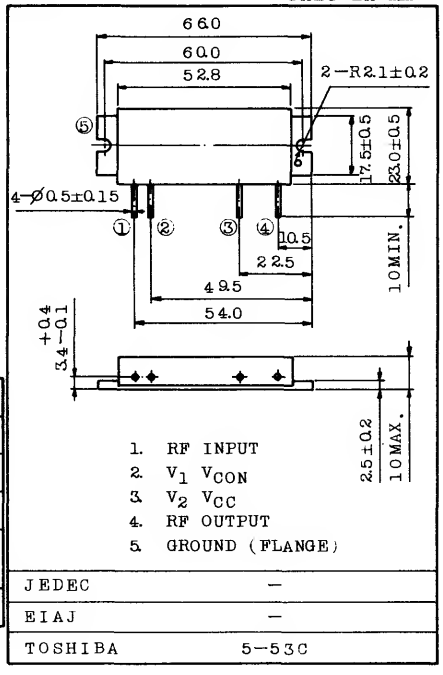
S-AU5L
S-AU5M
S-AU5H

UHF POWER AMPLIFIER MODULE

FEATURES:

. Output Power : $P_O \geqq 7W$
. Minimum Gain : $G_P = 15.4dB$
. Efficiency : $\eta_T \geqq 40\%$
. 50Ω Input/Output Impedance
. Guaranteed Stability

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	5−53C

MAXIMUM RATINGS (Tc=25°C)

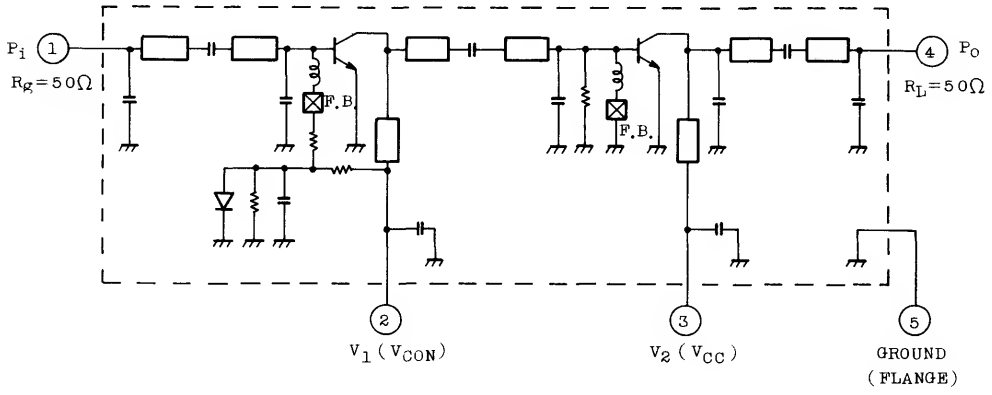
CHARACTERISTIC	SYMBOL	RATING	UNIT
DC Supply Voltage	V_{CC}	16	V
DC Supply Voltage	V_{CON}	16	V
RF Input Power	P_i	300	mW
Operating Case Temperature Range	Tc(OP)	−30 ~ 100	°C
Storage Temperature Range	T_{stg}	−40 ~ 110	°C

CHARACTERISTICS (Tc=25°C)

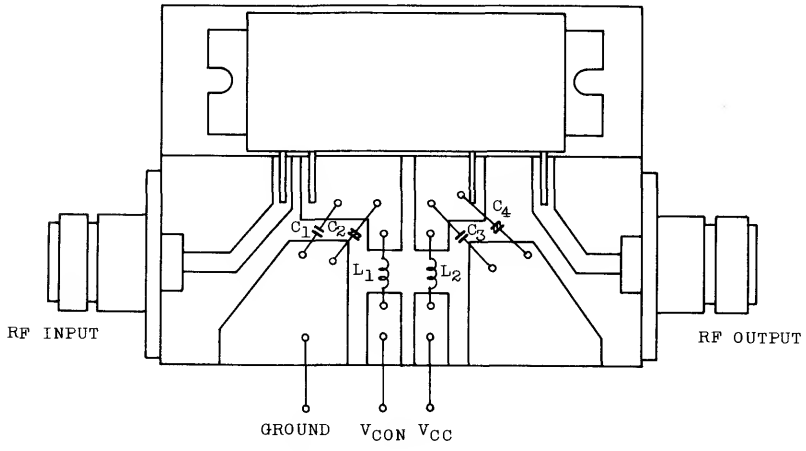
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Frequency Range (1)	f_{range}	−	400	−	512	MHz
Output Power	P_O	P_i=200mW V_{CC}=12.5V, V_{CON}=12.5V $Z_g=Z_l=50\Omega$	7	−	−	W
Power Gain	G_P		15.4	−	−	dB
Total Efficiency	η_T		40	48	−	%
Input VSWR	$VSWR_{in}$		−	1.5	2	−
Harmonics	HRM		−	−30	−25	dB
Load Mismatch	−	V_{CC}=15V, V_{CON}=12.5V P_i=200mW 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			−

(1) Frequency range is covered in three bands S-AU5L 400-440MHz
S-AU5M 440-480MHz
S-AU5H 480-512MHz

SCHEMATIC



TEST MOUNT

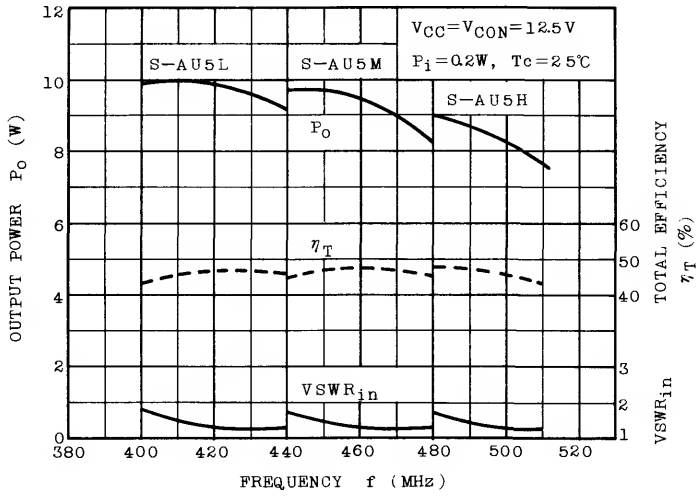


C_1, C_3 : 15000pF

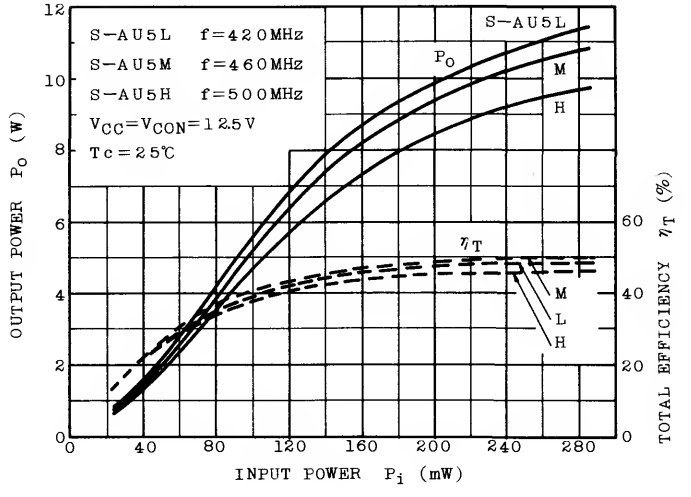
C_2, C_4 : 1μF

L_1, L_2 : Ø0.8 COPPER WIRE 8T, 5ID

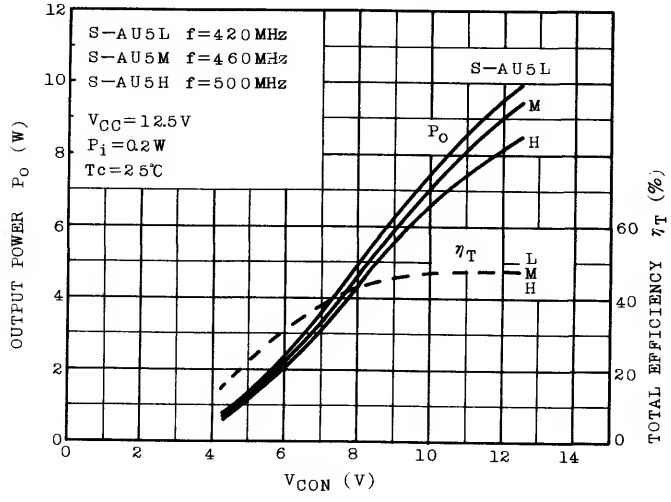
P_O, η_T, $VSWR_{in}$ – f



P_O, η_T – P_i



P_O, η_T – V_{CON}



P_O, η_T – V_{CC}, V_{CON}