

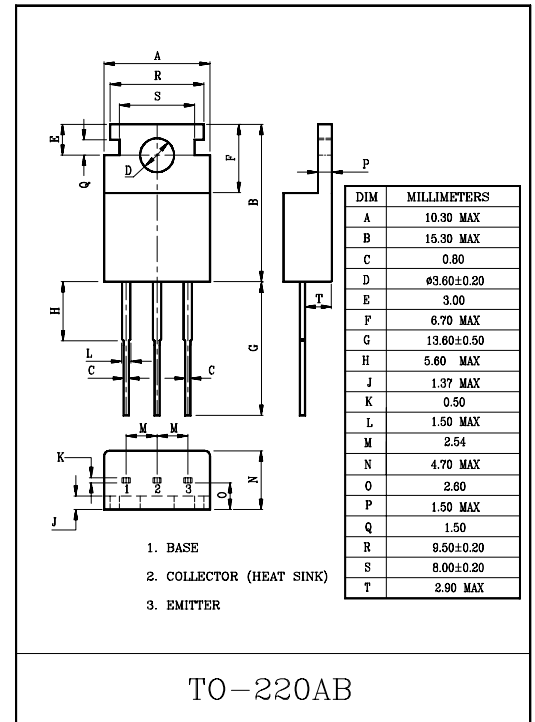
CB TRANSCEIVER TX FINAL AMPLIFIER APPLICATION.
HF TRANSCEIVER APPLICATION.

FEATURES

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

MAXIMUM RATINGS(Ta=25°C)

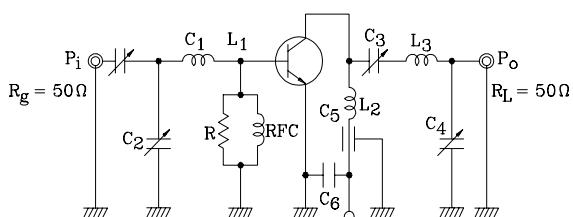
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage ($R_{BE}=50\Omega$)	V_{CER}	80	V
Emitter-Base Voltage	V_{EBO}	4	V
Collector Current	I_C	4	A
Emitter Current	I_E	-4	A
Collector Power Dissipation ($T_c=25^\circ\text{C}$)	P_C	10	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55~150	$^\circ\text{C}$



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	$V_{(BR)CER}, I_C=10mA, R_{BE}=50\Omega$	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



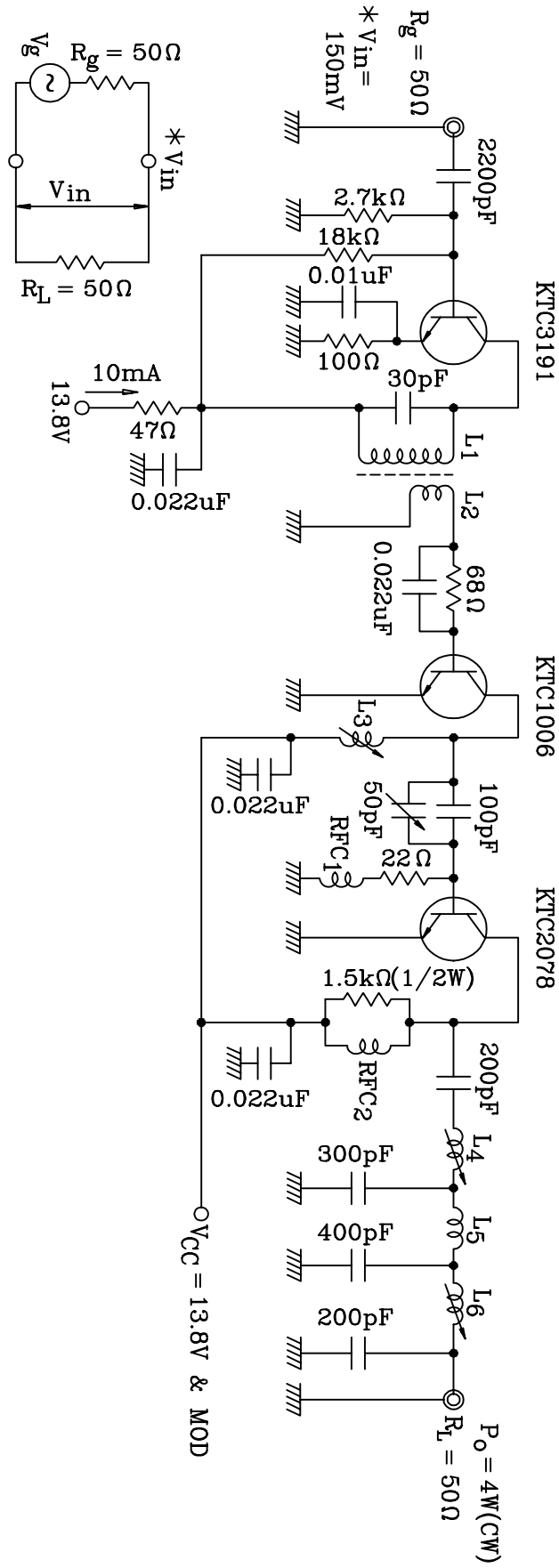
$C_1: \sim 100pF, C_2, C_3: \sim 150pF, C_4: \sim 300pF, C_5: 1000pF$

$C_6: 0.01\mu F, R: 250\Omega$

$L_1: 0.8mm \phi \text{ UEW}, 7T, 8mm \text{ I.D. } L_2: 0.8mm \phi \text{ UEW}, 5T, 8mm \text{ I.D.}$

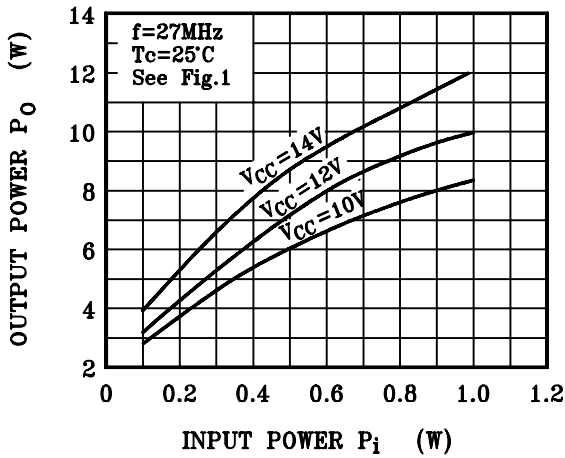
$L_3: 0.8mm \phi \text{ UEW}, 10T, 8mm \text{ I.D. } RFC: 0.35mm \phi \text{ UEW}, 17T, 5mm \text{ I.D.}$

Fig.2 27MHz 4W OUTPUT AM TRANSCEIVER CIRCUIT

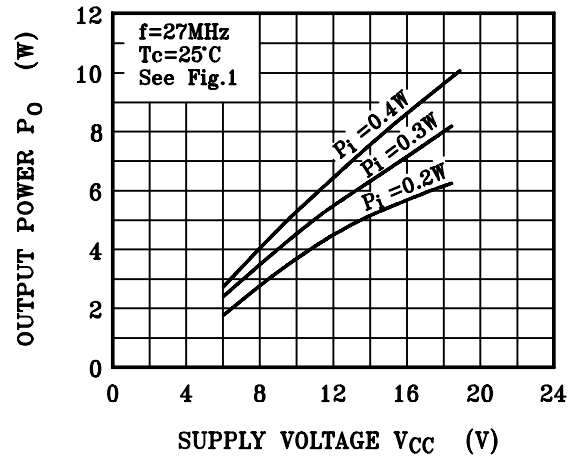


- L_1 : 4mm ϕ BOBBIN WITH FERRITE CORE, 0.08mm ϕ UEW, 8 TURNS
 L_2 : 4mm ϕ BOBBIN WITH FERRITE CORE, 0.08mm ϕ UEW, 2 TURNS
 L_3, L_6 : 6.5mm ϕ BOBBIN WITH FERRITE CORE, 0.6mm ϕ Sn PLATED COPPER WIRE 6 $\frac{1}{2}$ TURNS
 L_4 : 6.5mm ϕ BOBBIN WITH FERRITE CORE, 0.6mm ϕ Sn PLATED COPPER WIRE 8 $\frac{1}{2}$ TURNS
 L_5 : 0.6mm ϕ Sn PLATED COPPER WIRE, 6.5mm I.D, 8 $\frac{1}{2}$ TURNS
 R_{FC1} : 4.7 μH , 7BA-480k (TOKO)
 R_{FC2} : 0.2mm ϕ UEW, 30 TURNS
 RESISTOR : 1/4W CARBON
 CAPACITOR : CERAMIC

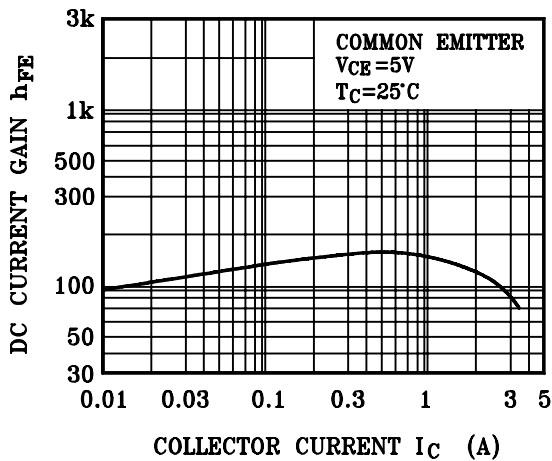
$P_0 - P_i$



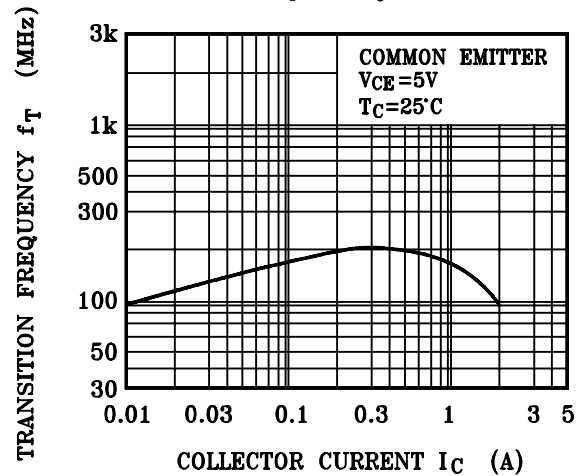
$P_0 - V_{CC}$



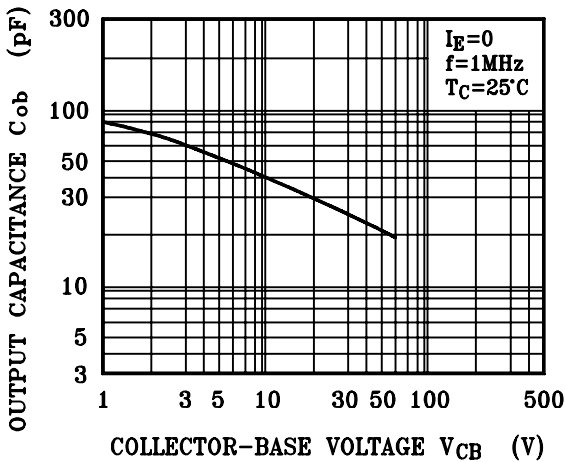
$h_{FE} - I_C$



$f_T - I_C$



$C_{ob} - V_{CB}$



$P_C - T_a$

