



## Tandy Electronics (China) Limited

A Division of RadioShack Corporation

Gu Tang Au Industrial District, Huizhou, Guang Dong, China

Tel:(752) 226 1383 Fax:(752) 226 1798

### Letter of Declaration

30 November , 2007

To: Intertek Testing Services Hong Kong Ltd.  
2/F., Garment Centre, 576 Castle Peak Road,  
Kowloon, Hong Kong

Applicant: RadioShack Corporation  
300 RadioShack Circle, Mail Stop WF4-136  
Fort Worth, Texas 76102

Manufacturer: Tandy Electronics (China) Limited  
Gu Tang Au Industrial District, Huizhou,  
Guang Dong, China

Type of Equipment: Handheld CB Radio with Weather Alert, model 21-1679[A]

FCC ID: AAO2101679A

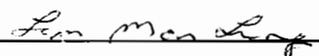
Dear Sir / Madam,

We, **Tandy Electronics (China) Ltd.**, hereby declare that the power dissipation rating of final RF stage of our model 21-1679[A], Handheld CB Radio with Weather Alert, does not exceed 10W and conforms to the requirement of FCC Part 95.667.

The final RF stage of 21-1679[A] contains only the RF transistor KTC2078 from KEC. The specification of this RF transistor is appended to this declaration letter for your information.

Please do not hesitate to contact me if you have any question.

Regards,

 30 Nov 2007

Alan Lam  
Deputy Managing Director  
Tandy Electronics (China) Ltd.

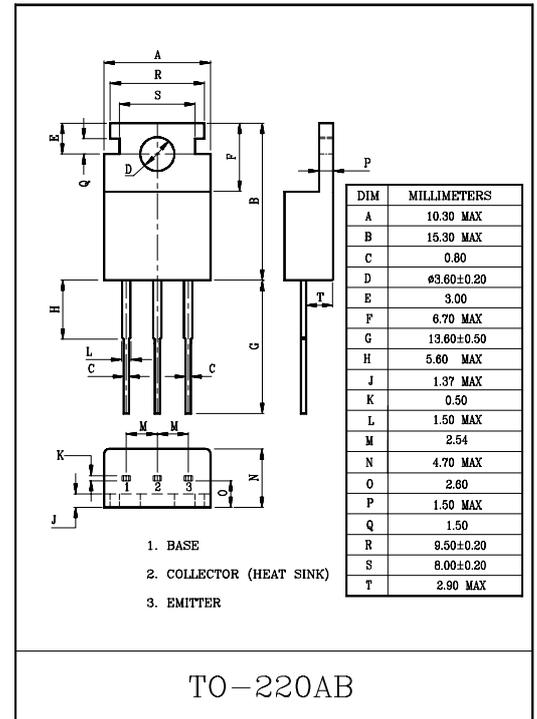
CB TRANSCEIVER TX FINAL AMPLIFIER APPLICATION.  
HF TRANSCEIVER APPLICATION.

### FEATURES

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

### MAXIMUM RATINGS(Ta=25°C)

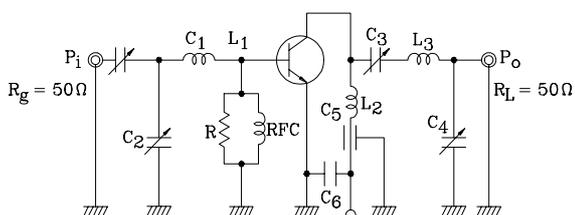
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	80	V
Collector-Emitter Voltage ( $R_{BE}=50\Omega$ )	$V_{CER}$	80	V
Emitter-Base Voltage	$V_{EBO}$	4	V
Collector Current	$I_C$	4	A
Emitter Current	$I_E$	-4	A
Collector Power Dissipation ( $T_c=25^\circ C$ )	$P_C$	10	W
Junction Temperature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



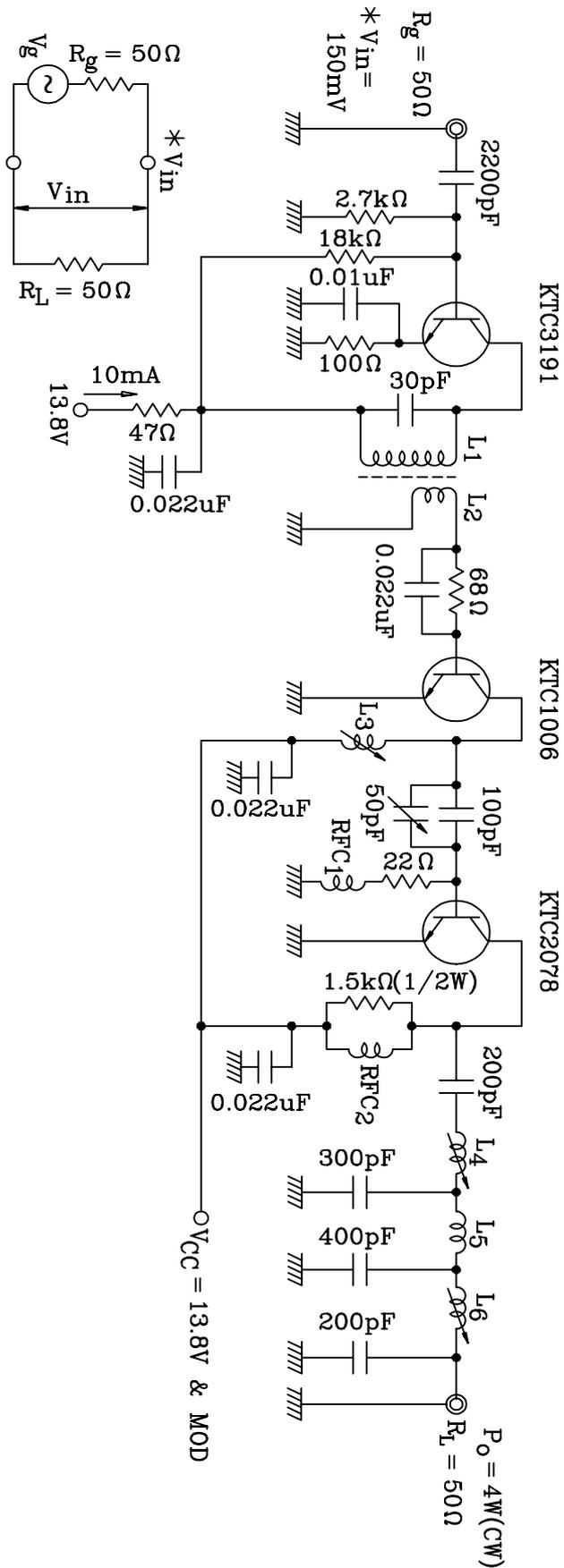
$C_1: \sim 100pF, C_2, C_3: \sim 150pF, C_4: \sim 300pF, C_5: 1000pF$

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

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

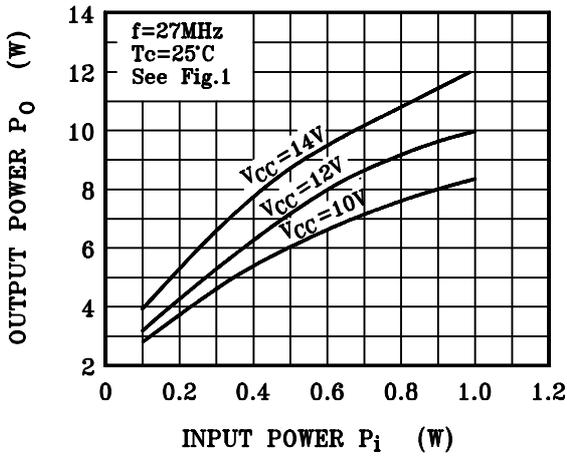
$L_3: 0.8mm \phi$  UEW,10T,8mm I.D. RFC: 0.35mm φ UEW,17T,5mm I.D

Fig.2 27MHz 4W OUTPUT AM TRANSCEIVER CIRCUIT

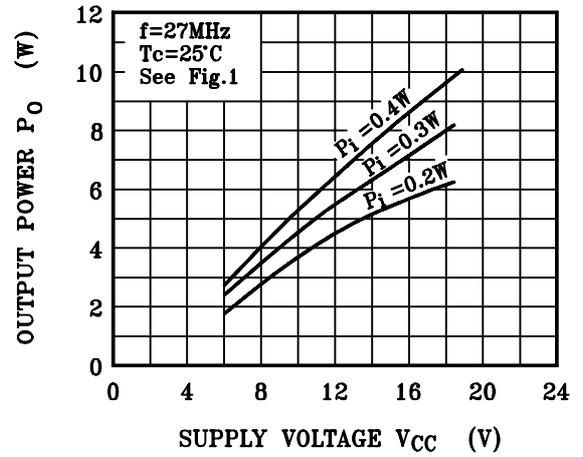


- L1 : 4mm $\phi$  BOBBIN WITH FERRITE CORE, 0.08mm $\phi$  UEW, 8 TURNS
  - L2 : 4mm $\phi$  BOBBIN WITH FERRITE CORE, 0.08mm $\phi$  UEW, 2 TURNS
  - L3, L6 : 6.5mm $\phi$  BOBBIN WITH FERRITE CORE, 0.6mm $\phi$  Sn PLATED COPPER WIRE 6  $\frac{1}{2}$  TURNS
  - L4 : 6.5mm $\phi$  BOBBIN WITH FERRITE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

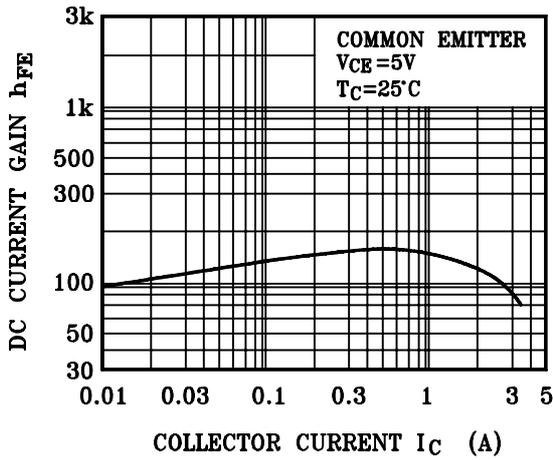
$P_0 - P_i$



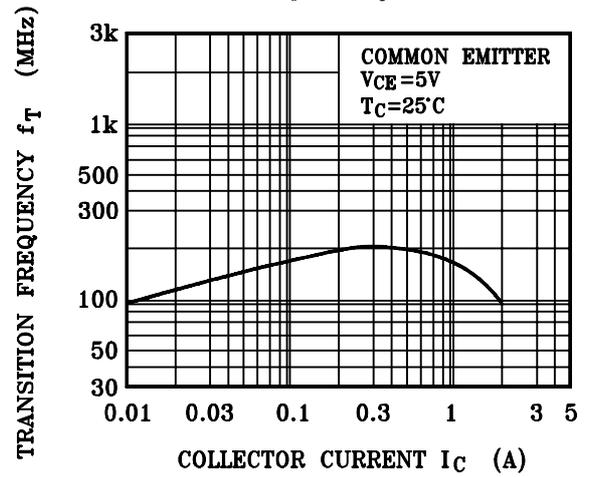
$P_0 - V_{CC}$



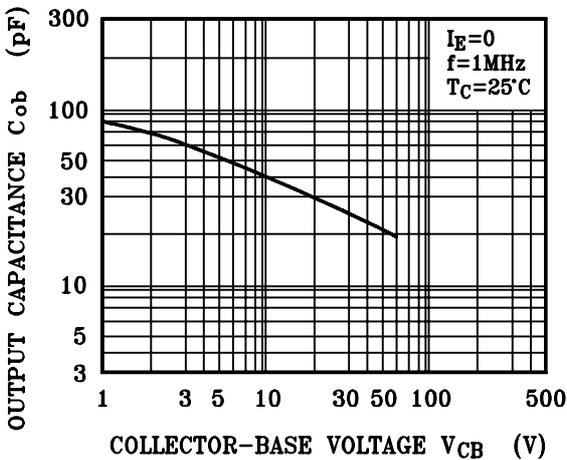
$h_{FE} - I_c$



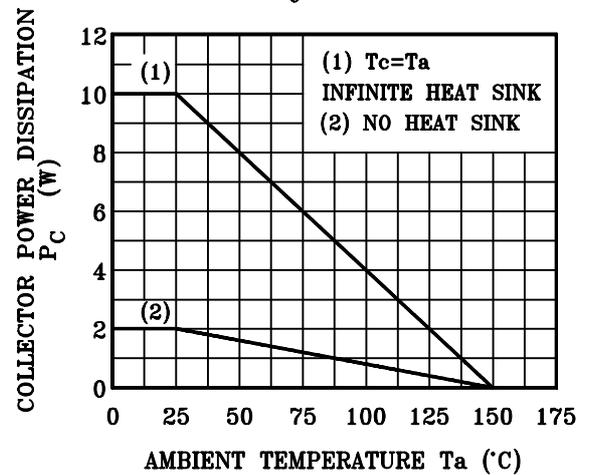
$f_T - I_c$



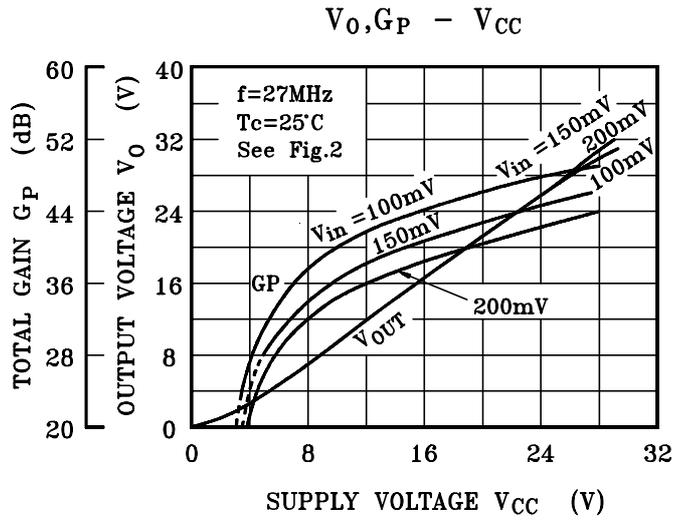
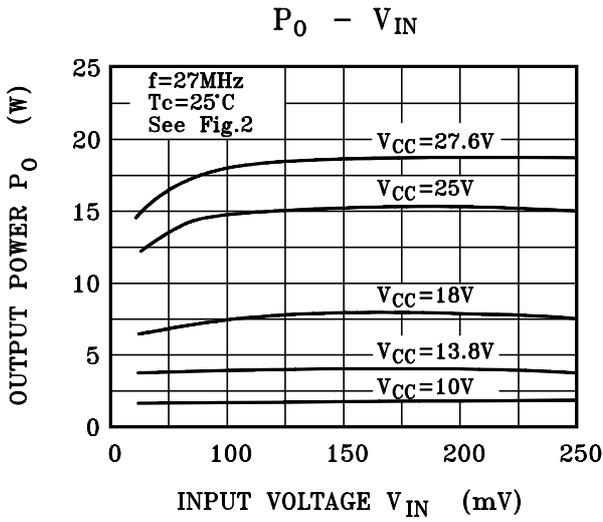
$C_{ob} - V_{CB}$



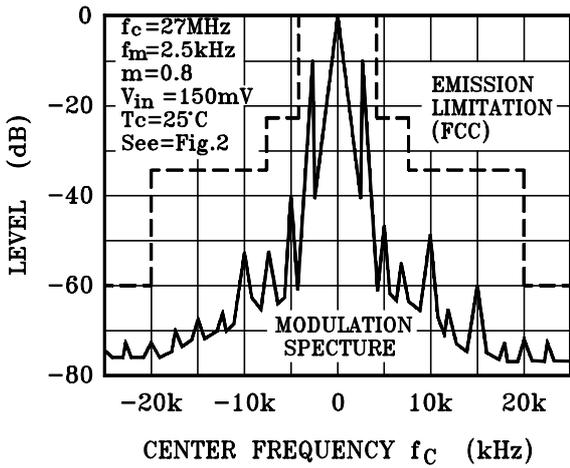
$P_c - T_a$



# KTC2078



80% MODULATION SPECTRUM EMISSION LIMITATION (FCC)



85% MODULATION SPECTRUM EMISSION LIMITATION (FCC)

