

Unit in mm

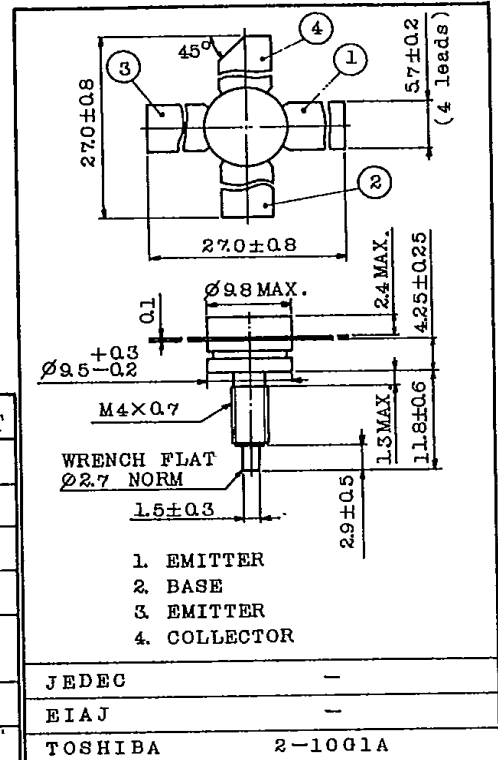
UHF BAND POWER AMPLIFIER APPLICATIONS.

FEATURES:

- Output Power : $P_o=3W(\text{Min.})$
($f=470\text{MHz}$, $V_{CC}=12.6V$, $P_i=0.4W$)
- 100% Tested for Load Mismatch Stress at All Phase Angles with 30:1 VSWR @ $V_{CC}=15V$, $P_i=0.4W$, $f=470\text{MHz}$

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

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



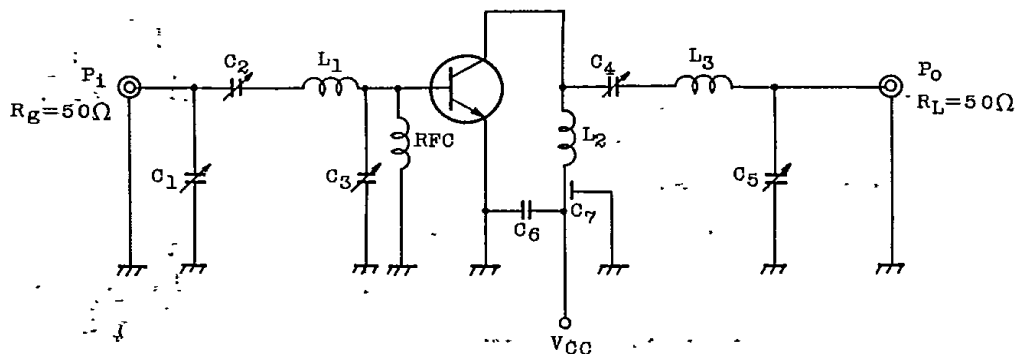
Weight : 3.3g
Mounting Kit No. AC57

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	$V_{(BR)CBO}$	$I_C=1\text{mA}$, $I_E=0$	35	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=5\text{mA}$, $I_B=0$	17	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=0.1\text{mA}$, $I_C=0$	3.5	-	-	V
DC Current Gain	h_{FE}	$V_{CE}=5V$, $I_C=0.5A$	10	-	-	
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$, $I_E=0$, $f=1\text{MHz}$	-	-	20	pF
Output Power	P_o	(Fig.)	3	-	-	W
Power Gain	G_{pe}	$V_{CC}=12.6V$, $f=470\text{MHz}$,	8.7	-	-	dB
Collector Efficiency	η_c	$P_i=0.4W$	50	-	-	%
Series Equivalent Input Impedance	Z_{IN}	$V_{CC}=12.6V$, $f=470\text{MHz}$,	-	$1.5+j3$	-	Ω
Series Equivalent Output Impedance	Z_{OUT}	$P_o=3W$	-	$17.5-j8.5$	-	Ω

2SC2104

Fig. . f=470MHz, P_o TEST CIRCUIT



C₁, C₂, C₃ : ~10pF

C₄, C₅ : ~30pF

C₆ : 0.02μF

C₇ : 1000pF FEED THROUGH

L₁ : φ1.6 SILVER PLATED COPPER WIRE, 7ID, 1/2T

L₂ : φ1.2 SILVER PLATED COPPER WIRE, 10ID, 1/2T

L₃ : φ1.6 SILVER PLATED COPPER WIRE, 10ID, 1/2T

RFC : φ0.7 ENAMEL COATED COPPER WIRE, 3ID, 5T

