

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07488 DT-33-09

SILICON NPN EPITAXIAL PLANAR TYPE

2SC2106

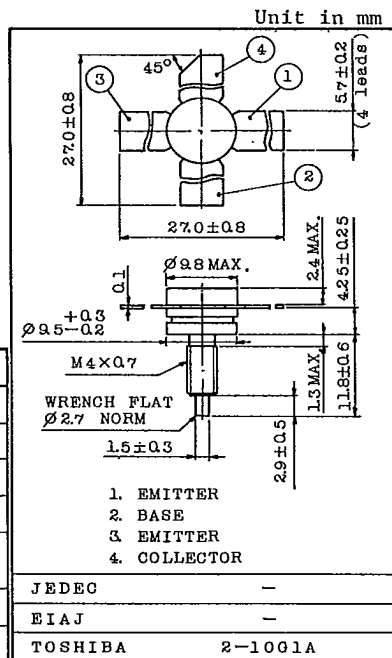
UHF BAND POWER AMPLIFIER APPLICATIONS.

FEATURES:

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

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	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. AC57

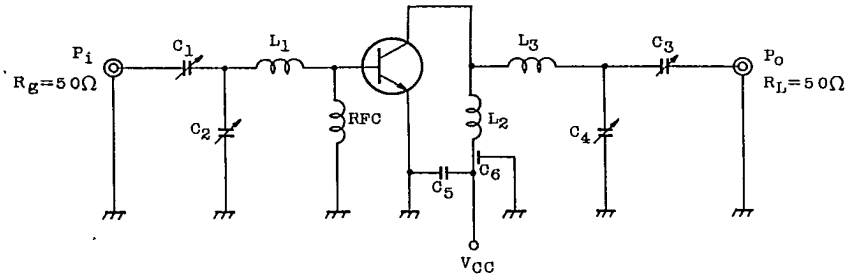
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

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

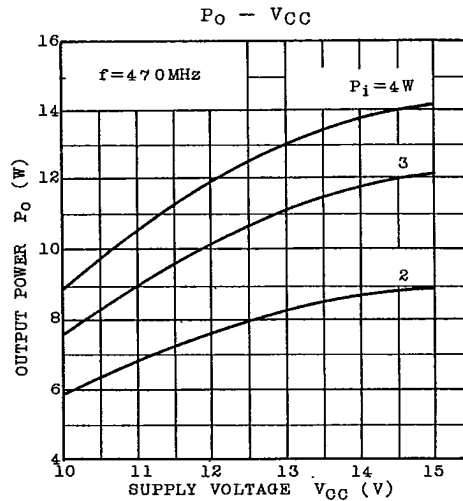
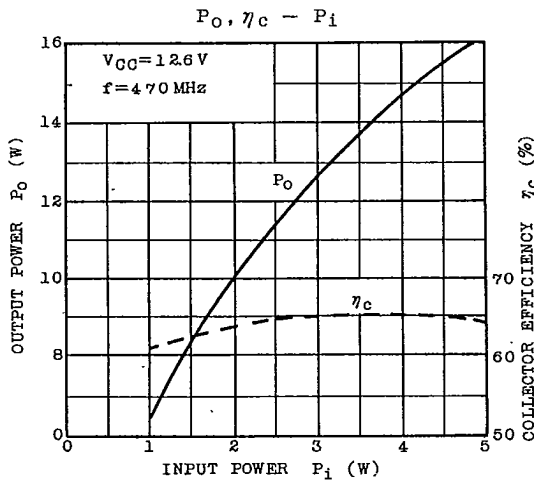
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Fig. f=470MHz P_o TEST CIRCUIT



- C₁, C₄ : 1.5 ~ 5pF
- C₂, C₃ : 2 ~ 15pF
- C₅ : 0.01μF
- C₆ : 1000pF FEED THROUGH
- L₁, L₃ : 5mm×15mm COPPER PLATE
- L₂ : φ1 SILVER PLATED COPPER WIRE, 10ID, 1/2T
- RFC : φ1 ENAMEL COATED COPPER WIRE, 3ID, 5T



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