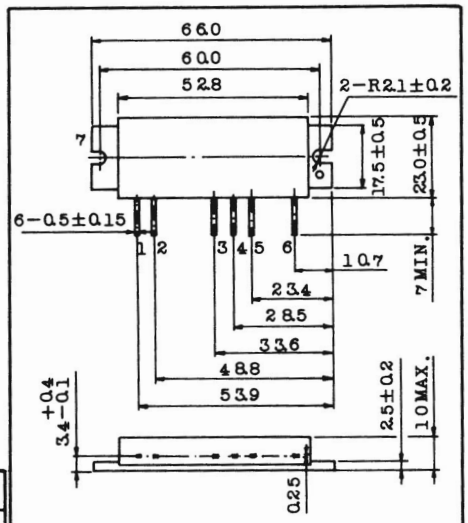
800MHz UHF POWER AMPLIFIER MODULE
(USA CELLULAR RADIO)
FEATURES:

- Built-in Driver Stage
- Output Power (6W) is Directly Gained by VCO(1mW).
- Output Power : $P_O \geqq 6W$
- Minimum Gain : $G_p = 37.7dB$
- Efficiency : $\eta_T \geqq 35\%$
- 50Ω Input/Output Impedance
- Guaranteed Stability

Unit in mm



JEDEC	–
EIAJ	–
TOSHIBA	5-53F

Weight : 35g

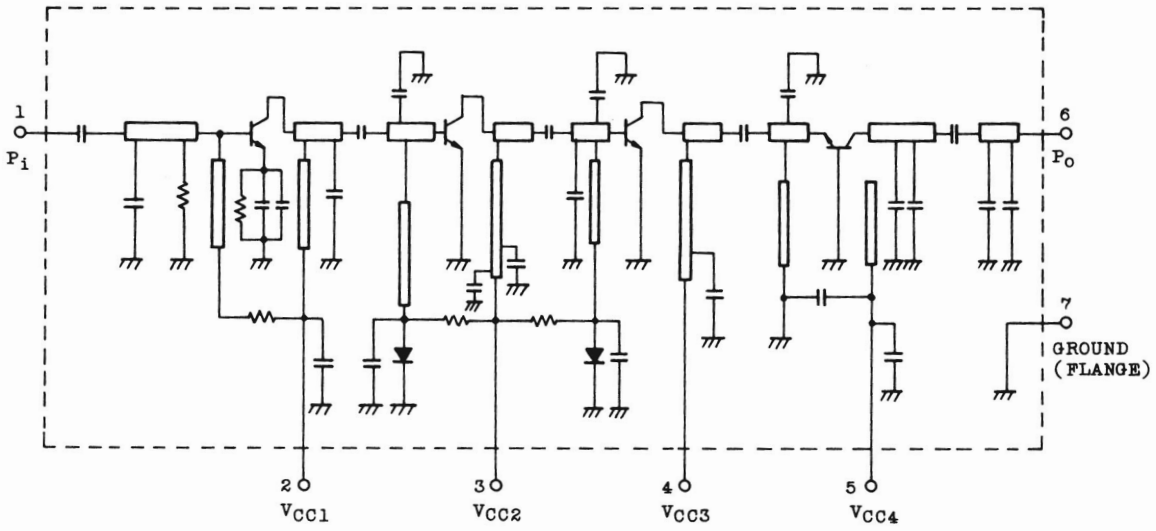
MAXIMUM RATINGS (Tc=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
DC Supply Voltage	V_{CC1}	11	V
DC Supply Voltage	V_{CC2}	17	V
DC Supply Voltage	V_{CC3}	17	V
DC Supply Voltage	V_{CC4}	17	V
RF Input Power	P_i	3	mW
Operating Case Temperature Range	$T_{c(opr)}$	-30~100	°C
Storage Temperature Range	T_{stg}	-40~110	°C

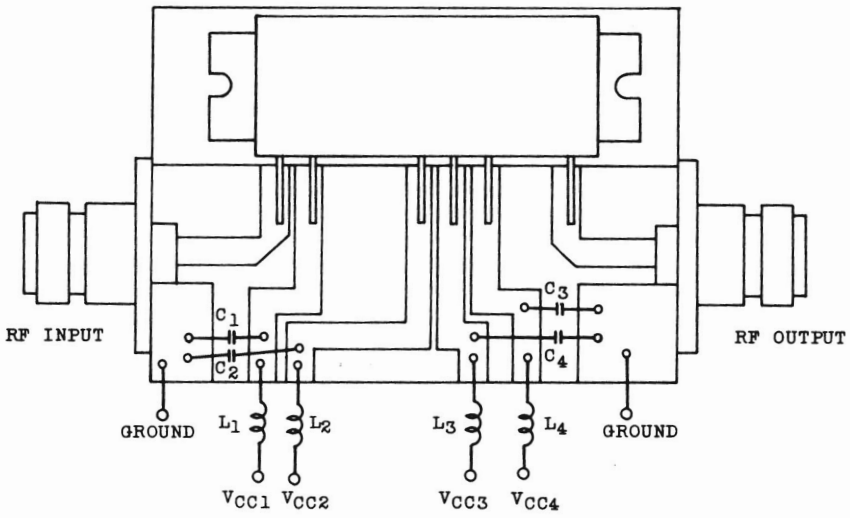
ELECTRICAL CHARACTERISTICS (Tc=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Frequency Range	frange	–	825	–	845	MHz
Output Power	P_O	P_i=1mW, V_{CC1}=8V $V_{CC2}=V_{CC3}=V_{CC4}$=12.5V $Z_g=Z_1=50\Omega$	6	–	–	W
Power Gain	G_p		37.7	–	–	dB
Total Efficiency	η_T		35	–	–	%
Input VSWR	$VSWR_{in}$		–	1.5	2.5	–
Harmonics	HRM		–	–	-25	dB
Load Mismatch	–	V_{CC1}=8V, V_{CC2}=12.5V P_i=1mW, $V_{CC3}=V_{CC4}$=15V VSWR load 20:1 all phase	No Degradation			–
Stability	–	P_i=1mW, V_{CC1}=8V $V_{CC3}=V_{CC4}$=12.5V V_{CC2}=0~12.5V VSWR load 3:1 all phase	All spurious output than 60dB below desired signal			–

SCHEMATIC



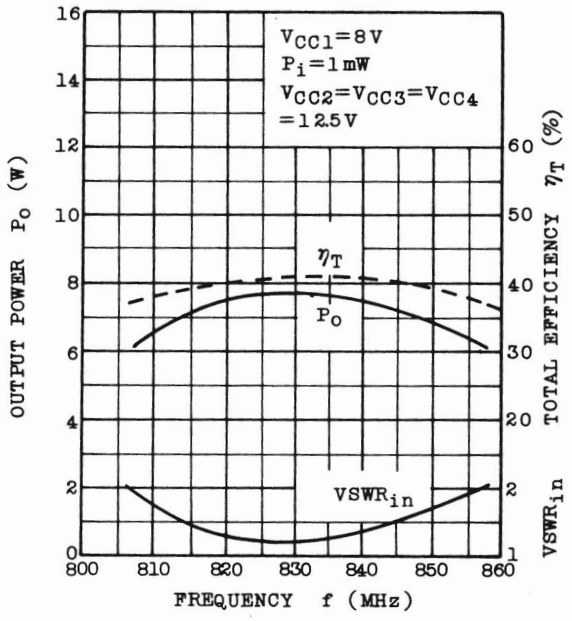
TEST MOUNT



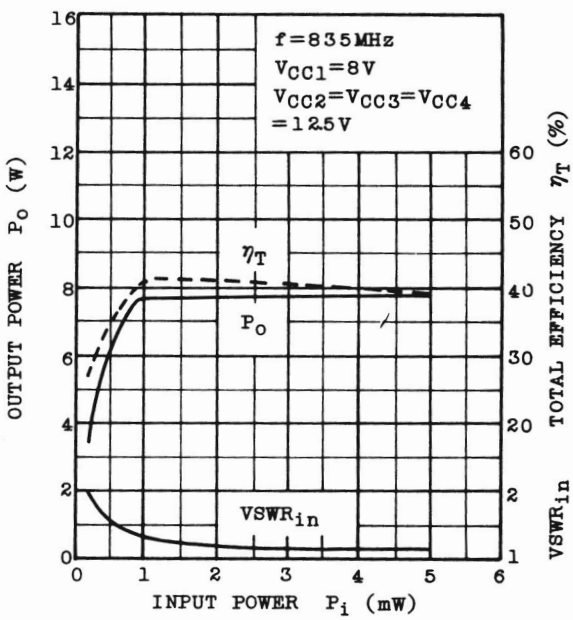
C1~C4 : 15000pF, 10μF PARALLEL

L1~L4 : φ0.8 ENAMEL WIRE, 8T, 5ID

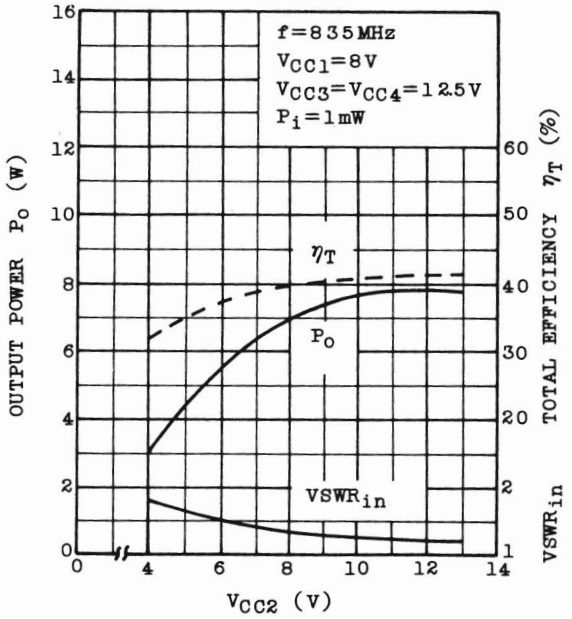
$P_O, \eta_T, VSWR_{in}$ –f



$P_O, \eta_T, VSWR_{in}$ – P_i



$P_O, \eta_T, VSWR_{in}$ – V_{CC2}



$P_O, \eta_T, VSWR_{in}$ – V_{CC3}, V_{CC4}