

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07470 DT-33-07

SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

2SC2075

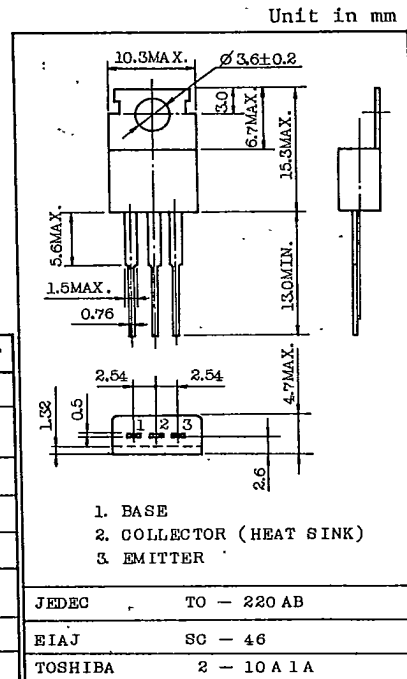
27MHz POWER AMPLIFIER APPLICATIONS.

FEATURES:

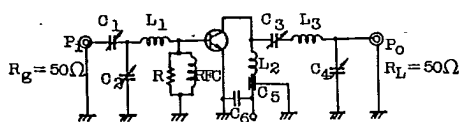
- Recommended for Output Stage Application of AM 4W Transmitter.
- High Power Gain.
- Wide Area of Safe Operation.

MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CB0}	80	V
Collector-Emitter Voltage $R_{BE}=50\Omega$	V_{CER}	80	V
Emitter-Base Voltage	V_{EBO}	4.0	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 ($T_a=25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB}=30\text{V}, I_E=0$	-	-	10	μA
Breakdown Voltage	Collector-Emitter	$I_C=10\text{mA}, R_{BE}=50\Omega$	80	-	-	V
	Emitter-Base	$I_E=1.0\text{mA}, I_C=0$	4.0	-	-	V
DC Current Gain	$h_{FE}(1)$	$V_{CE}=5\text{V}, I_C=0.5\text{A}$	25	-	-	
	$h_{FE}(2)$	$V_{CE}=2\text{V}, I_C=3\text{A}$	15	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=3\text{A}, I_B=0.3\text{A}$	-	-	1.5	V
Transition Frequency	f_T	$V_{CE}=5\text{V}, I_C=500\text{mA}$	-	100	-	MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$	-	40	-	pF
Output Power (Fig. 1)	P_o	$V_{CC}=12\text{V}, P_i=0.3\text{W}, f=27\text{MHz}$	3.5	-	-	W

Mounting Kit No. AC75
Weight : 1.9gFig. 1 P_o TEST CIRCUIT

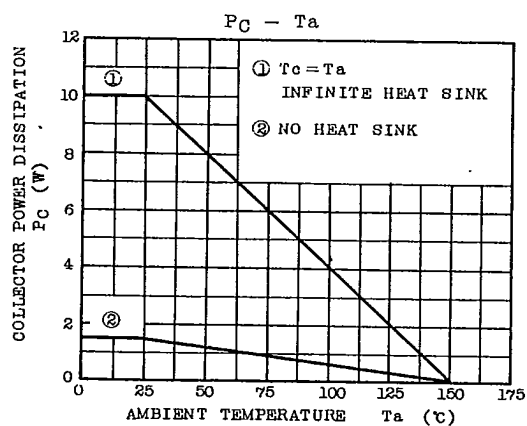
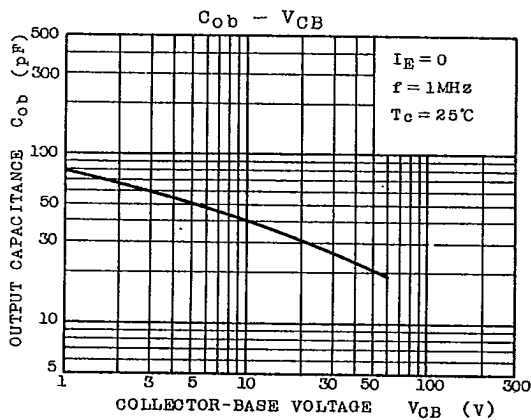
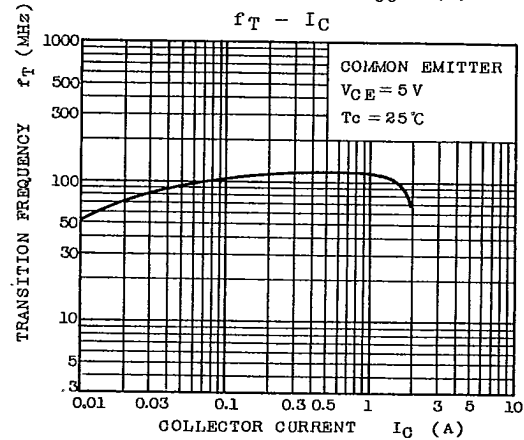
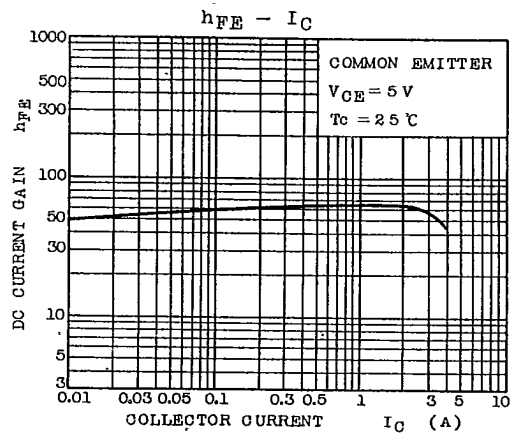
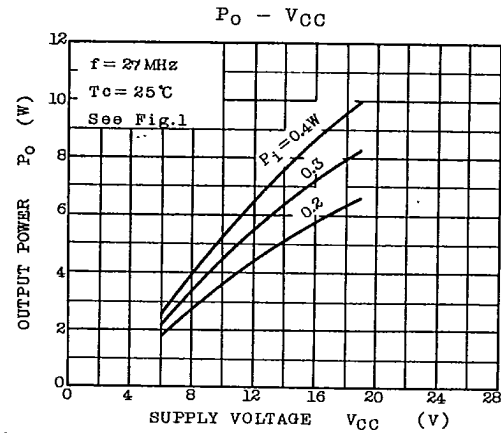
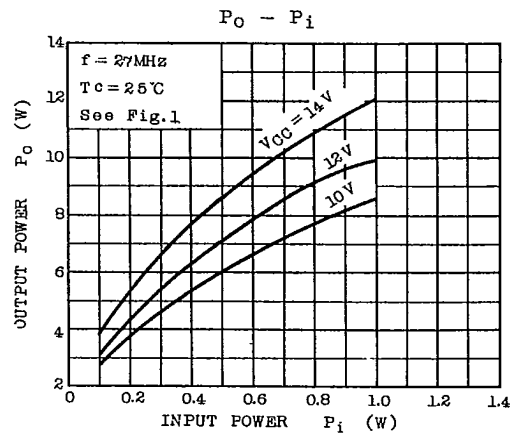
C_1 : ~100pF, C_2, C_3 : ~150pF, C_4 : ~300pF, C_5 : 1000pF
 C_6 : 0.01 μF R: 250 Ω
 L_1 : 0.8mm ϕ UEW, 7T, 8mm I.D. L_2 : 0.8mm ϕ UEW, 5T, 8mm I.D.
 L_3 : 0.8mm ϕ UEW, 10T, 8mm I.D. RFC: 0.35mm ϕ UEW, 17T, 5mm I.D.

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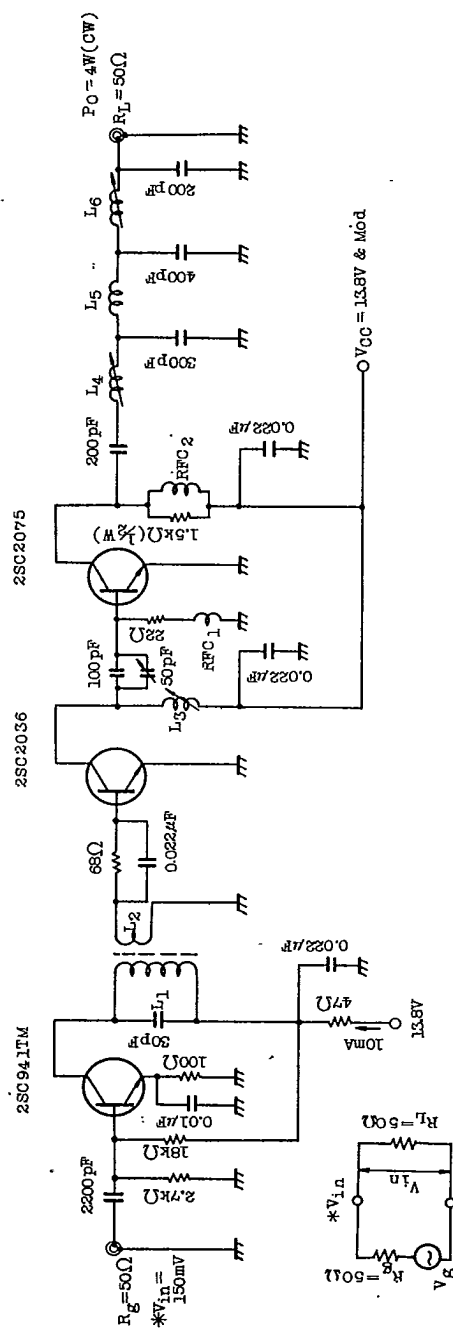
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Fig.2 27MHz 4W OUTPUT AM TRANSCEIVER CIRCUIT

L₁ : 4mm ϕ BOBBIN WITH FERRITE CORE, 0.08mm ϕ UEW, 8 TURNSL₂ : 4mm ϕ BOBBIN WITH FERRITE CORE, 0.08mm ϕ UEW, 2 TURNSL₃, L₆ : 6.5mm ϕ BOBBIN WITH FERRITE CORE, 0.6mm ϕ Sn PLATED COPPER WIRE 6 $\frac{1}{2}$ TURNSL₄ : 6.5mm ϕ BOBBIN WITH FERRITE CORE, 0.6mm ϕ Sn PLATED COPPER WIRE 8 $\frac{1}{2}$ TURNSL₅ : 0.6mm ϕ Sn PLATED COPPER WIRE, 6.5mm I.D., 8 $\frac{1}{2}$ TURNSRFC₁ : 47 μ H, 7BA-480k (TOKO)RFC₂ : 0.2mm ϕ UEW, 30 TURNSRESISTOR : $\frac{1}{4}$ W CARBON

CAPACITOR : CERAMIC

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APPLICATION CIRCUIT CHARACTERISTIC

