

APPENDIX 5

FINAL RF AMPLIFIER DATA SHEETS

KEC

KOREA ELECTRONICS CO.,LTD.

SEMICONDUCTOR
TECHNICAL DATA

KTC2078

TRIPLE DIFFUSED NPN TRANSISTOR

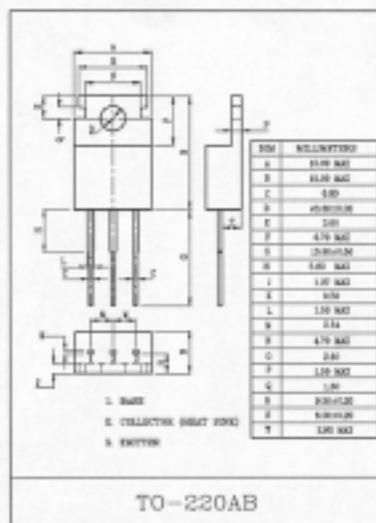
CB TRANSCEIVER TX FINAL AMPLIFIER APPLICATION.
HF TRANSCEIVER APPLICATION.

FEATURES

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

MAXIMUM RATINGS(Ta=25°C)

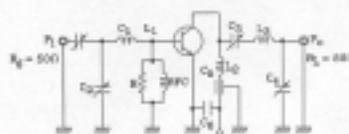
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V _{CB0}	80	V
Collector-Emitter Voltage (R _{BE} =50Ω)	V _{CEB}	80	V
Emitter-Base Voltage	V _{EB0}	4	V
Collector Current	I _C	4	A
Emitter Current	I _E	-4	A
Collector Power Dissipation (T _C =25°C)	P _C	10	W
Junction Temperature	T _J	150	°C
Storage 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 _{CB0}	V _{CB} =30V, I _E =0	-	-	10	μA	
Breakdown Voltage	Collector-Emitter	V _{CEB0}	I _C =10mA, R _{BE} =50Ω	80	-	-	V
	Emitter-Base	V _{EB0}	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 _{CE} =10V, I _C =0, f=1MHz	-	40	-	pF	
Output Power (Fig.1)	P _o	V _{CC} =12V, P _r =0.3W, f=27MHz	4	-	-	W	

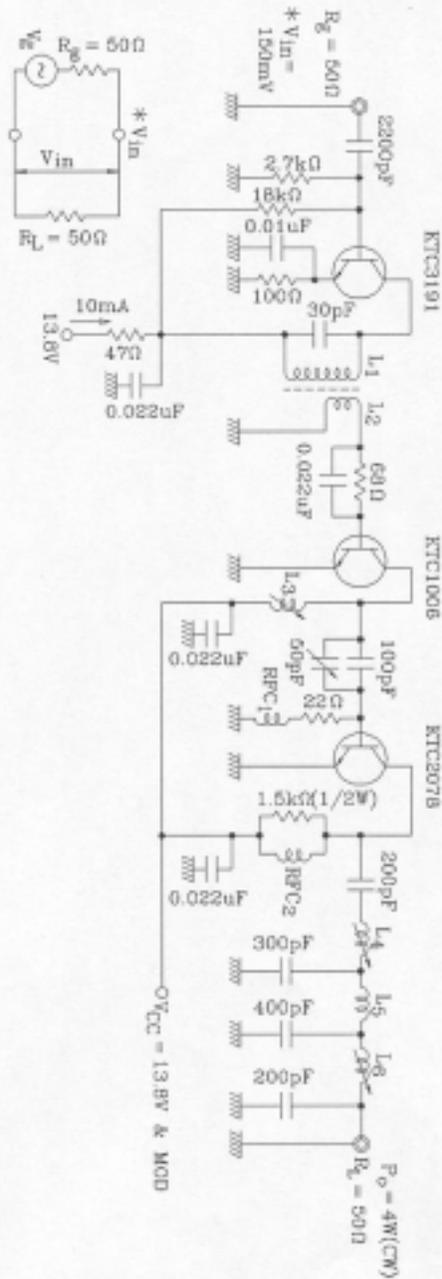
Fig. 1. P TEST CIRCUIT



C₁:~100pF, C₂,C₃:~150pF, C₄:~300pF, C₅:1000pF
 C₆:0.01μF, R:250Ω
 L₁:0.8mm φ UEW,7T,8mm LD L₂:0.8mm φ UEW,5T,8mm LD
 L₃:0.8mm φ UEW,10T,8mm LD RPC:0.35mm φ UEW,17T,5mm LD

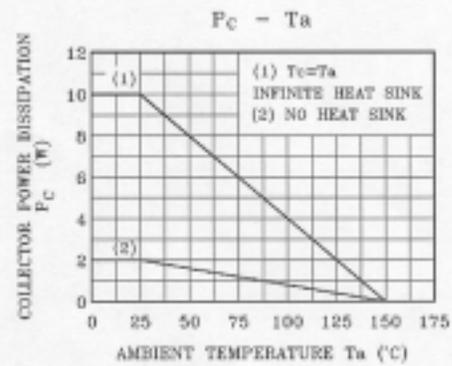
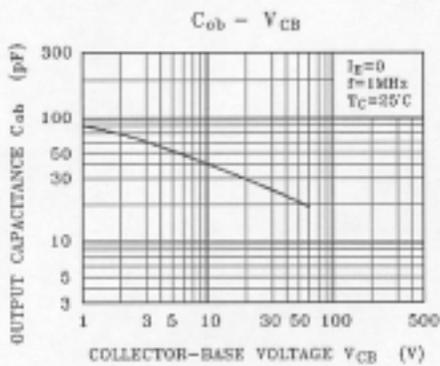
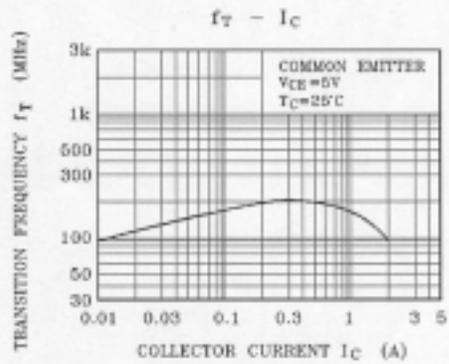
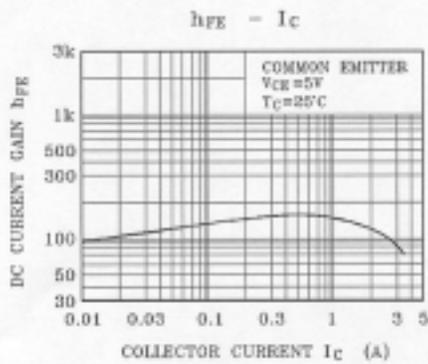
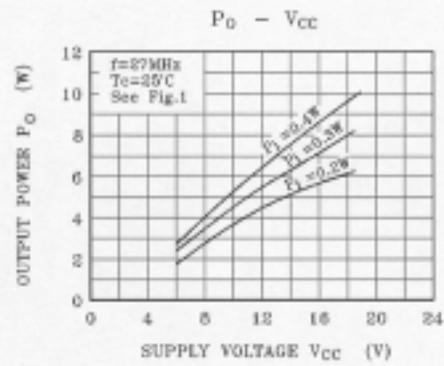
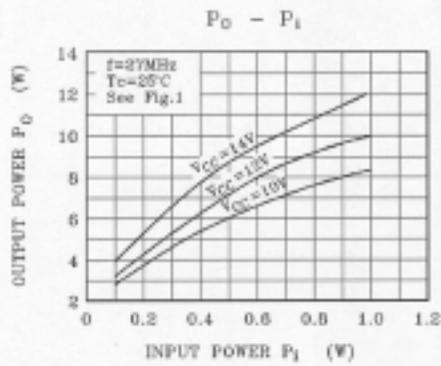
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Fig.2 27MHz 4W OUTPUT AM TRANSCEIVER CIRCUIT



- L1 : 4mmφ BOBBIN WITH FERRITE CORE, 0.08mmφ UEW, 8 TURNS
 - L2 : 4mmφ BOBBIN WITH FERRITE CORE, 0.08mmφ UEW, 2 TURNS
 - L3, L4 : 6.5mmφ BOBBIN WITH FERRITE CORE, 0.6mmφ Sn PLATED COPPER WIRE 0- $\frac{1}{2}$ TURNS
 - L4 : 6.5mmφ BOBBIN WITH FERRITE CORE, 0.6mmφ Sn PLATED COPPER WIRE 0- $\frac{1}{2}$ TURNS
 - L5 : 0.6mmφ Sn PLATED COPPER WIRE, 6.5mm I.D., 0- $\frac{1}{2}$ TURNS
 - RfC1 : 4.7μH, 7BA-480x (TOKO)
 - RfC2 : 0.2mmφ UEW, 30 TURNS
- RESISTOR : 1/4W CARBON
CAPACITOR : CERAMIC

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