

2SC2106

SILICON NPN EPITAXIAL PLANAR TYPE

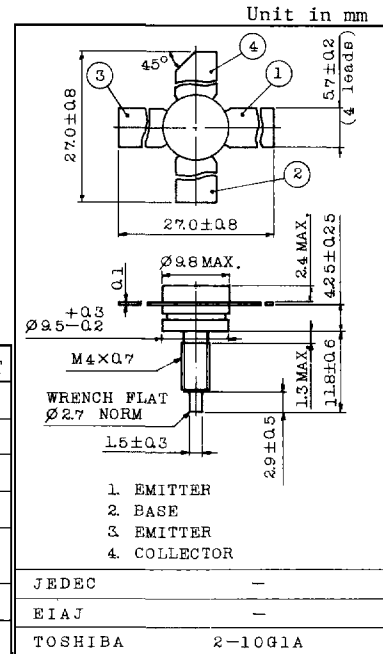
UHF BAND POWER AMPLIFIER APPLICATIONS.

FEATURES:

- . Output Power : $P_o=12W(\text{Min.})$
($f=470\text{MHz}$, $V_{CC}=12.6V$, $P_i=3W$)
- . 100% Tested for Load Mismatch Stress at All Phase Angles with 30:1 VSWR @ $V_{CC}=15V$, $P_i=3W$, $f=470\text{MHz}$

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

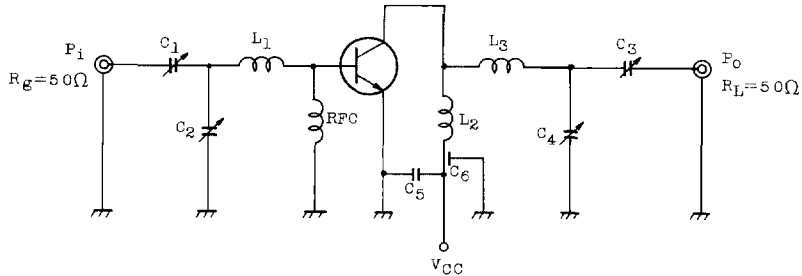
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CB0}	35	V
Collector-Emitter Voltage	V_{CE0}	17	V
Emitter-Base Voltage	V_{EB0}	3.5	V
Collector Current	I_C	2.8	A
Collector Power Dissipation ($T_c=25^\circ\text{C}$)	P_C	30	W
Junction Temperature	T_j	175	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	165 ~ 175	$^\circ\text{C}$



Weight : 3.3g
Mounting Kit No. ACS7

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CB0}	$V_{CB}=15V$, $I_E=0$	-	-	1.5	mA
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=2\text{mA}$, $I_E=0$	35	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}$, $I_B=0$	17	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=0.2\text{mA}$, $I_C=0$	3.5	-	-	V
DC Current Gain	h_{FE}	$V_{CE}=5V$, $I_C=1.5A$	10	-	-	
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$, $I_E=0$, $f=1\text{MHz}$	-	-	45	pF
Output Power	P_o	(Fig.)	12	-	-	W
Power Gain	G_{pe}	$V_{CC}=12.6V$, $f=470\text{MHz}$,	6	-	-	dB
Collector Efficiency	η_c	$P_i=3W$	60	-	-	%
Series Equivalent Input Impedance	Z_{IN}	$V_{CC}=12.6V$, $f=470\text{MHz}$,	-	0.9+ j3.5	-	Ω
Series Equivalent Output Impedance	Z_{OUT}	$P_o=12W$	-	5.3-j1	-	Ω

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

C_1, C_4 : 1.5 ~ 5pF

C_2, C_3 : 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

RPC : ϕ 1 ENAMEL COATED COPPER WIRE, 3ID, 5T

