

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07438 DT-31-23

SILICON NPN EPITAXIAL PLANAR TYPE

2SC1169

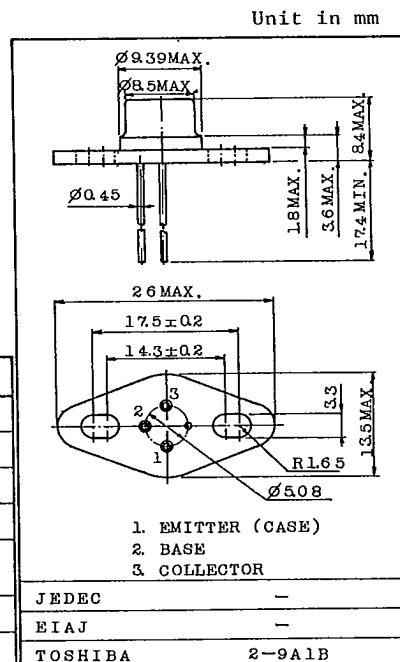
VHF BAND POWER AMPLIFIER APPLICATIONS.

FEATURES :

- Output Power : $P_o=2.5W$ (Min.)
($f=175MHz$, $V_{CC}=13.5V$, $P_i=0.25W$)

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

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	1	A
Collector Power Dissipation ($T_c=25^\circ C$)	P_C	10	W
Junction Temperature	T_j	175	$^\circ C$
Storage Temperature Range	T_{stg}	-65 ~ 175	$^\circ C$



Weight : 3.7g

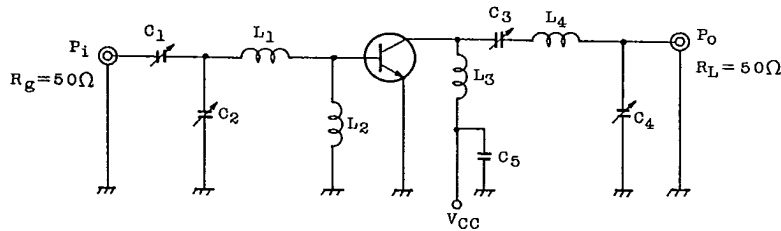
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ C$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB}=15V$, $I_E=0$	-	-	1	μA
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1mA$, $I_E=0$	40	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=10mA$, $I_B=0$	20	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1mA$, $I_C=0$	4	-	-	V
DC Current Gain	h_{FE}	$V_{CE}=5V$, $I_C=0.2A$	20	-	-	-
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$, $I_E=0$, $f=1MHz$	-	6.5	10	pF
Output Power	P_o	(Fig.)	2.5	2.7	-	W
Power Gain	G_{pe}	$V_{CC}=13.5V$, $f=175MHz$, $P_i=0.25W$	10	10.3	-	dB
Collector Efficiency	η_c		60	73	-	%
Series Equivalent Input Impedance	Z_{in}	$V_{CC}=13.5V$, $f=175MHz$,	-	5.0 +j2.5	-	Ω
Series Equivalent Output Impedance	Z_{OUT}	$P_o=2.5W$	-	30 -j20	-	Ω

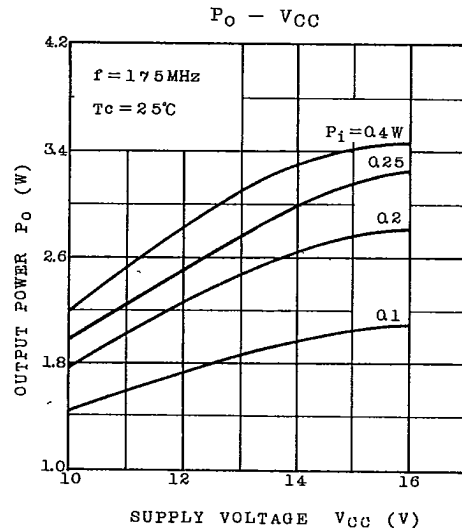
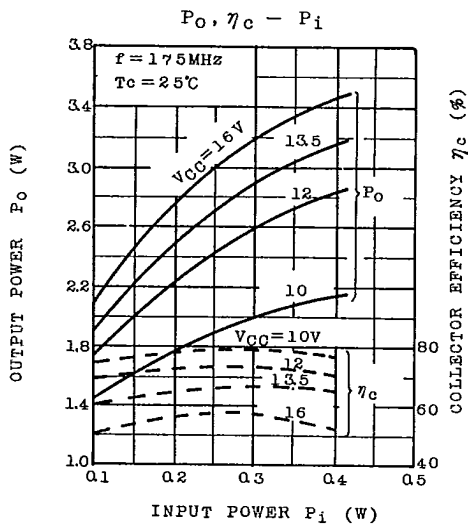
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Fig. P_o TEST CIRCUIT



- C₁, C₂, C₃, C₄ : 3.5 ~ 30pF
- C₅ : 0.001μF FEED THROUGH AND 0.05μF CERAMIC CONDENSER
- L₁, L₃ : φ1.2 SILVER PLATED COPPER WIRE, 8ID, 1T
- L₂ : 1μH CHOLK COIL
- L₄ : φ1.2 SILVER PLATED COPPER WIRE, 8ID, 7/4T



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