

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07456 07-33-07

SILICON NPN EPITAXIAL PLANAR TYPE

2SC1678

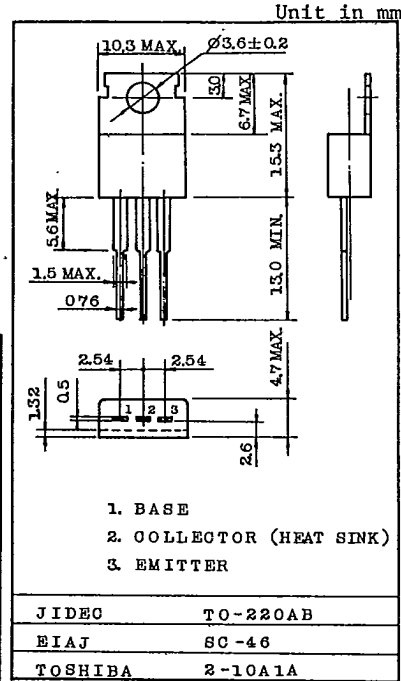
27 MHz POWER AMPLIFIER APPLICATIONS.

FEATURES:

- Recommended for Output Stage Application of AM 4W Transmitter.
- High Power Gain.

MAXIMUM RATINGS (Ta=25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|---|------------------|-----------|------|
| Collector-Base Voltage | V _{CBO} | 65 | V |
| Collector-Emitter Voltage R _{BE} =10Ω | V _{CER} | 65 | V |
| Emitter-Base Voltage | V _{EBO} | 4.0 | V |
| Collector Current | I _C | 3 | A |
| Base Current | I _B | 0.4 | A |
| Emitter Current | I _E | -3 | 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 |



Mounting Kit No. AC75
Weight : 1.9g

ELECTRICAL CHARACTERISTICS (Ta=25°C)

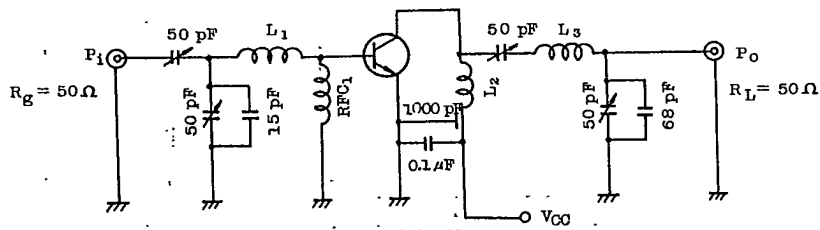
| CHARACTERISTIC | | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|-------------------|----------------------|--|------|------|------|------|
| Collector Cut-off Current | | I _{CBO} | V _{CB} =30V, I _C =0 | - | - | 10 | μA |
| Collector Cut-off Current | | I _{CEO} | V _{CE} =20V, I _B =0 | - | - | 100 | μA |
| Breakdown Voltage | Collector-Base | V(BR)CBO | I _C =1.0mA, I _E =0 | 65 | - | - | V |
| | Collector-Emitter | V(BR)CER | I _C =10mA, R _{BE} =10Ω | 65 | - | - | |
| | Emitter-Base | V(BR)EBO | I _E =1.0mA, I _C =0 | 4.0 | - | - | |
| DC Current Gain | | h _{FE} (1) | V _{CE} =5V, I _C =0.5A (Note) | 15 | - | - | |
| | | h _{FE} (2) | V _{CE} =5V, I _C =1.5A (Note) | 10 | - | - | |
| Collector Emitter Saturation Voltage | | V _{CE(sat)} | I _C =0.5A, I _B =0.05A | - | 0.5 | 1.0 | V |
| Transition Frequency | | f _T | V _{CE} =5V, I _C =100mA | 100 | - | - | MHz |
| Collector Output Capacitance | | C _{ob} | V _{CB} =10V, I _E =0, f=1MHz | - | 30 | 45 | pF |
| Output Power Fig. | | P _o | V _{CC} =12V, P ₁ =0.4W I _{DC} =41.5mA(Typ.), f=27MHz | 3.0 | - | - | W |

Note : Pulse Test : Pulse Width ≤ 300μs, Duty Cycle ≤ 2.0%

TOSHIBA CORPORATION

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2SC1678Fig. P₀ TEST CIRCUIT

- L_1 : ϕ 0.5 mm ENAMEL COATED COPPER WIRE, 7T, 8 mm I.D.
 L_2 : ϕ 0.5 mm ENAMEL COATED COPPER WIRE, 5T, 8 mm I.D.
 L_3 : ϕ 0.3 mm ENAMEL COATED COPPER WIRE, 18T, 6 mm I.D.
 RFC_1 : ϕ 0.2 mm ENAMEL COATED COPPER WIRE, 76T, 5 mm I.D.

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