SILICON NPN EPITAXIAL PLANAR TYPE

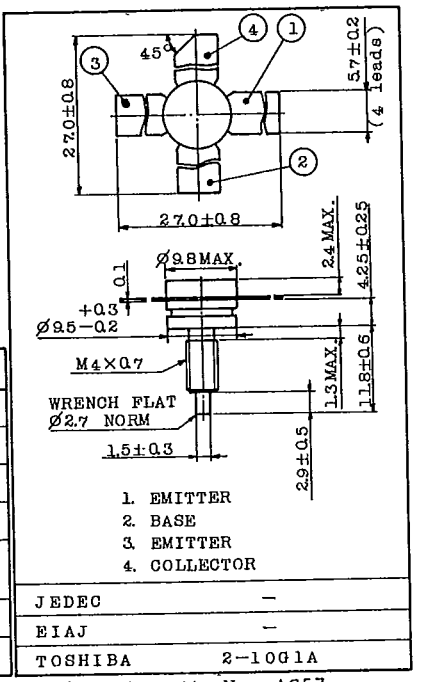
2SC2420

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

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	2-10G1A

Mounting Kit No. AC57
Weight : 3.3g

MAXIMUM RATINGS (Ta=25°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 (Tc=25°C)	P_C	70	W
Junction Temperature	T_j	175	°C
Storage Temperature Range	T_{stg}	-65 ~ 175	°C

ELECTRICAL CHARACTERISTICS (Tc=25°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.) V_{CC}=13.5V, f=175MHz, P_I=4W	32	34	-	W
Power Gain	G_{pe}		9.0	9.3	-	dB
Collector Efficiency	η_C		60	70	-	%
Series Equivalent Input Impedance	Z_{in}	V_{CC}=13.5V, f=175MHz, P_O=32W	-	0.9 +j1.1	-	Ω
Series Equivalent Output Impedance	Z_{OUT}		-	2.0 -j0.4	-	Ω

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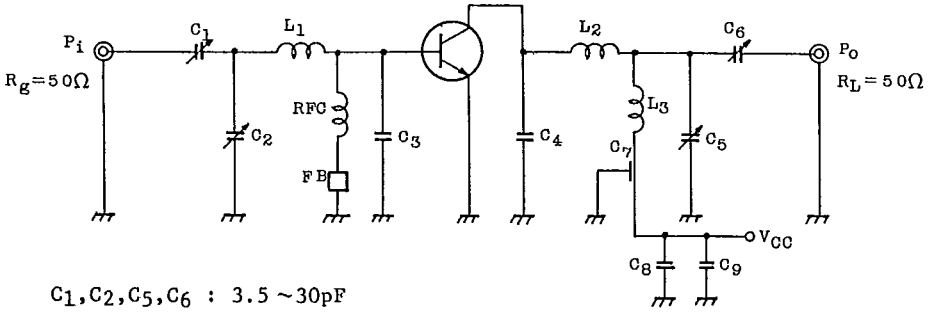
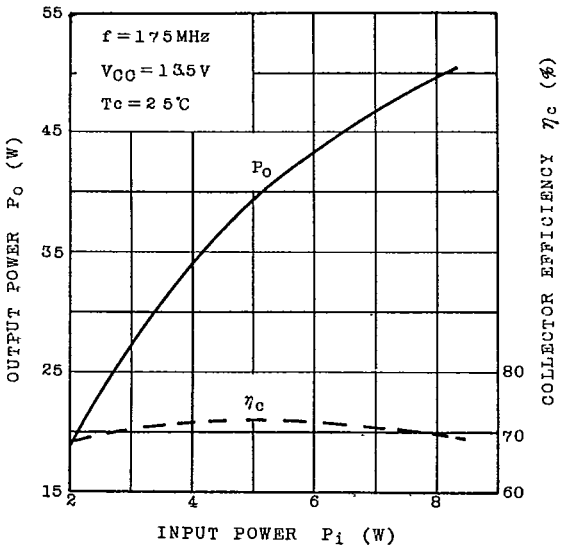
Fig. P_O TEST CIRCUIT



C_1, C_2, C_5, C_6	:	3.5 ~ 30pF
C_3	:	72pF CERAMIC CONDENSER
C_4	:	47pF CERAMIC CONDENSER
C_7	:	1000pF FEED THROUGH
C_8	:	0.01μF CERAMIC CONDENSER
C_9	:	10μF
L_1, L_2	:	φ1 SILVER PLATED COPPER WIRE, 10ID, 1T
L_3	:	φ1 SILVER PLATED COPPER WIRE, 10ID, 2T
RFC	:	φ1 ENAMEL COATED COPPER WIRE, 6ID, 10T
FB	:	FERRITE BEADS

$P_O, \eta_C - P_i$



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