

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07432 0 T-31-21

SILICON NPN EPITAXIAL PLANAR TYPE

2SC1001

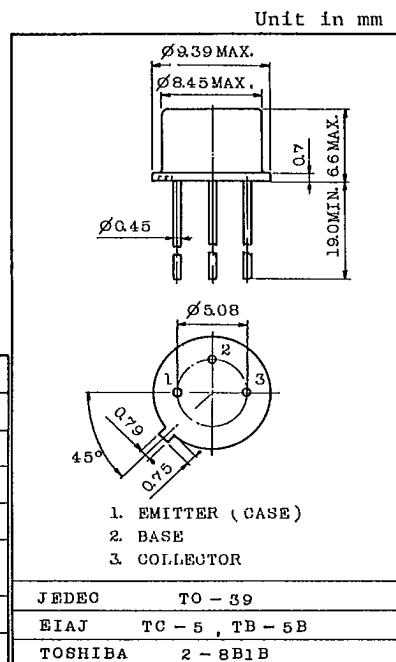
UHF BAND POWER AMPLIFIER APPLICATIONS.

FEATURES:

- Output Power : $P_O=1.2W(\text{Min.})$
($f=470\text{MHz}$, $V_{CC}=12.6V$, $P_I=0.3W$)

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	4	V
Collector Current	I_C	0.5	A
Collector Power Dissipation ($T_c=25^\circ\text{C}$)	P_C	5	W
Junction Temperature	T_j	175	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 ~ 175	$^\circ\text{C}$



Weight : 1.2g

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

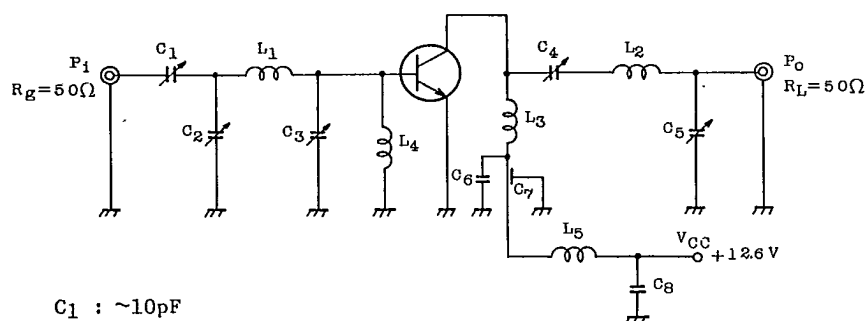
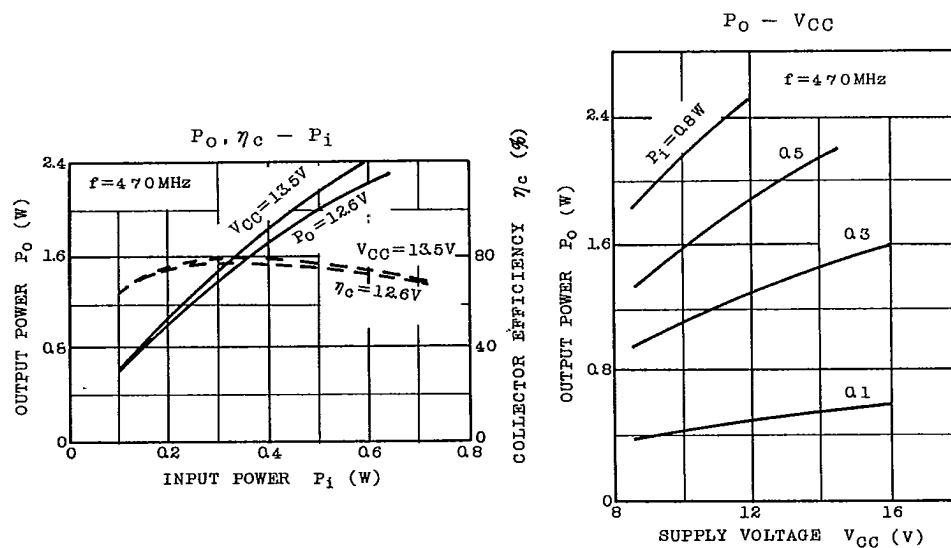
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB}=15V$, $I_E=0$	-	-	1	μA
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1\text{mA}$, $I_E=0$	40	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}$, $I_B=0$	20	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1\text{mA}$, $I_C=0$	4	-	-	V
DC Current Gain	h_{FE}	$V_{CE}=5V$, $I_C=0.1A$	20	-	-	-
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$, $I_E=0$, $f=1\text{MHz}$	-	6.5	10	pF
Output Power	P_O	(Fig.)	1.2	1.5	-	W
Power Gain	G_{pe}	$V_{CC}=12.6V$, $f=470\text{MHz}$,	6	7	-	dB
Collector Efficiency	η_c	$P_I=0.3W$	60	-	-	%
Series Equivalent Input Impedance	Z_{IN}	$V_{CC}=12.6V$, $f=470\text{MHz}$,	-	$5+j6.5$	-	Ω
Series Equivalent Output Impedance	Z_{OUT}	$P_O=1.2W$	-	$22-j25$	-	Ω

TOSHIBA CORPORATION

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2SC1001Fig. P_O TEST CIRCUITC₁ : ~10pFC₂, C₅ : ~30pFC₃, C₄ : ~25pFC₆, C₈ : 0.01μFC₇ : 1000pFL₁ : φ0.8 SILVER PLATED COPPER WIRE, 6ID, 2TL₂ : φ1 SILVER PLATED COPPER WIRE, 25 LENGTH, STRAIGHTL₃ : φ1 SILVER PLATED COPPER WIRE, 20 LENGTH, STRAIGHTL₄, L₅ : RFC

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