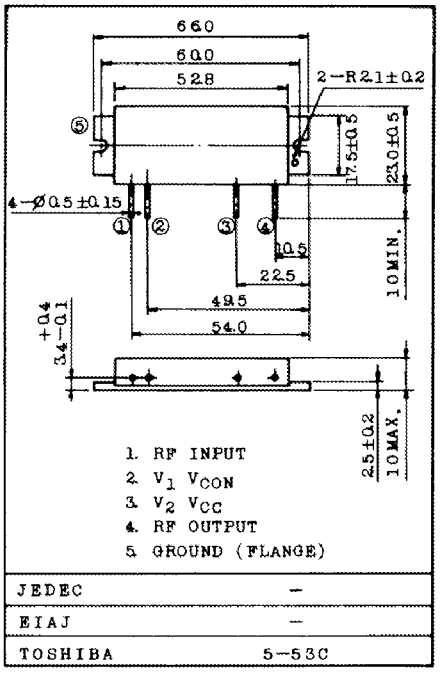
RF Power Amplifier Module

VHF Power Amplifier Module (HAM FM)

Unit in mm



Features

- Output Power : $P_o \geq 15W$
- Minimum Gain : $G_p = 18.7dB$
- Efficiency : $\eta_T \geq 48\%$
- 50Ω Input/Output Impedance
- Guaranteed Stability

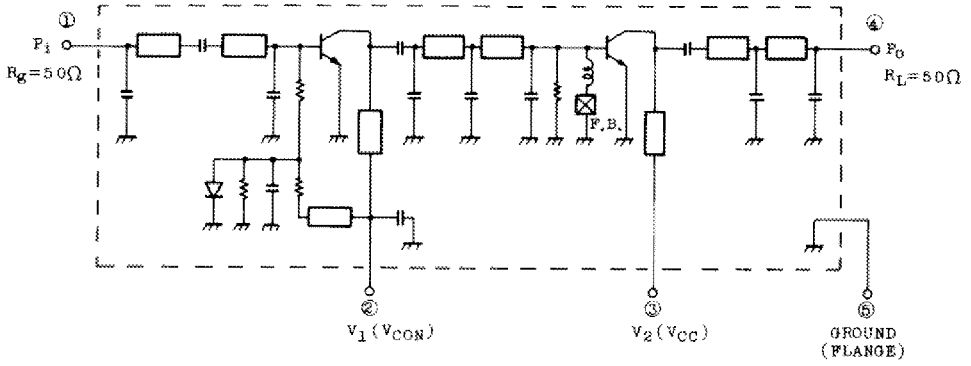
Absolute Maximum Ratings (Tc = 25°C)

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

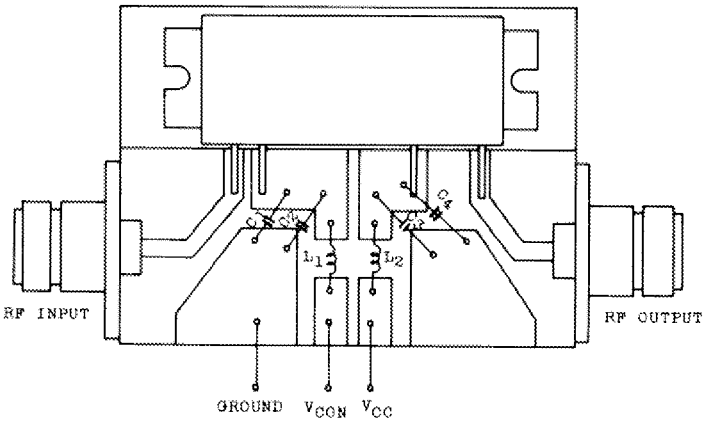
Electrical Characteristics (Tc= 25°C)

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 $Z_g = Z_1 = 50\Omega$	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 Po = 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

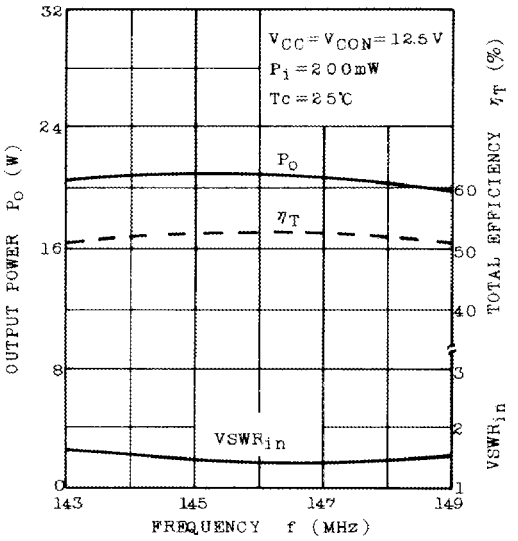


C_1, C_3 : 15000PF

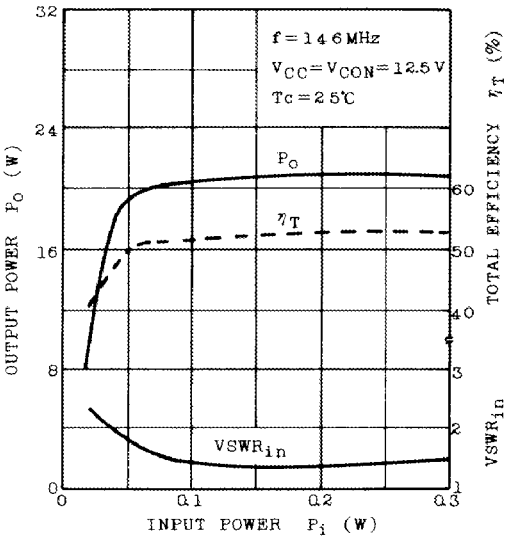
C_2, C_4 : 1μF

L_1, L_2 : Ø0.8 PLATED WIRE 8T, 5ID

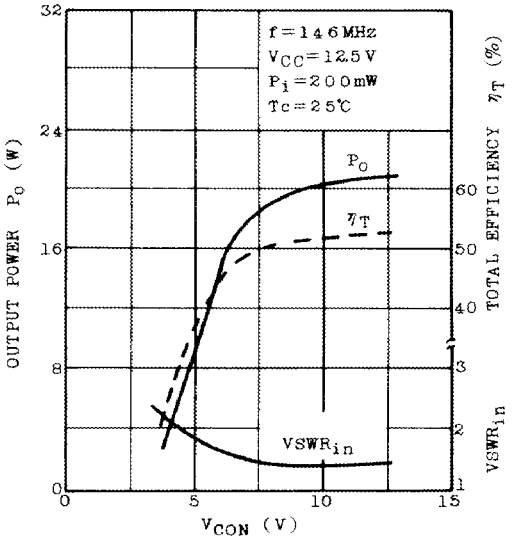
P_O, η_T, $VSWR_{in}$ – f



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}