

TOSHIBA RF POWER AMPLIFIER MODULE

S - AU 77

800MHz UHF POWER AMPLIFIER MODULE (E-TACS)

- High Gain ($G_p = 18.5\text{dB Min.}$)

MAXIMUM RATINGS ($T_c = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
DC Supply Voltage	V_{DD}	10	V
DC Supply Voltage	V_{GG}	6	V
Input Power	P_i	17	mW
Operating Case Temperature Range	$T_{c(opr)}$	-35~100	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-40~120	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_c = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Frequency	f_{range}	—	872	—	905	MHz
Output Power	P_o	$P_i = 13\text{dBmW}$, $V_{GG} = 4.5\text{V}$, $V_{DD} = 6.0\text{V}$	31.5	—	—	dBmW
Power Gain	G_p	$Z_G = Z_L = 50\Omega$ (Note 1)	18.5	—	—	dB
Current Drain	I_{DD}	$P_o = 31.0\text{dBmW}$ ($V_{GG} = \text{adjust}$), $V_{DD} = 6.0\text{V}$ $P_i = 13\text{dBmW}$, $Z_G = Z_L = 50\Omega$	—	—	420	mA
Current Gate	I_{GG}	$P_o = 31.5\text{dBmW}$ ($V_{GG} = \text{adjust}$), $V_{DD} = 6.0\text{V}$	—	—	100	μA
Input VSWR	$VSWR_{in}$	$P_i = 13\text{dBmW}$, $Z_G = Z_L = 50\Omega$	—	—	3	—
Load Mismatch	—	$P_i = 13\text{dBmW}$, $V_{GG} = 5.0\text{V}$, $V_{DD} = 8.5\text{V}$ VSWR LOAD 20 : 1 ALL PHASE, 10s	No Degradation			—
Stability	—	$P_i = 9\sim 17\text{dBmW}$, $V_{GG} = 0\sim 5.0\text{V}$ $V_{DD} = 5.2\sim 8.5\text{V}$ VSWR LOAD 3 : 1 (in band) ALL PHASE VSWR LOAD 10 : 1 (Out of band) ALL PHASE	All Spurious Outputs more than 60dB below desired signal			—
TX Noise	—	$P_i = 13\text{dBmW}$, $V_{GG} = 0\sim 5.0\text{V}$ $V_{DD} = 5.2\sim 8.5\text{V}$, $f = 917\sim 950\text{MHz}$ BW = 30kHz	—	—	-92	dBmW

(Note 1) : Voltage Apply Sequence (1) V_{DD} (2) V_{GG}

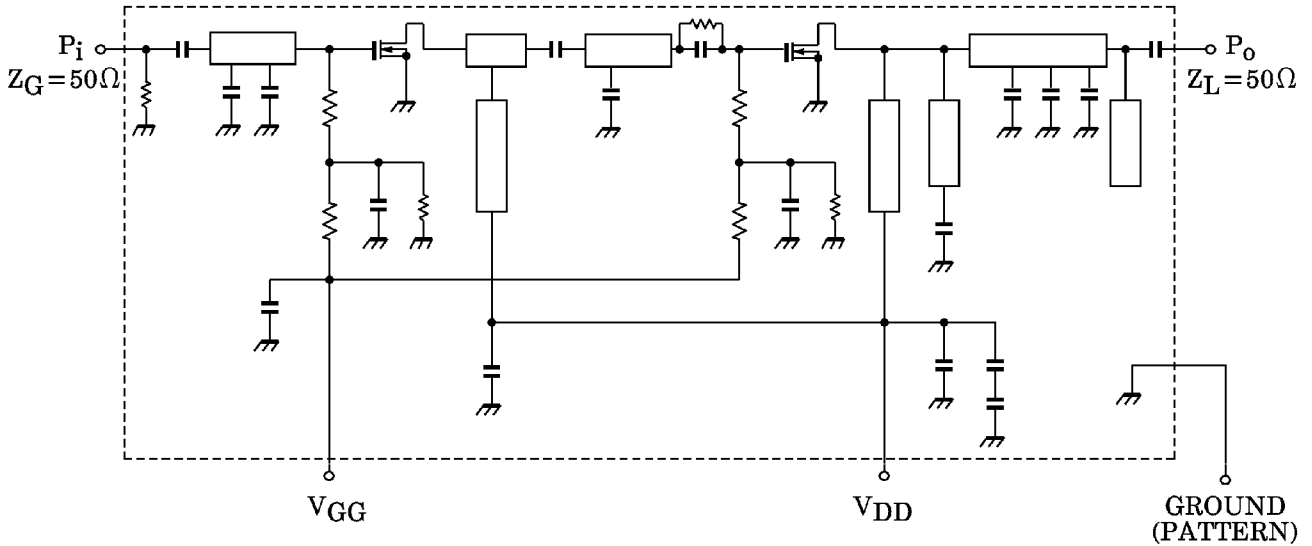
CAUTION

- This device is electrostatic sensitivity, please handle with caution.

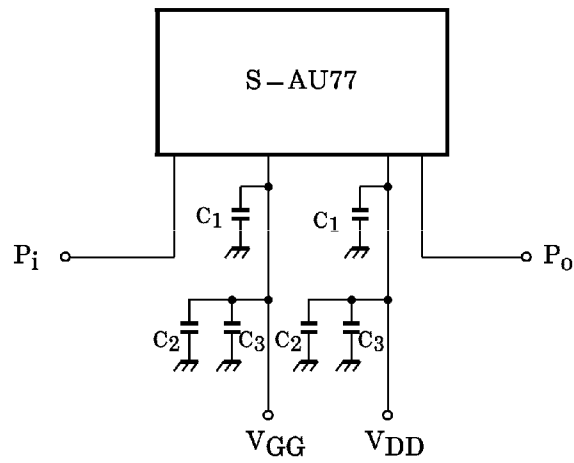
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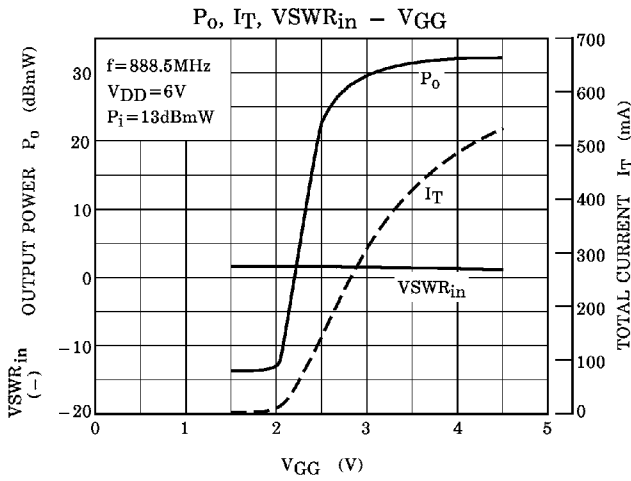
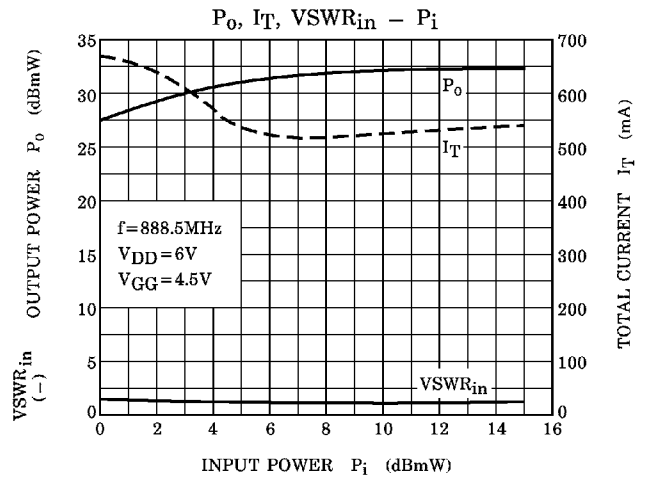
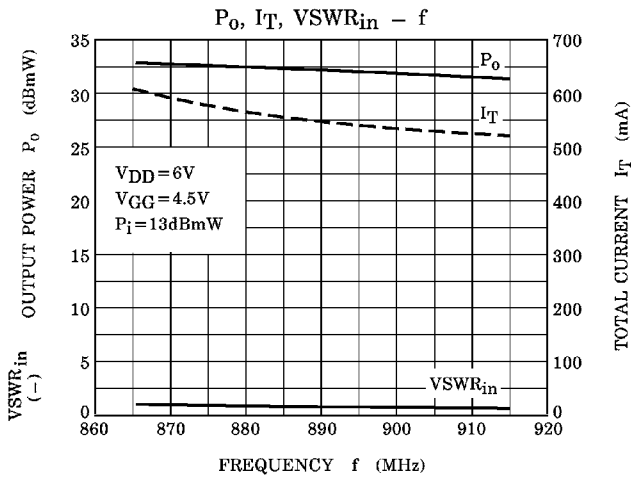
SCHEMATIC



TEST FIXTURE



- C1 : 1000pF
- C2 : 0.1μF
- C3 : 1μF

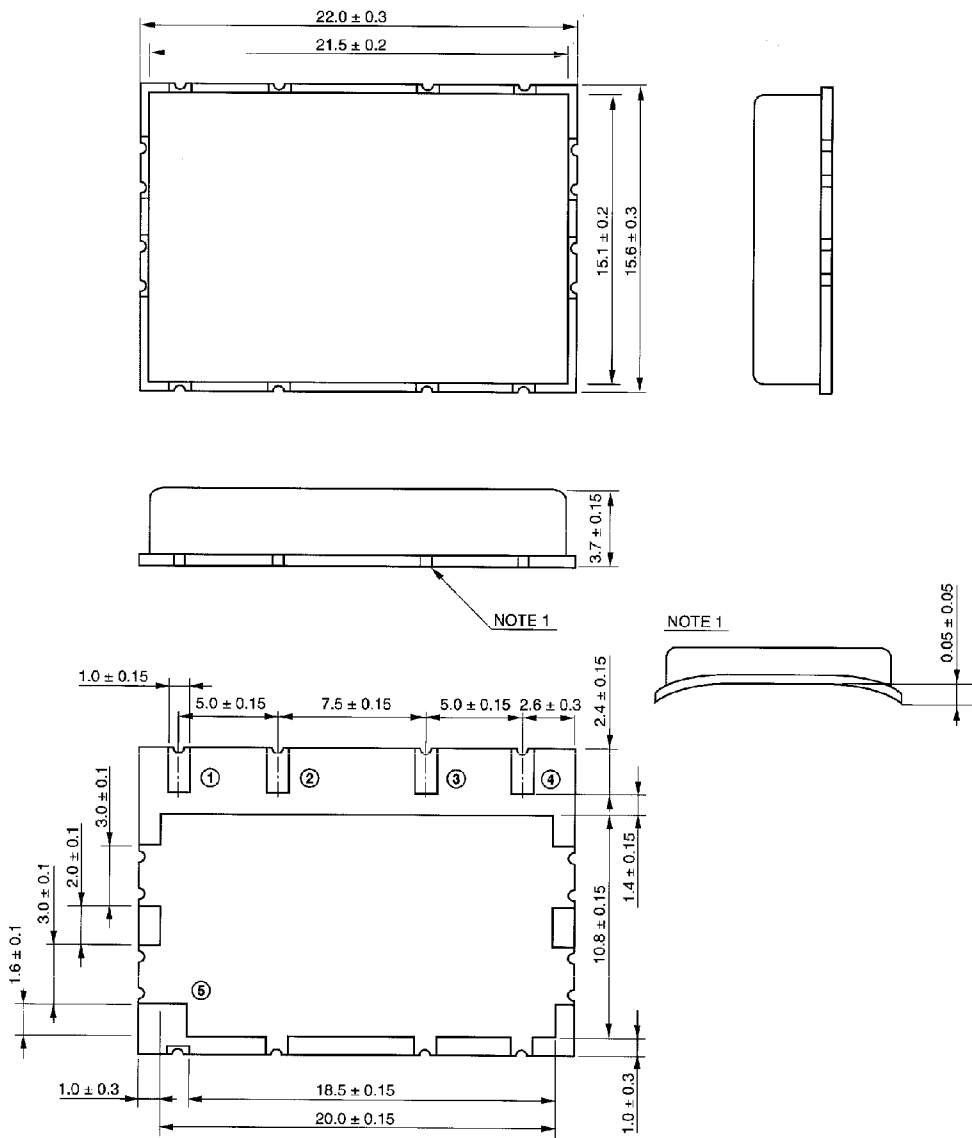


CAUTION

These are only typical curves and devices are not necessarily guaranteed at these curves.

OUTLINE DRAWING

Unit in mm



Weight : 1.8g

- ① INPUT
- ② VGG
- ③ VDD
- ④ OUTPUT
- ⑤ GROUND (PATTERN)

JEDEC	—
EIAJ	—
TOSHIBA	5-22P