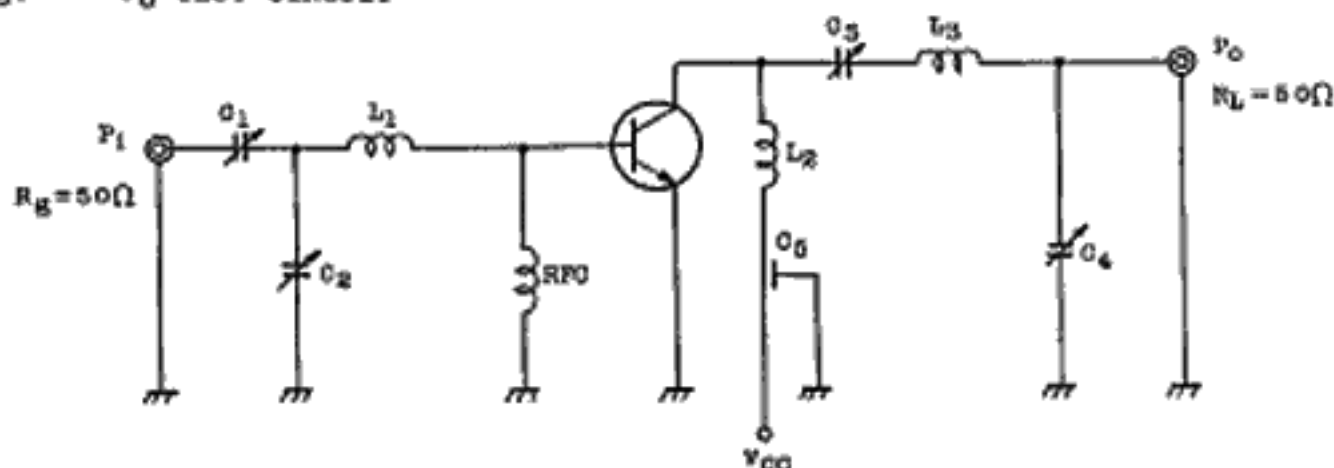


Weight : 3.7g

## ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}C$ )

| CHARACTERISTIC                      | SYMBOL        | TEST CONDITION                              | MIN. | TYP. | MAX. | UNIT |
|-------------------------------------|---------------|---------------------------------------------|------|------|------|------|
| Collector Cut-off Current           | $I_{CBO}$     | $V_{CB}=15V$ , $I_E=0$                      | —    | —    | 1    | mA   |
| Collector-Base Breakdown Voltage    | $V_{(BR)CBO}$ | $I_C=2mA$ , $I_E=0$                         | 35   | —    | —    | V    |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C=10mA$ , $I_E=0$                        | 17   | —    | —    | V    |
| Emitter-Base Breakdown Voltage      | $V_{(BR)EBO}$ | $I_E=0.2mA$ , $I_C=0$                       | 3.5  | —    | —    | V    |
| DC Current Gain                     | $h_{FE}$      | $V_{CE}=5V$ , $I_C=1A$                      | 10   | —    | —    |      |
| Collector Output Capacitance        | $C_{ob}$      | $V_{CB}=10V$ , $I_E=0$ , $f=1MHz$           | —    | 13   | 25   | pF   |
| Output Power                        | $P_o$         | (Fig.)                                      | 5.0  | 6.0  | —    | W    |
| Power Gain                          | $G_{pe}$      | $V_{CC}=13.5V$ , $f=175MHz$ ,<br>$P_i=0.6W$ | 9.2  | 10   | —    | dB   |
| Collector Efficiency                | $\eta_c$      |                                             | 60   | 76   | —    | %    |

Fig.  $P_O$  TEST CIRCUIT



$C_1, C_2, C_3, C_4$  :  $\sim 30\text{pF}$

$C_5$  : 1000pF FEED THROUGH

$L_1, L_2$  :  $\phi 1.2$  SILVER PLATED COPPER WIRE, 8ID, 1T

$L_3$  :  $\phi 1.2$  SILVER PLATED COPPER WIRE, 8ID, 7/4T

RFC : 1 $\mu$ H CHOKE COIL

