S-AV8

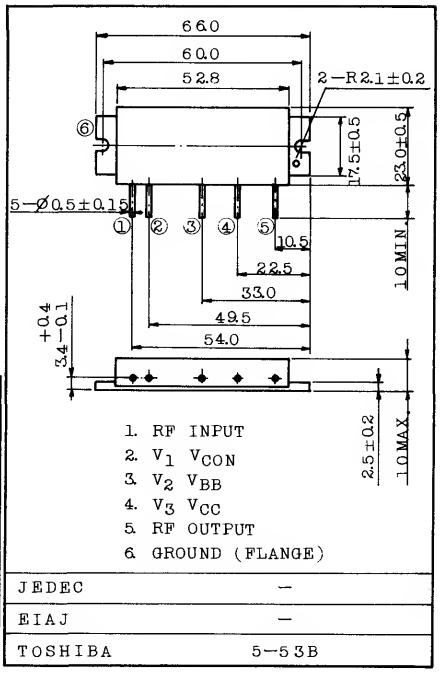
TOSHIBA RF POWER AMPLIFIER MODULE

VHF POWER AMPLIFIER MODULE (HAM SSB/FM)

Unit in mm

FEATURES:

- Output Power : $P_O \geqq 17W$
- Minimum Gain : $G_P = 19.2dB$
- Efficiency : $\eta_T \leqq 40\%$
- 50Ω Input/Output Impedance
- Guaranteed Stability



JEDEC	—
EIAJ	—
TOSHIBA	5—53B

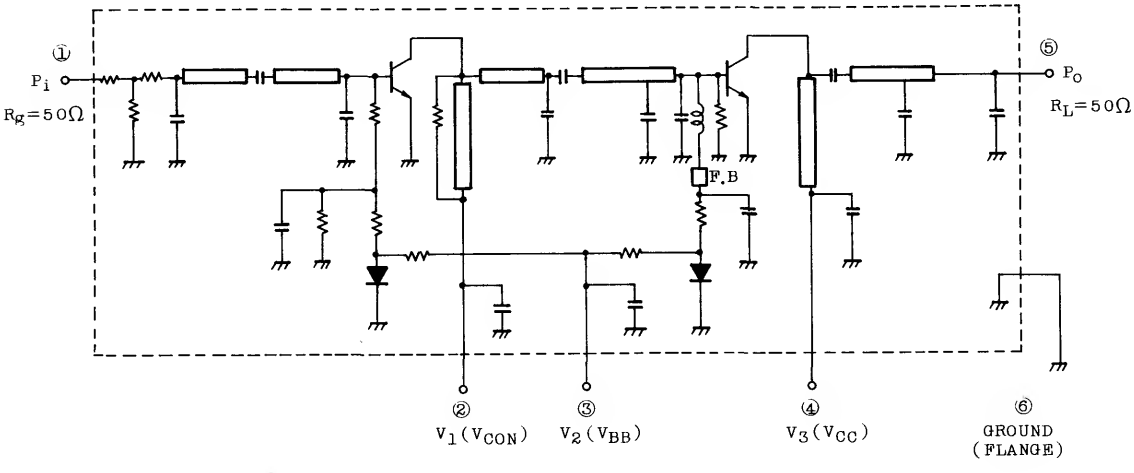
MAXIMUM RATINGS (T_c=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
DC Supply Voltage	V_{CC}	16	V
DC Supply Voltage	V_{CON}	16	V
RF Input Power	P_i	300	mW
Operating Case Temperature Range	T_c(OP)	−30 ~ 100	°C
Storage Temperature Range	T_{stg}	−40 ~ 110	°C

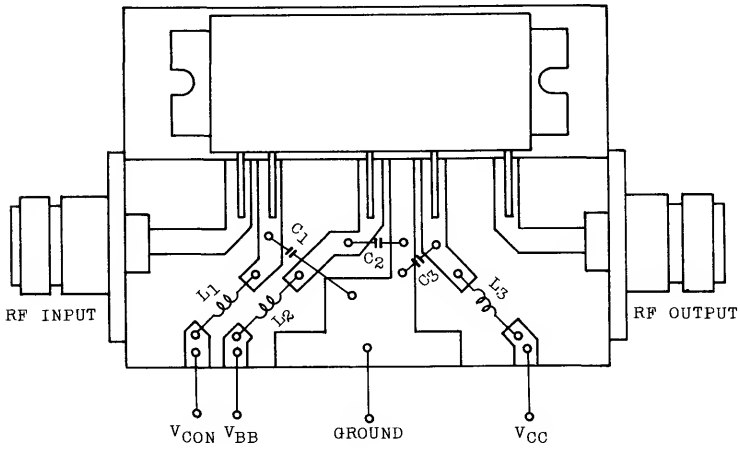
CHARACTERISTICS (T_c=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Frequency Range	f_{range}	-	144	-	148	MHz
Output Power	P_O	P_i=200mW V_{CC}=12.5V, V_{CON}=12.5V Z_G=Z_L=50Ω, V_{BB}=9V	17	22	-	W
Power Gain	G_P		19.2	20.4	-	dB
Total Efficiency	η_T		40	50	-	%
Input VSWR	$VSWR_{in}$		-	1.5	2	-
Harmonics	HRM		-	-30	-25	dB
Load Mismatch	-	V_{CC}=15V, V_{CON}=12.5V P_O=18W, V_{BB}=9V VSWR load 20:1 all phase	No Degradation			-
Stability	-	V_{CC}=12.5V, P_i=200mW V_{CON}=0 ~ 12.5V, V_{BB}=9V VSWR Load 3:1 all phase	All spurious output than 60dB below desired signal			-
Intermodulation Distortion Ratio	IMD	f_1=440.000MHz, f_2=440.002MHz V_{CC}=V_{CON}=12.5V, V_{BB}=9V P_O=13W_{PEP}	-	-32	-	dB

SCHEMATIC



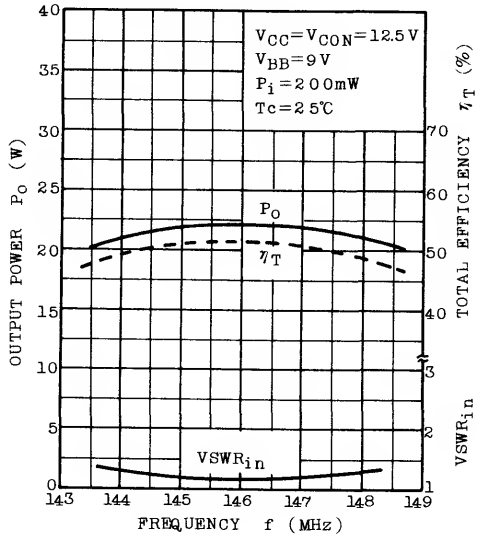
TEST MOUNT



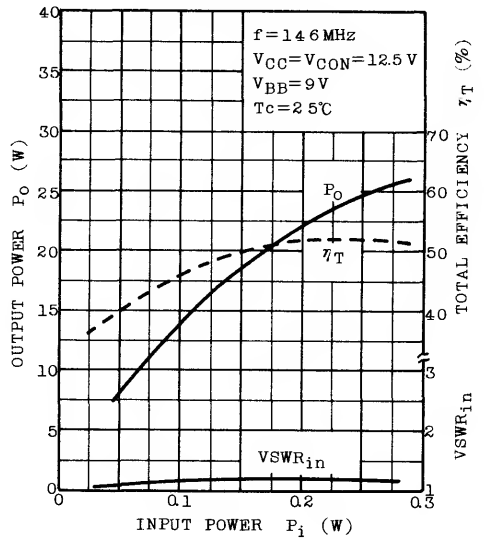
C_1, C_2, C_3 : 1500pF, 10μF PARALLEL

L_1, L_2, L_3 : Ø0.8 Ag PLATED WIRE, 8T, 5ID

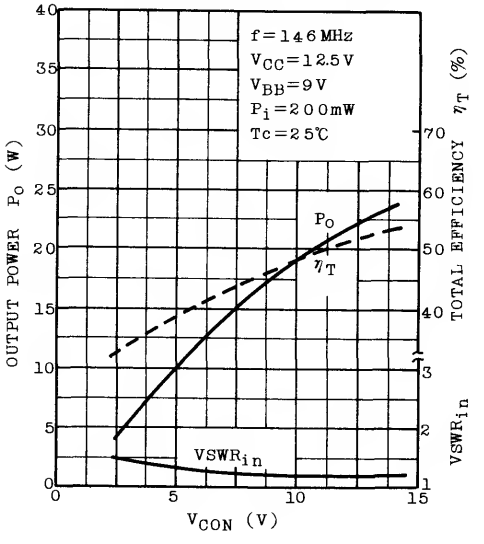
P_O, η_T, $VSWR_{in}$ — f



P_O, η_T, $VSWR_{in}$ — P_i



P_O, η_T, $VSWR_{in}$ — V_{CON}



IMD — P_O