

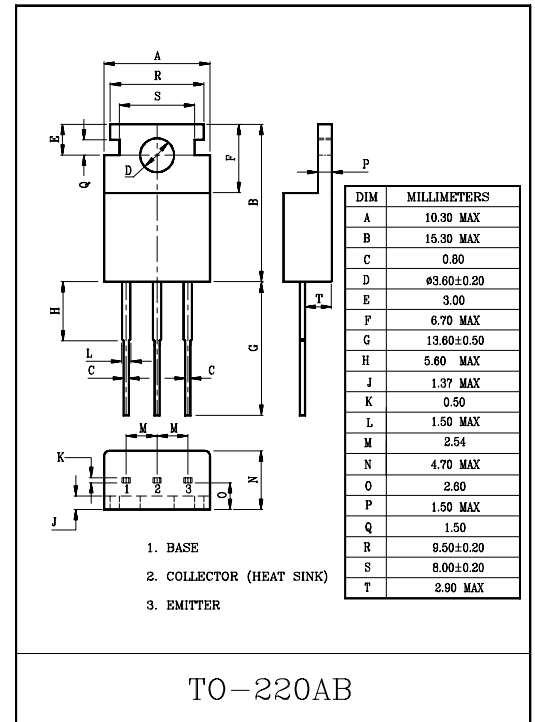
CB TRANSCEIVER TX FINAL AMPLIFIER APPLICATION.
HF TRANSCEIVER APPLICATION.

FEATURES

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

MAXIMUM RATINGS(Ta=25°C)

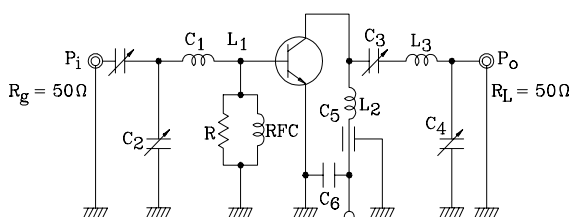
| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|---|------------------|---------|------|
| Collector-Base Voltage | V _{CBO} | 80 | V |
| Collector-Emitter Voltage (R _{BE} =50Ω) | V _{CER} | 80 | V |
| Emitter-Base Voltage | V _{EBO} | 4 | V |
| Collector Current | I _C | 4 | A |
| Emitter Current | I _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 |



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 | - | - | V |
| DC Current Gain | h _{FE} | V _{CE} =5V, I _C =0.5A | 100 | - | 200 | | |
| 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 | 4 | - | - | W | |

Fig.1o P TEST CIRCUIT



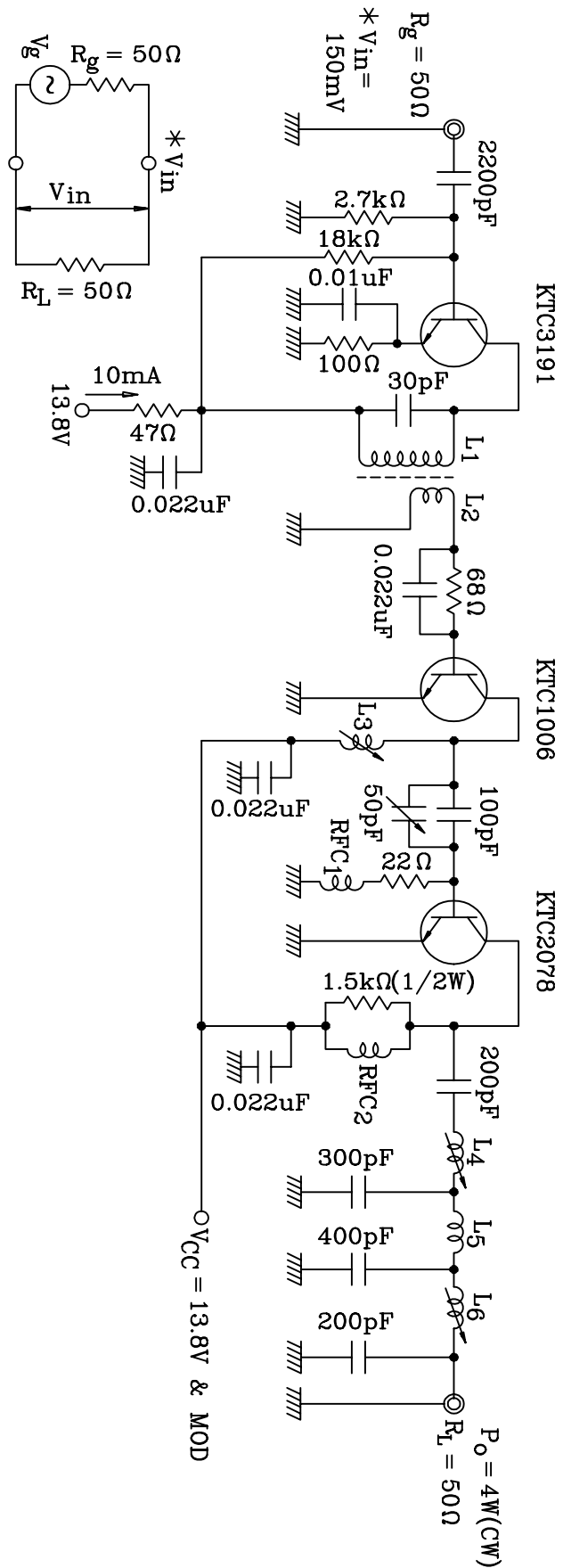
C₁:~100pF, C₂,C₃:~150pF, C₄:~300pF, C₅:1000pF

C₆:0.01μF, R:250Ω

L₁:0.8mm φ UEW,7T,8mm I.D L₂:0.8mm φ UEW,5T,8mm I.D

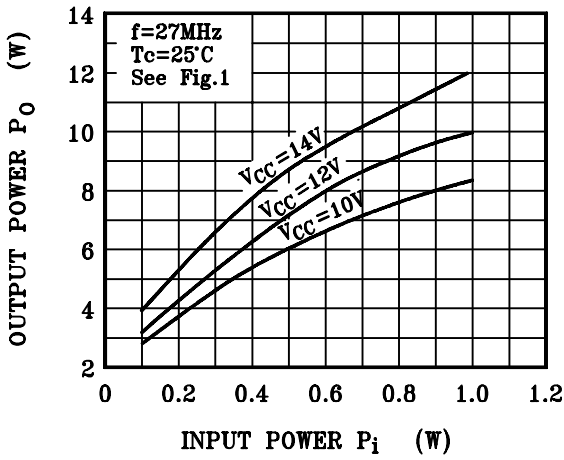
L₃:0.8mm φ UEW,10T,8mm I.D RFC:0.35mm φ UEW,17T,5mm I.D

Fig.2 27MHz 4W OUTPUT AM TRANSCEIVER CIRCUIT

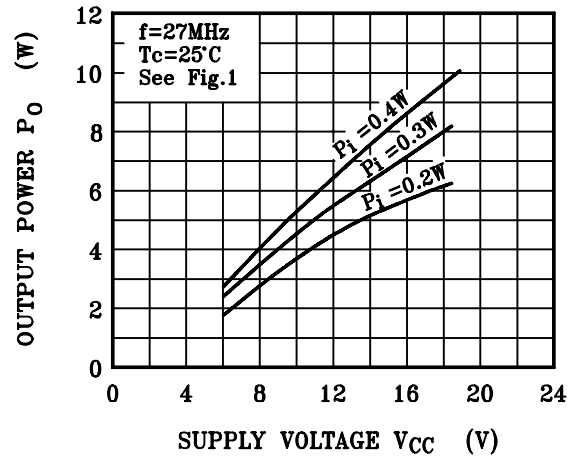


- L1 : 4mm ϕ BOBBIN WITH FERRITE CORE, 0.08mm ϕ UEW, 8 TURNS
 - L2 : 4mm ϕ BOBBIN WITH FERRITE CORE, 0.08mm ϕ UEW, 2 TURNS
 - L3, L6 : 6.5mm ϕ BOBBIN WITH FERRITE CORE, 0.6mm ϕ Sn PLATED COPPER WIRE 6 $\frac{1}{2}$ TURNS
 - L4 : 6.5mm ϕ BOBBIN WITH FERRITE CORE, 0.6mm ϕ Sn PLATED COPPER WIRE 8 $\frac{1}{2}$ TURNS
 - L5 : 0.6mm ϕ Sn PLATED COPPER WIRE, 6.5mm I.D, 8 $\frac{1}{2}$ TURNS
 - RFC1 : 4.7 μ H, 7BA-480k (TOKO)
 - RFC2 : 0.2mm ϕ UEW, 30 TURNS
- RESISTOR : 1/4W CARBON
CAPACITOR : CERAMIC

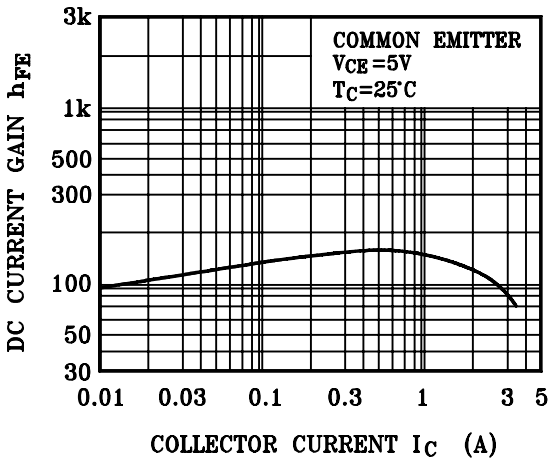
$P_0 - P_i$



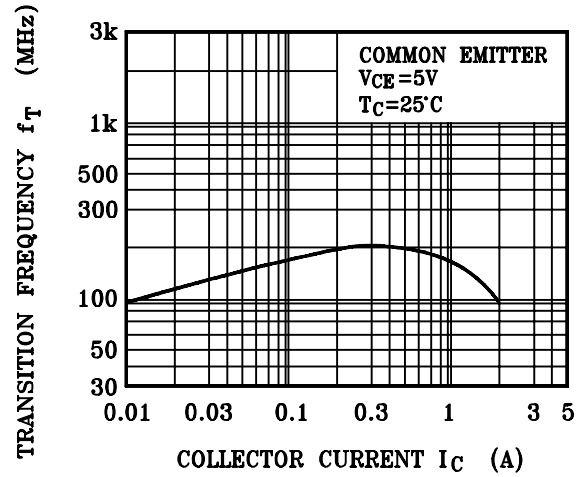
$P_0 - V_{CC}$



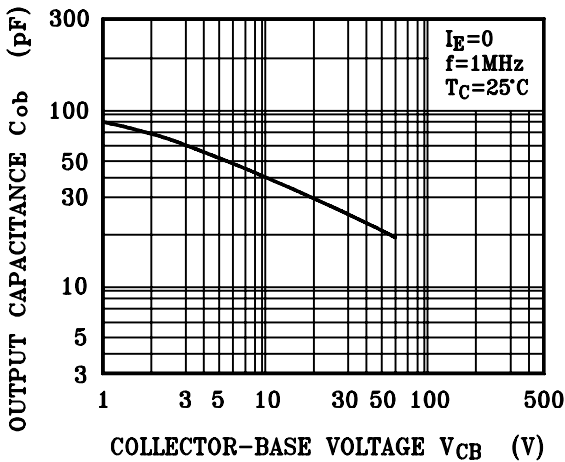
$h_{FE} - I_c$



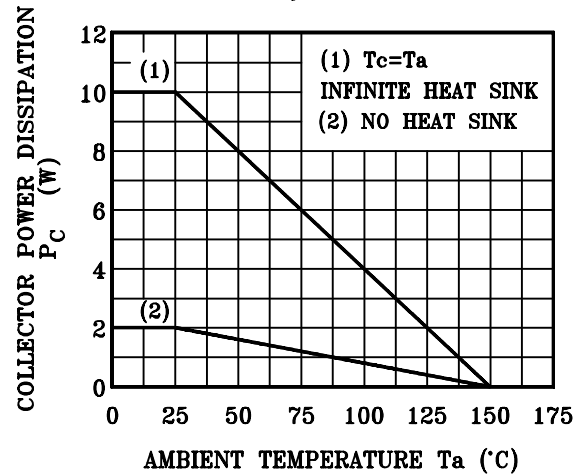
$f_T - I_c$



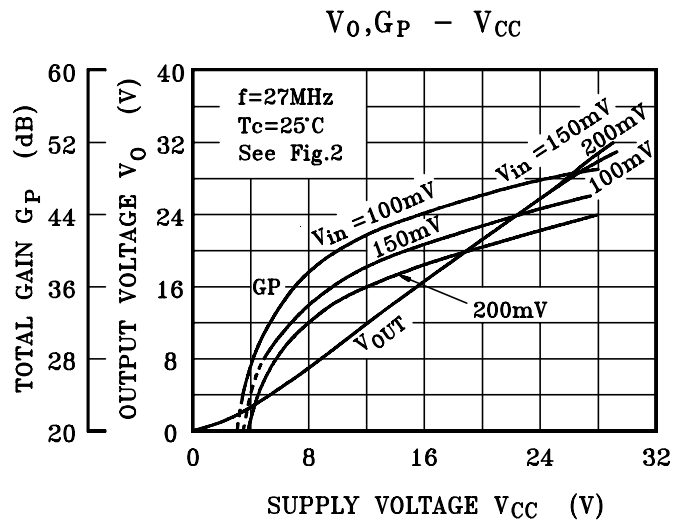
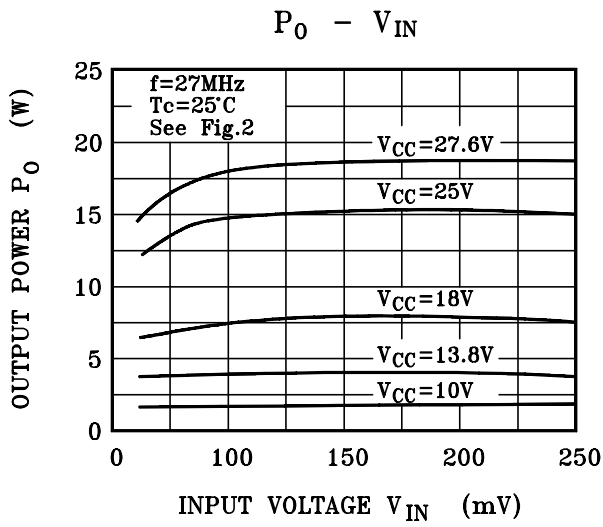
$C_{ob} - V_{CB}$



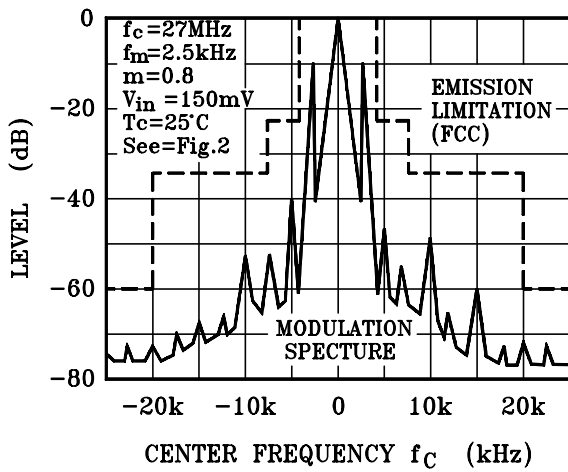
$P_c - T_a$



KTC2078



80% MODULATION SPECTRUM
EMISSION LIMITATION (FCC)



85% MODULATION SPECTRUM
EMISSION LIMITATION (FCC)

