



SEMICONDUCTOR

TECHNICAL DATA

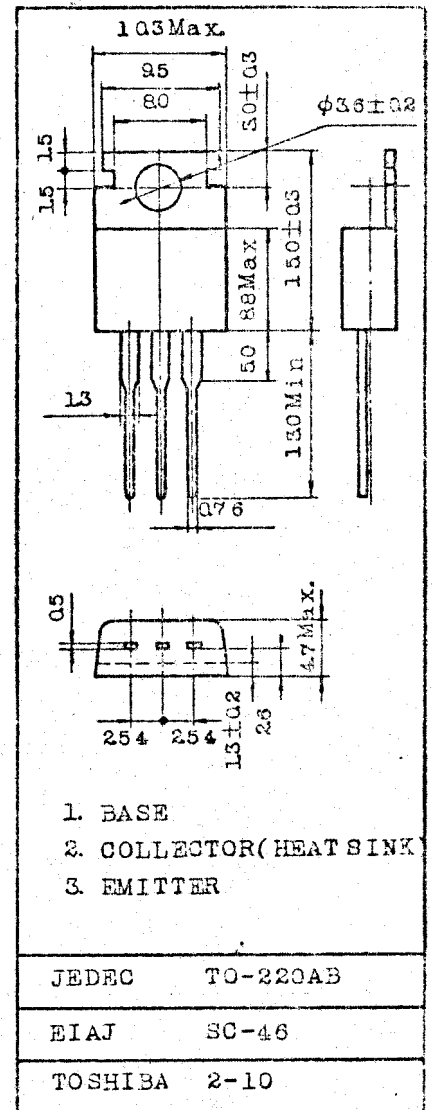
TOSHIBA TRANSISTOR

2SC2098

SILICON NPN EPITAXIAL PLANAR

- The 2SC2098 is designed for 25~50MHz RF power amplifier applications
- RF power output 13W MIN. $f=28\text{MHz}$ $V_{CC}=12\text{V}$
High power gain 11dB MIN.
- Recommended for 12W PEP SSB Citizen Band transceiver

Unit in mm



MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector to Base Voltage	V_{CBO}	70	V
Collector to Emitter Voltage ($R_{EB}=10\Omega$)	V_{CER}	70	V
Emitter to Base Voltage	V_{EBO}	4	V
Collector Current	I_C	6	A
Emitter Current	I_E	-6	A
Collector Power Dissipation ($T_c=25^\circ\text{C}$)	P_C	25	W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	55~150	°C



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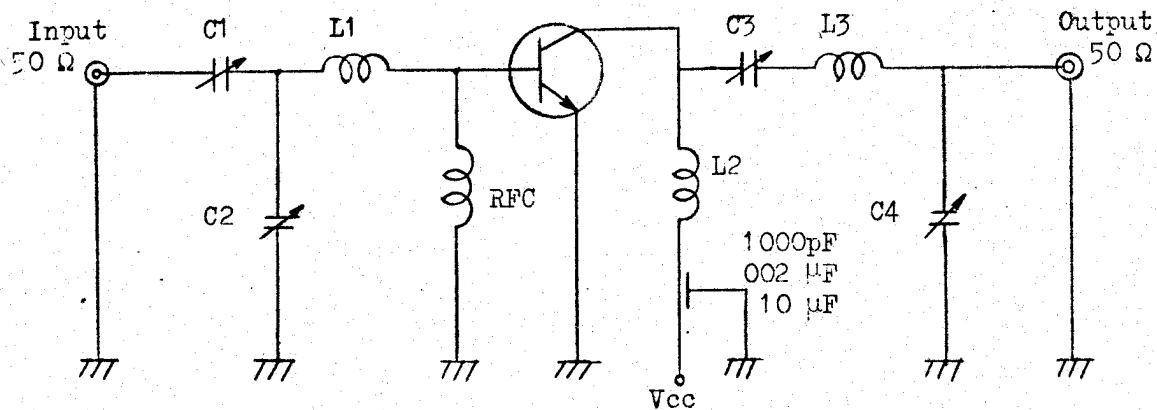
ELECTRICAL CHARACTERISTICS

Ta=25°C

CHARACTERISTIC	SYMBOL	CONDITION	MIN	TYP	MAX	UNIT
Collector Cutoff Current	I_{CBO}	$V_{CB}=40V$ $I_E=0$	—	—	0.1	mA
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10mA$ $I_E=0$	70	—	—	V
Collector to Emitter Breakdown Voltage (R _{EB} =∞)	$V_{(BR)CER}$	$I_C=10mA$ $I_E=0$	70	—	—	V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	$I_C=10mA$ $I_B=0$	4	—	—	V
DC Current Gain (Note1)	h_{FE}	$V_{CE}=5V$ $I_C=4A$	20	—	100	—
Output Capacitance	C_{ob}	$V_{CB}=10V$ $I_E=0$ $f=1MHz$	—	55	80	pF
Power Output (1) (Fig 1)	$P_o(1)$	$V_{CC}=12V$ $f=28MHz$ $P_i=1W$ $\eta_c \approx 60\%$	13	15	—	W
Power Output (2)	$P_o(2)$	$V_{CC}=12V$ $f=50MHz$ $P_i=3W$ $\eta_c \approx 60\%$	—	16	—	W

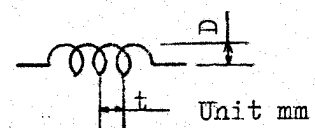
Note 1 : Pulse Width $\leq 100\mu s$ Duty Cycle $\leq 3\%$

Fig 1 Output Power Test Circuit (f=27 MHz)



- C1 : ~100pF Variable Capacitor
- C2 C3 : ~150pF Variable Capacitor
- C4 : ~300pF Variable Capacitor

- L1 L3 : $\phi 08$ Silver Plated Copper Wire 8T D=10 t=2
- L2 : " " 5T D=10 t=2



Unit mm