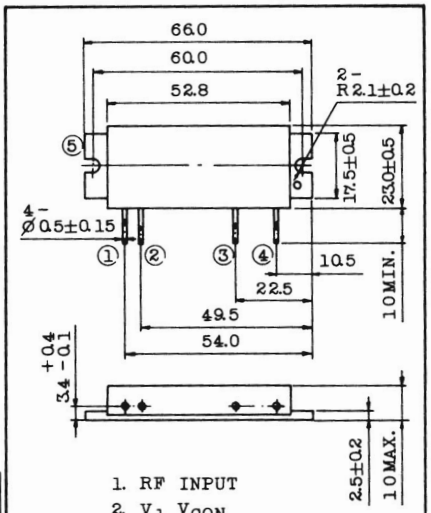
VHF POWER AMPLIFIER MODULE (HAM 25W FM)

220~225MHz BAND

- Output Power : $P_O \geq 32W$
- Minimum Gain : $G_P = 22.0dB$
- Efficiency : $\eta_T \geq 45\%$

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	5-53C

Weight: 35g

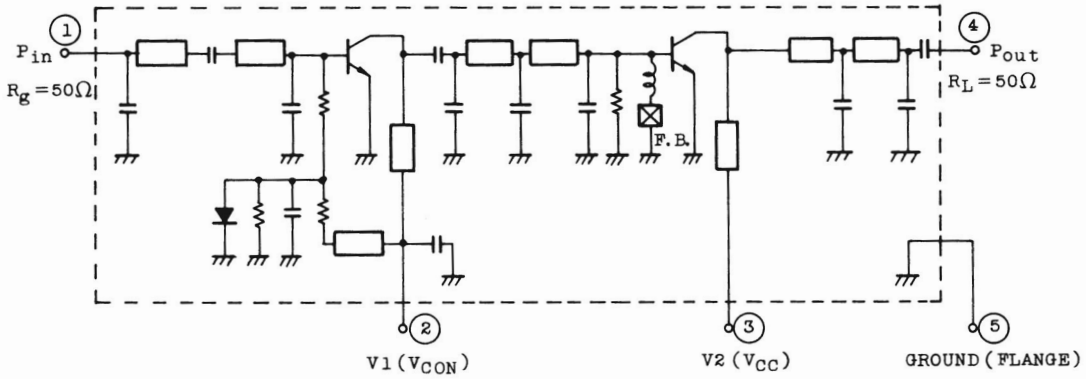
MAXIMUM RATINGS (T_C=25°C)

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	$T_{C(opr)}$	-30~100	°C
Storage Temperature Range	T_{stg}	-40~110	°C

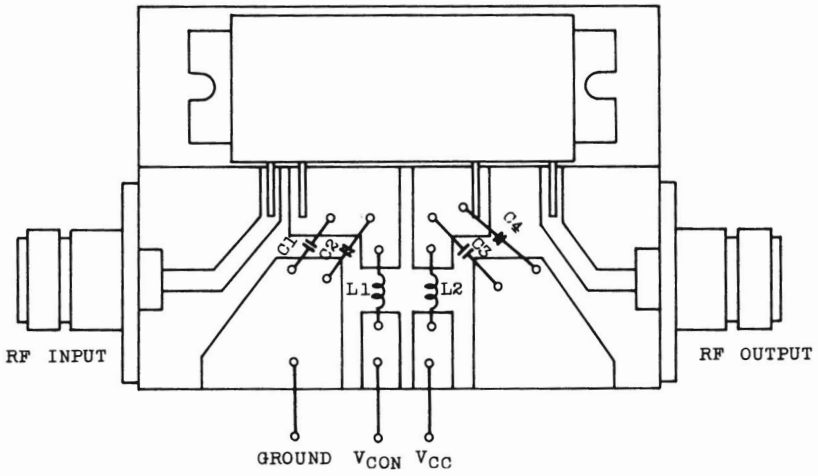
ELECTRICAL CHARACTERISTICS (T_C=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Frequency	frange	-	220	-	225	MHz
Output Power	P_O	P_i=200mW V_{CC}=12.5V, V_{CON}=12.5V $Z_g=Z_l=50\Omega$	32	-	-	W
Power Gain	G_P		22.0	-	-	dB
Total Efficiency	η_T		45	-	-	%
Input VSWR	$VSWR_{in}$		-	1.5	2	-
Harmonics	HRM		-	-	-25	dB
Load Mismatch	-	V_{CC}=15V, V_{CON}=12.5V P_O=30W 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 FIXTURE

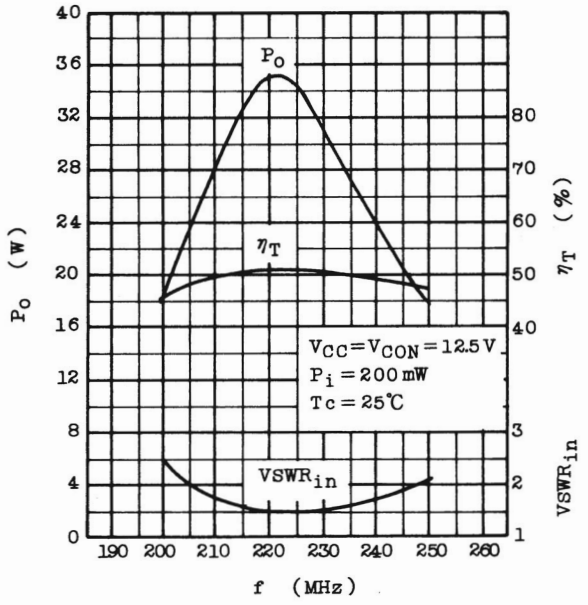


C1, C3 : 15000pF

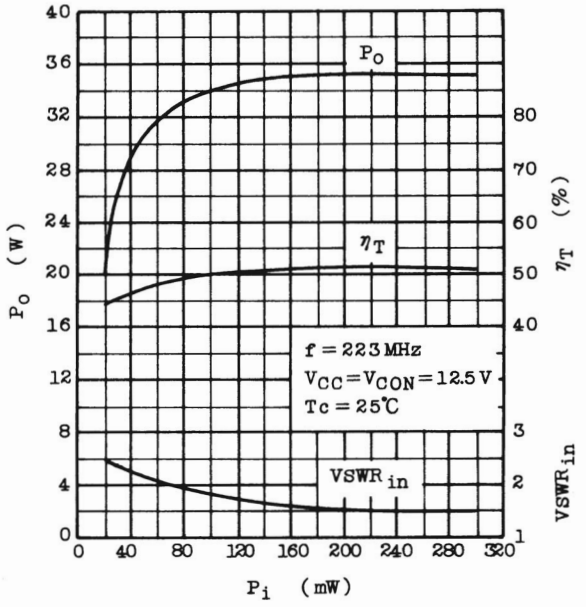
C2, C4 : 1μF

L1, L2 : ø0.8 Ag PLATED Cu WIRE, 8T, 5ID

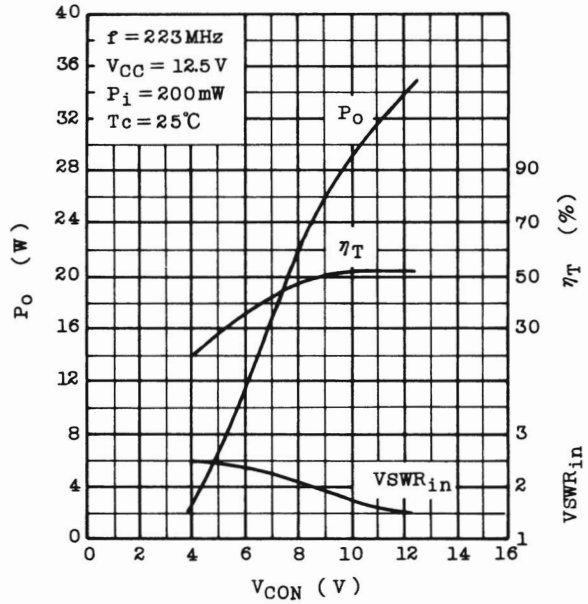
$P_O, \eta_T, VSWR_{in}$ – f



$P_O, \eta_T, VSWR_{in}$ – P_i



$P_O, \eta_T, VSWR_{in}$ – V_{CON}



$P_O, \eta_T, VSWR_{in}$ – V_{CC}, V_{CON}