

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07490 DT-33-05

SILICON NPN EPITAXIAL PLANAR TYPE

2SC2117

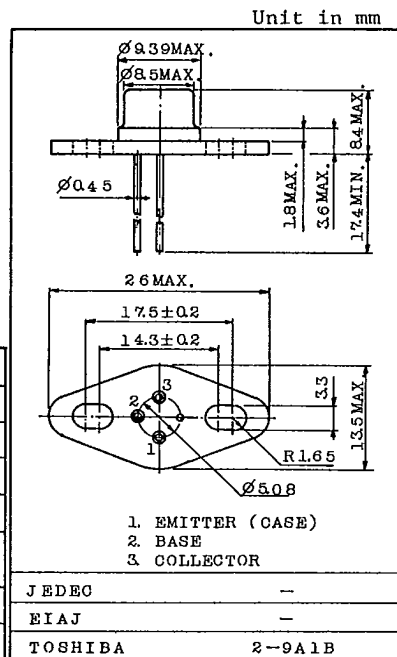
VHF BAND POWER AMPLIFIER APPLICATIONS.

FEATURES :

- Output Power : $P_o=2.8W$ (Min.)
($f=175MHz$, $V_{CC}=13.5V$, $P_i=0.15W$)
- 100% Tested for Load Mismatch Stress at All Phase
Angles with 30:1 VSWR @ $V_{CC}=13.5V$, $P_o=4W$, $f=175MHz$

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	35	V
Collector-Emitter Voltage	V_{CEO}	17	V
Emitter-Base Voltage	V_{EBO}	3.5	V
Collector Current	I_C	0.8	A
Collector Power Dissipation ($T_c=25^\circ C$)	P_C	7.5	W
Junction Temperature	T_j	175	$^\circ C$
Storage Temperature Range	T_{stg}	-65 ~ 175	$^\circ C$



Weight : 3.7g

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

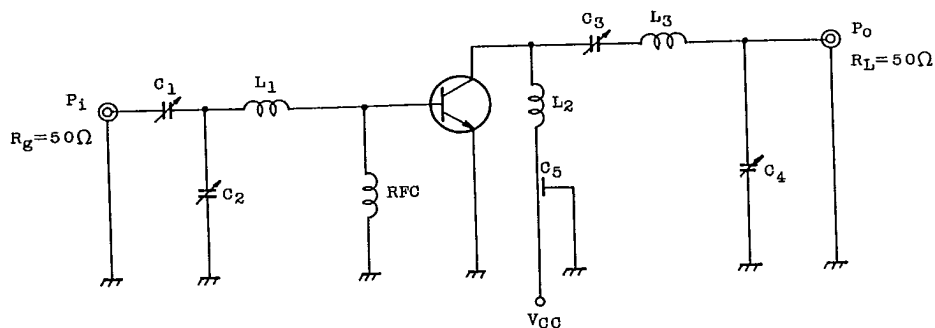
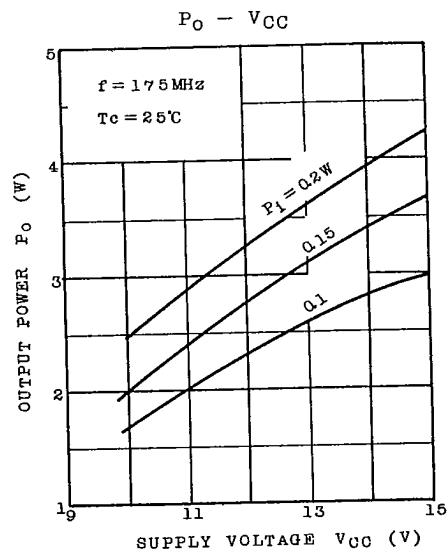
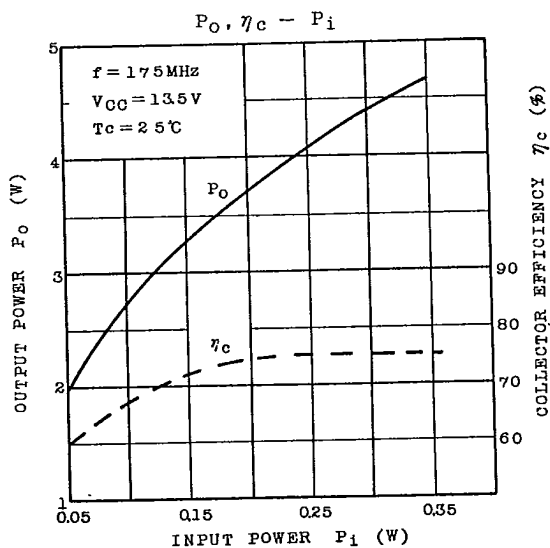
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB}=15V$, $I_E=0$	—	—	1	mA
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1mA$, $I_E=0$	35	—	—	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=5mA$, $I_B=0$	17	—	—	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1mA$, $I_C=0$	3.5	—	—	V
DC Current Gain	h_{FE}	$V_{CE}=5V$, $I_C=0.5A$	10	—	—	
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$, $I_E=0$, $f=1MHz$	—	—	15	pF
Output Power	P_o	(Fig.)	2.8	3.2	—	W
Power Gain	G_{pe}	$V_{CC}=13.5V$, $f=175MHz$	12.7	13.3	—	dB
Collector Efficiency	η_c	$P_i=0.15W$	60	72	—	%

TOSHIBA CORPORATION

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56C 07491

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2SC2117Fig. P_O TEST CIRCUIT C_1, C_2, C_3, C_4 : $\sim 30\text{pF}$ C_5 : 1000pF FEED THROUGH L_1, L_2 : $\phi 1.2$ SILVER PLATED COPPER WIRE, 8ID, 1T L_3 : $\phi 1.2$ SILVER PLATED COPPER WIRE, 8ID, $1\frac{3}{4}$ TRFC : 1 μ H CHOKE COIL

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