

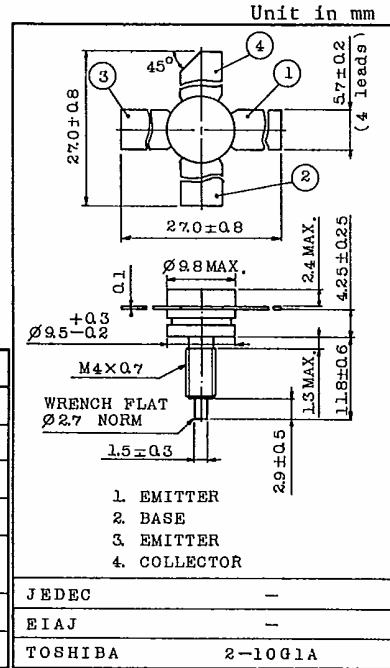
UHF BAND POWER AMPLIFIER APPLICATIONS.

FEATURES:

- Output Power : $P_o=25W(\text{Min.})$
($f=470\text{MHz}$, $V_{CC}=12.6V$, $P_i=10W$)
- 100% Tested for Load Mismatch Stress at All Phase Angles with 30:1 VSWR @ $V_{CC}=12.6V$, $P_i=10W$, $f=470\text{MHz}$

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	35	V
Collector-Emitter Voltage	V_{CEO}	18	V
Emitter-Base Voltage	V_{EBO}	3.5	V
Collector Current	I_C	6	A
Collector Power Dissipation ($T_c=25^\circ\text{C}$)	P_C	50	W
Junction Temperature	T_j	175	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 ~ 175	$^\circ\text{C}$



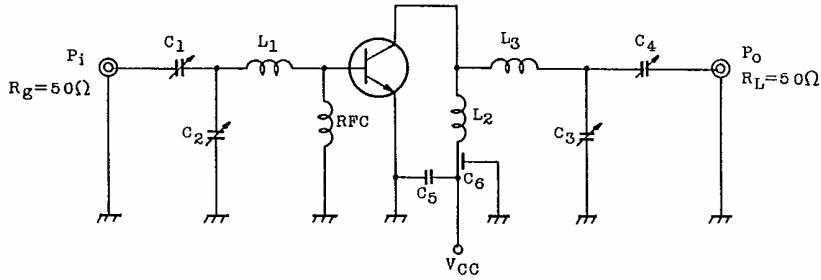
Mounting Kit No. AC57
Weight : 3.3g

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

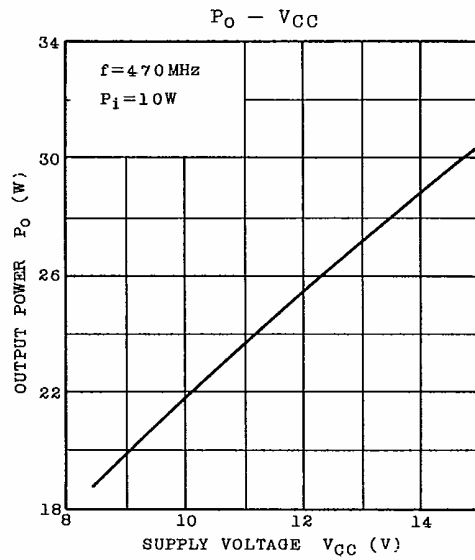
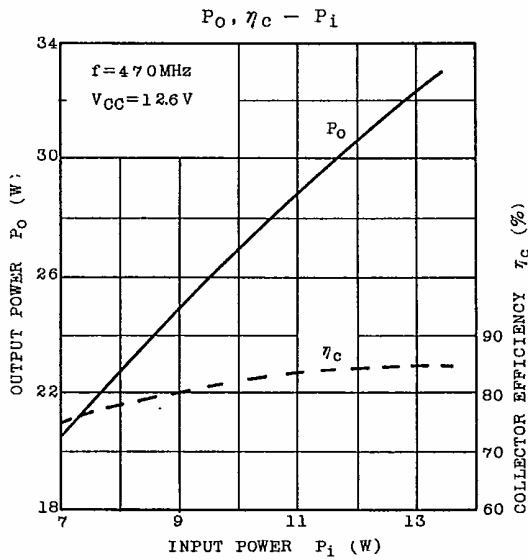
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB}=15V$, $I_E=0$	-	-	1	mA
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\text{mA}$, $I_E=0$	35	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=25\text{mA}$, $I_B=0$	17	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1\text{mA}$, $I_C=0$	3.5	-	-	V
DC Current Gain	h_{FE}	$V_{CE}=5V$, $I_C=3A$	10	-	-	
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$, $I_E=0$, $f=1\text{MHz}$	-	-	80	pF
Output Power	P_o	(Fig.)	25	28	-	W
Power Gain	G_{pe}	$V_{CC}=12.6V$, $f=470\text{MHz}$, $P_i=10W$	3.9	4.5	-	dB
Collector Efficiency	η_c		60	-	-	%
Series Equivalent Input Impedance	Z_{IN}	$V_{CC}=12.6V$, $f=470\text{MHz}$,	-	1.1+ j2.6	-	Ω
Series Equivalent Output Impedance	Z_{OUT}	$P_o=25W$	-	3.7+ j0.8	-	Ω

2SC2173

Fig. $f=470\text{MHz}$ P_o TEST CIRCUIT



- C_1, C_3 : 1.5 ~ 5pF
- C_2, C_4 : 2.2 ~ 15pF
- C_5 : 0.01 μ F
- C_6 : 1000pF FEED THROUGH
- L_1, L_3 : 5mm \times 15mm COPPER PLATE
- L_2 : ϕ 1 SILVER PLATED COPPER WIRE, 10ID, $\frac{1}{2}$ T
- RFC : ϕ 1 ENAMEL COATED COPPER WIRE, 3ID, 5T



TOSHIBA CORPORATION