

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07532 07-33-13

SILICON NPN EPITAXIAL PLANAR TYPE

2SC2420

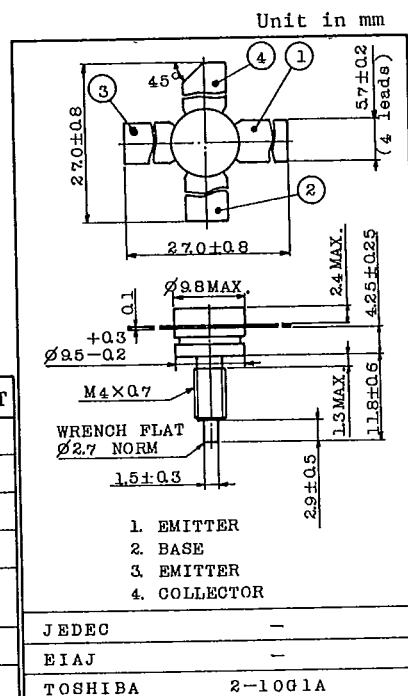
VHF BAND POWER AMPLIFIER APPLICATIONS.

FEATURES :

- Output Power : $P_o=32W$ (Min.)
($f=175MHz$, $V_{CC}=13.5V$, $P_i=4W$)
- 100% Tested for Load Mismatch Stress at All Phase Angles with 30:1 VSWR @ $V_{CC}=14.5V$, $P_i=4W$, $f=175MHz$

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	18	V
Emitter-Base Voltage	V_{EBO}	4	V
Collector Current	I_C	6	A
Collector Power Dissipation ($T_c=25^\circ C$)	P_C	70	W
Junction Temperature	T_j	175	$^\circ C$
Storage Temperature Range	T_{stg}	-65 ~ 175	$^\circ C$



Mounting Kit No. AC57
Weight : 3.3g

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

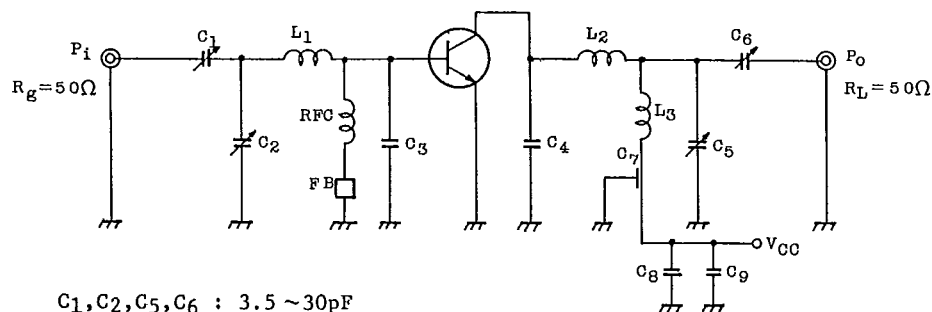
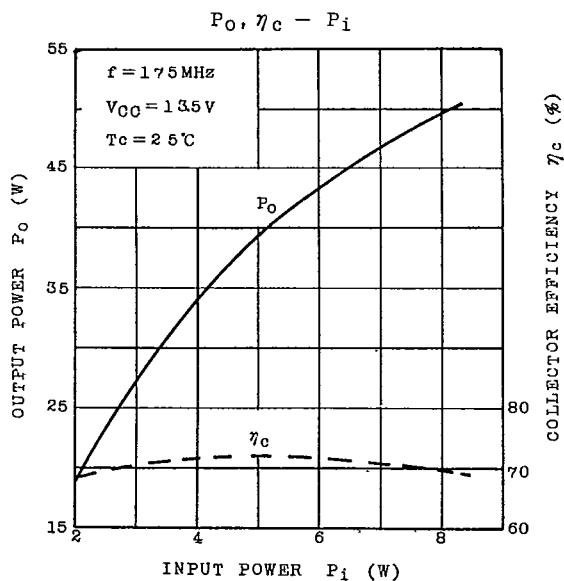
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB}=15V$, $I_E=0$	-	-	2	mA
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10mA$, $I_E=0$	40	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=25mA$, $I_B=0$	18	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1mA$, $I_C=0$	4	-	-	V
DC Current Gain	h_{FE}	$V_{CE}=5V$, $I_C=5A$	10	-	-	
Collector Output Capacitance	C_{ob}	$V_{CB}=13.5V$, $I_E=0$, $f=1MHz$	-	110	160	pF
Output Power	P_o	(Fig.)	32	34	-	W
Power Gain	G_{pe}	$V_{CC}=13.5V$, $f=175MHz$,	9.0	9.3	-	dB
Collector Efficiency	η_c	$P_i=4W$	60	70	-	%
Series Equivalent Input Impedance	Z_{in}	$V_{CC}=13.5V$, $f=175MHz$,	-	0.9 +j1.1	-	Ω
Series Equivalent Output Impedance	Z_{OUT}	$P_o=32W$	-	2.0 -j0.4	-	Ω

TOSHIBA CORPORATION

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2SC2420Fig. P_O TEST CIRCUIT $C_1, C_2, C_5, C_6 : 3.5 \sim 30\text{pF}$ $C_3 : 72\text{pF CERAMIC CONDENSER}$ $C_4 : 47\text{pF CERAMIC CONDENSER}$ $C_7 : 1000\text{pF FEED THROUGH}$ $C_8 : 0.01\mu\text{F CERAMIC CONDENSER}$ $C_9 : 10\mu\text{F}$ $L_1, L_2 : \phi 1 \text{ SILVER PLATED COPPER WIRE, } 10\text{ID, } 1\text{T}$ $L_3 : \phi 1 \text{ SILVER PLATED COPPER WIRE, } 10\text{ID, } 2\text{T}$ $\text{RFC} : \phi 1 \text{ ENAMEL COATED COPPER WIRE, } 6\text{ID, } 10\text{T}$ $\text{FB} : \text{FERRITE BEADS}$ 

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