

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07470 DT-33-07

SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

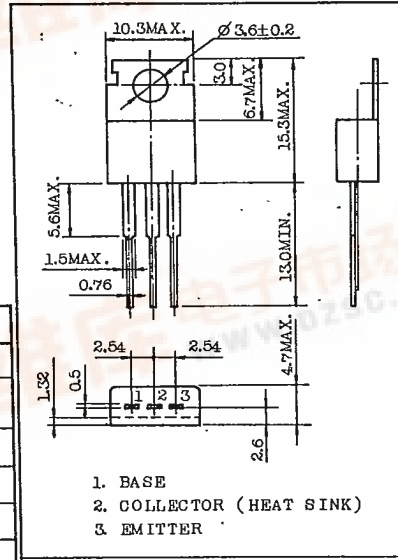
2SC2075

27MHz POWER AMPLIFIER APPLICATIONS.

Unit in mm

FEATURES:

- Recommended for Output Stage Application of AM 4W Transmitter.
- High Power Gain.
- Wide Area of Safe Operation.



MAXIMUM RATINGS (Ta=25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|---|------------------|---------|------|
| Collector-Base Voltage | V _{CB0} | 80 | V |
| Collector-Emitter Voltage R _{BE} =50Ω | V _{CER} | 80 | V |
| Emitter-Base Voltage | V _{EBO} | 4.0 | V |
| Collector Current | I _C | 4 | A |
| Emitter Current | I _E | -4 | A |
| Collector Power Dissipation (T _c =25°C) | P _C | 10 | W |
| Junction Temperature | T _J | 150 | °C |
| Storage Temperature Range | T _{stg} | -55~150 | °C |

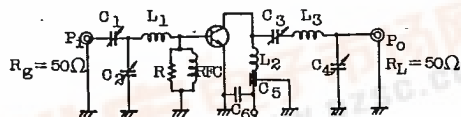
| | |
|---------|--------------|
| JEDEC | TO - 220 AB |
| EIAJ | SC - 46 |
| TOSHIBA | 2 - 10 A 1 A |

Mounting Kit No. AC75
Weight : 1.9g

ELECTRICAL CHARACTERISTICS (Ta=25°C)

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT | |
|--------------------------------------|----------------------|---|--|------|------|------|---|
| Collector Cut-off Current | I _{CBO} | V _{CB} =30V, I _E =0 | - | - | 10 | μA | |
| Breakdown Voltage | Collector-Emitter | V(BR) _{CER} | I _C =10mA, R _{BE} =50Ω | 80 | - | - | V |
| | Emitter-Base | V(BR) _{EBO} | I _E =1.0mA, I _C =0 | 4.0 | - | - | V |
| DC Current Gain | h _{FE} (1) | V _{CE} =5V, I _C =0.5A | 25 | - | - | - | |
| | h _{FE} (2) | V _{CE} =2V, I _C =3A | 15 | - | - | - | |
| Collector-Emitter Saturation Voltage | V _{CE(sat)} | I _C =3A, I _B =0.3A | - | - | 1.5 | V | |
| Transition Frequency | f _T | V _{CE} =5V, I _C =500mA | - | 100 | - | MHz | |
| Collector Output Capacitance | C _{ob} | V _{CB} =10V, I _E =0, f=1MHz | - | 40 | - | pF | |
| Output Power (Fig. 1) | P _o | V _{CC} =12V, P _i =0.3W, f=27MHz | 3.5 | - | - | W | |

Fig. 1 P_o TEST CIRCUIT

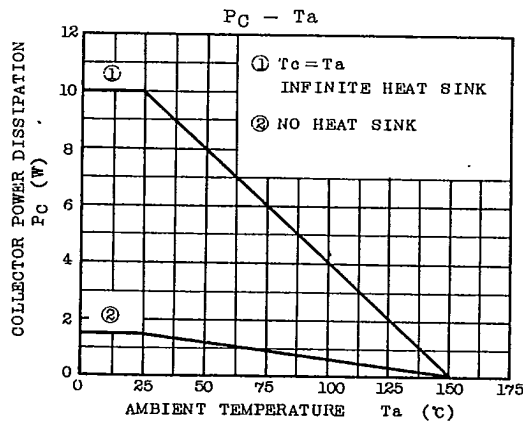
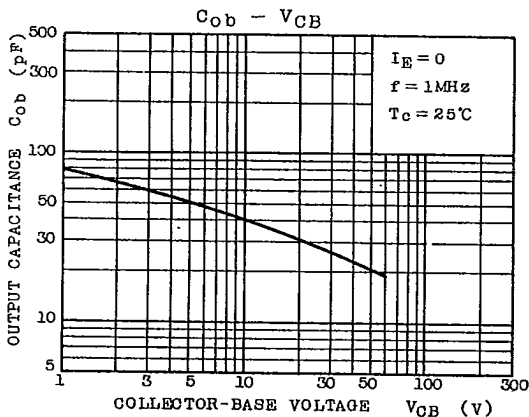
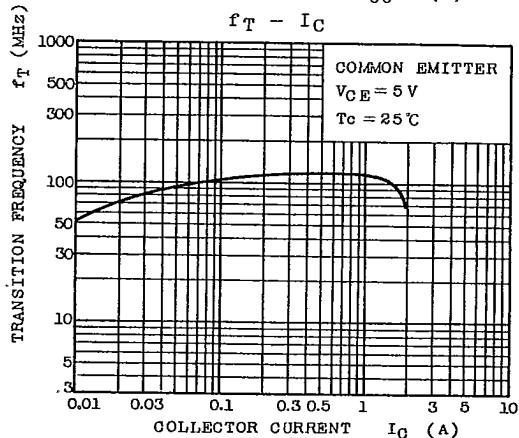
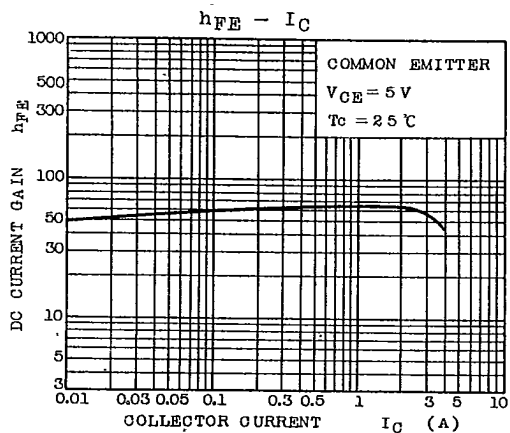
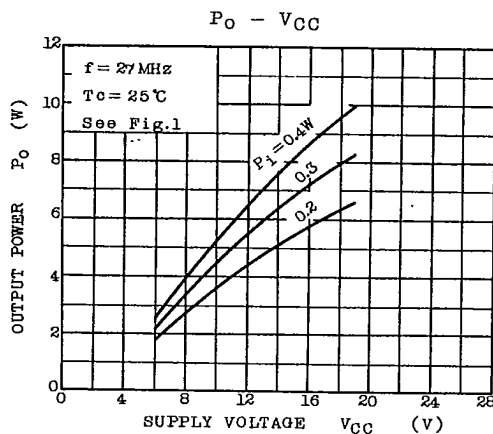
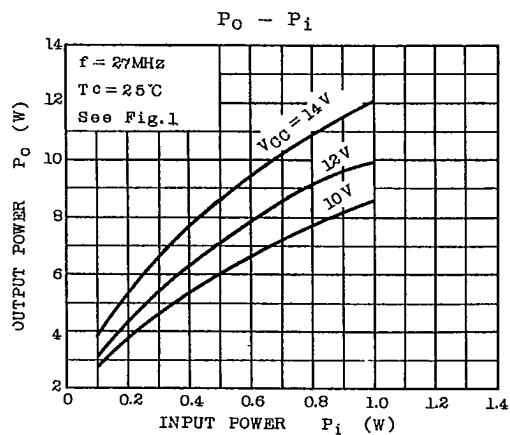


- C₁: ~100pF, C_{2,3}: ~150pF, C₄: ~300pF, C₅: 1000pF
- C₆: 0.01μF R: 250Ω
- L₁: 0.8mm∅ UEW, 7T, 8mm I.D L₂: 0.8mm∅ UEW, 5T, 8mm I.D
- L₃: 0.8mm∅ UEW, 10T, 8mm I.D RFC: 0.35mm∅ UEW, 17T, 5mm I.D

TOSHIBA CORPORATION

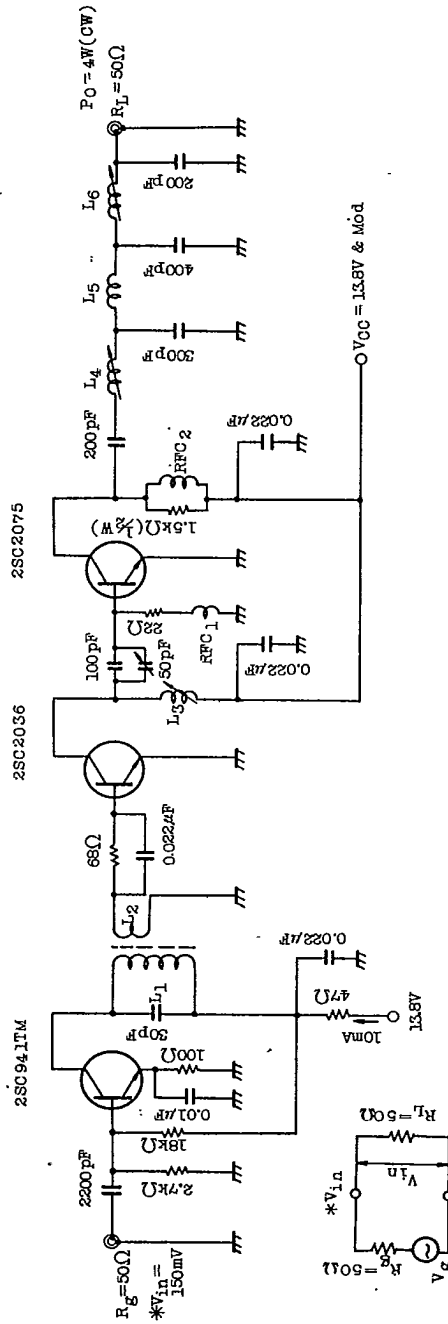


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FIG.2 27MHz 4W OUTPUT AM TRANSCEIVER CIRCUIT



- L₁ : 4mm∅ BOBBIN WITH FERRITE CORE , 0.06mm∅ UEW, 8 TURNS
- L₂ : 4mm∅ BOBBIN WITH FERRITE CORE , 0.06mm∅ UEW, 2 TURNS
- L_{3, L₆} : 6.5mm∅ BOBBIN WITH FERRITE CORE , 0.6mm∅ Sn PLATED COPPER WIRE 6½ TURNS
- L₄ : 6.5mm∅ BOBBIN WITH FERRITE CORE , 0.6mm∅ Sn PLATED COPPER WIRE 8½ TURNS
- L₅ : 0.6mm∅ Sn PLATED COPPER WIRE , 6.5mm I.D., 8½ TURNS
- RFC₁ : 47μH, 7BA-480k (TOKO)
- RFC₂ : 0.2mm∅ UEW, 30 TURNS

RESISTER : ¼ W CARBON
CAPACITER : CERAMIC

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APPLICATION CIRCUIT CHARACTERISTIC

