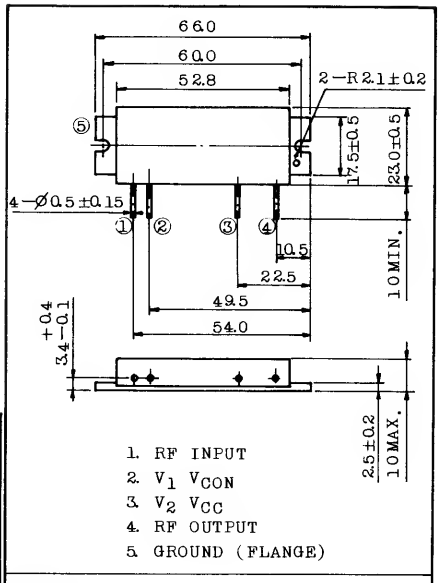
S-AV5

VHF POWER AMPLIFIER MODULE (HAM FM)

FEATURES:

- Output Power : $P_O \geqq 15W$
- Minimum Gain : $G_P \geqq 18.7dB$
- Efficiency : $\eta_T \geqq 48\%$
- 50Ω Input/Output Impedance
- Guaranteed Stability

Unit in mm



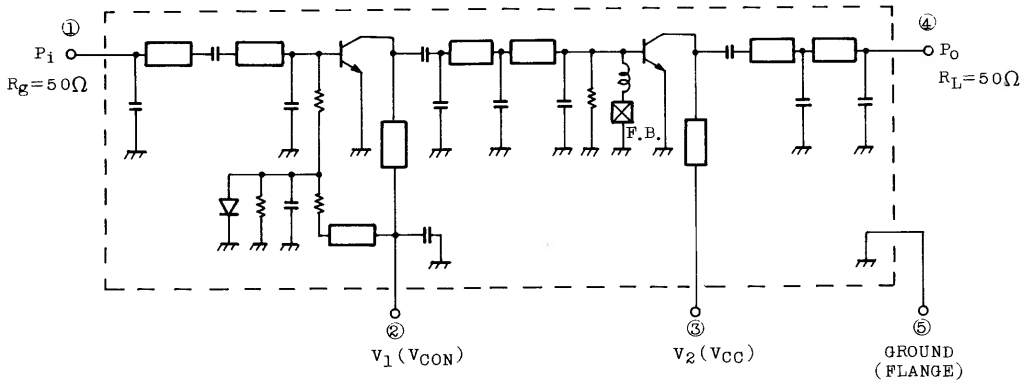
JEDEC	—
EIAJ	—
TOSHIBA	5-53C

MAXIMUM RATINGS (T_C=25°C)

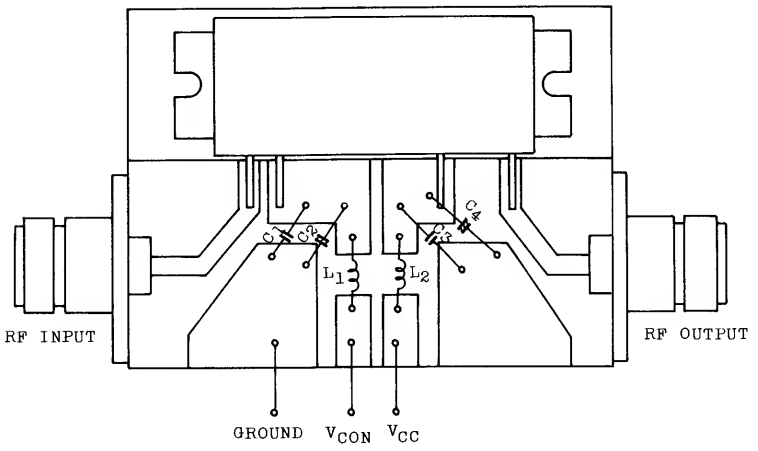
CHARACTERISTIC	SYMBOL	RATING	UNIT
DC Supply Voltage	V_{CC}	16	V
DC Supply Voltage	V_{CON}	16	V
RF Input Power	P_i	300	mW
Operating Case Temperature Range	T_C(OP)	-30 ~ 100	°C
Storage Temperature Range	T_{stg}	-40 ~ 110	°C

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	15	20	-	W
Power Gain	G_P		18.7	20	-	dB
Total Efficiency	η_T		48	53	-	%
Input VSWR	$VSWR_{in}$		-	1.5	2	-
Harmonics	HRM		-	-30	-25	dB
Load Mismatch	-	V_{CC}=15V, V_{CON}=12.5V P_O=18W VSWR load 20:1 all phase	No Degradation			-
Stability	-	V_{CC}=12.5V, P_i=200mW V_{CON}=0 ~ 12.5V VSWR load 3:1 all phase	All spurious output than 60dB below desired signal			-

SCHEMATIC

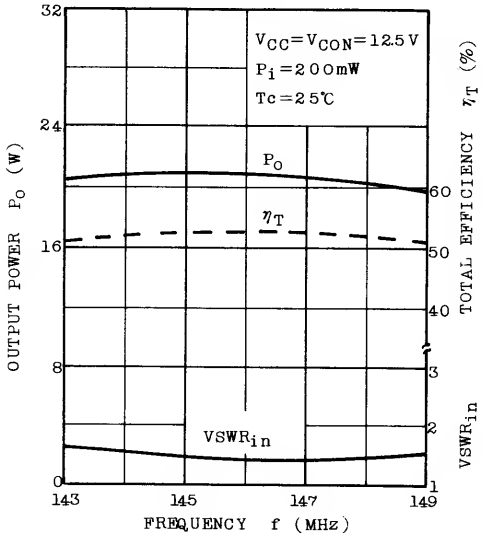


TEST MOUNT

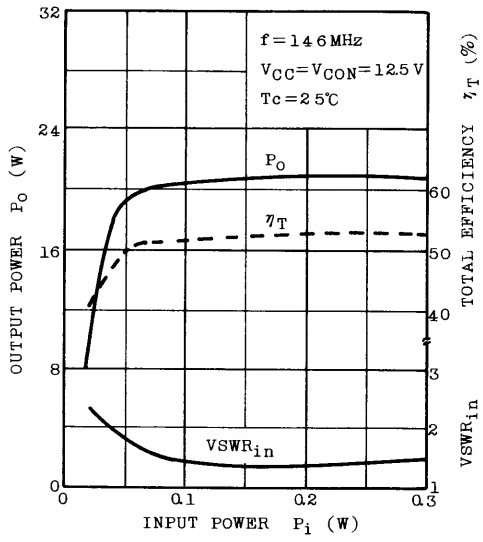


C_1, C_3 : 15000pF
C_2, C_4 : 1 μF
L_1, L_2 : Ø0.8 Ag PLATED WIRE, 8T, 5ID

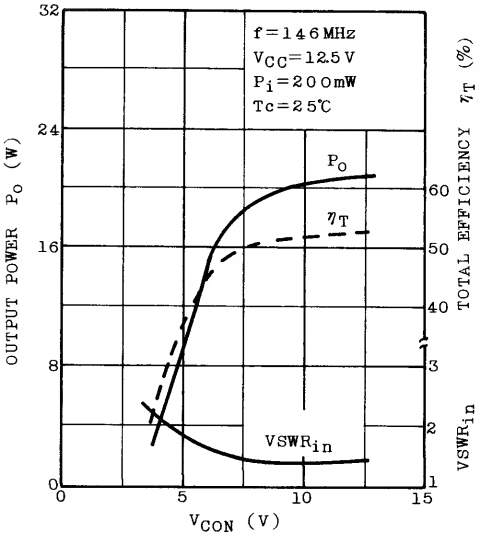
P_O, η_T, $VSWR_{in}$ – f



P_O, η_T, $VSWR_{in}$ – P_{in}



P_O, η_T, $VSWR_{in}$ – V_{CON}



P_O, η_T, $VSWR_{in}$ – V_{CC}, V_{CON}