TOSHIBA RF POWER AMPLIFIER MODULE

S-AU76

800MHz UHF POWER AMPLIFIER MODULE (AMPS)

- High Gain (G_p = 18.5dB Min.)

MAXIMUM RATINGS (T_c = 25°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	°C
Storage Temperature Range	T_{stg}	−40~120	°C

ELECTRICAL CHARACTERISTICS (T_c = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Frequency	f_{range}	—	824	—	849	MHz
Output Power	P_o	P_i = 13dBmW, V_{GG} = 4.5V, V_{DD} = 6.0V	31.5	—	—	dBmW
Power Gain	G_p	Z_G = Z_L = 50Ω (Note 1)	18.5	—	—	dB
Current Drain	I_{DD}	P_o = 31.0dBmW (V_{GG} = adjust), V_{DD} = 6.0V P_i = 13dBmW, Z_G = Z_L = 50Ω	—	—	420	mA
Current Gate	I_{GG}	P_o = 31.5dBmW (V_{GG} = adjust), V_{DD} = 6.0V	—	—	100	μA
Input VSWR	$VSWR_{in}$	P_i = 13dBmW, Z_G = Z_L = 50Ω	—	—	3	—
Load Mismatch	—	P_i = 13dBmW, V_{GG} = 5.0V, V_{DD} = 8.5V VSWR LOAD 20 : 1 ALL PHASE, 10s	No Degradation			—
Stability	—	P_i = 9~17dBmW, V_{GG} = 0~5.0V V_{DD} = 5.2~8.5V 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	—	Pi = 13dBmW, V_{GG} = 0~5.0V V_{DD} = 5.2~8.5V, f = 869~894MHz 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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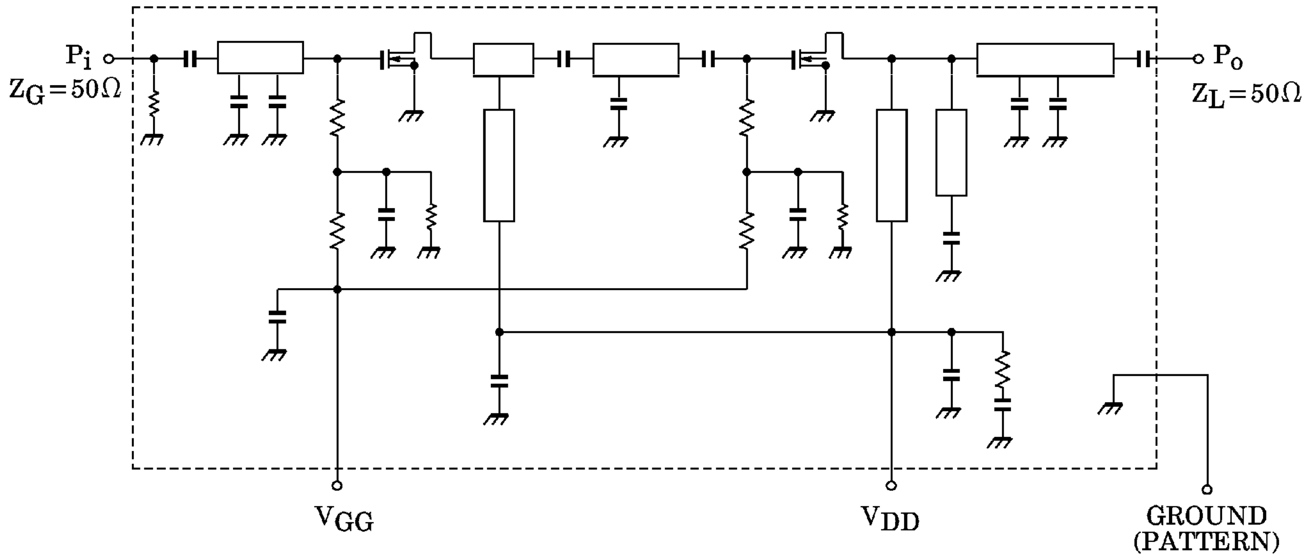
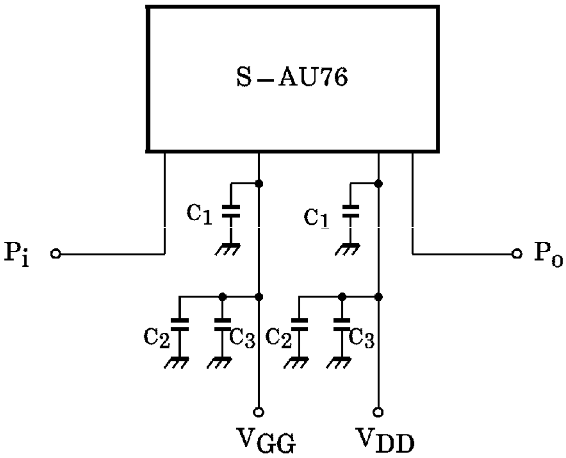
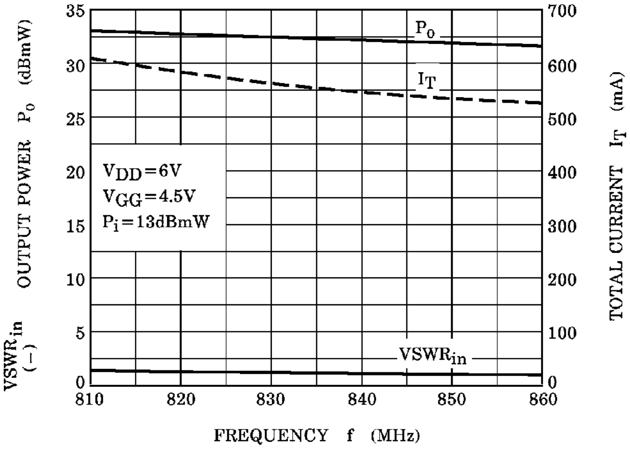
SCHEMATIC

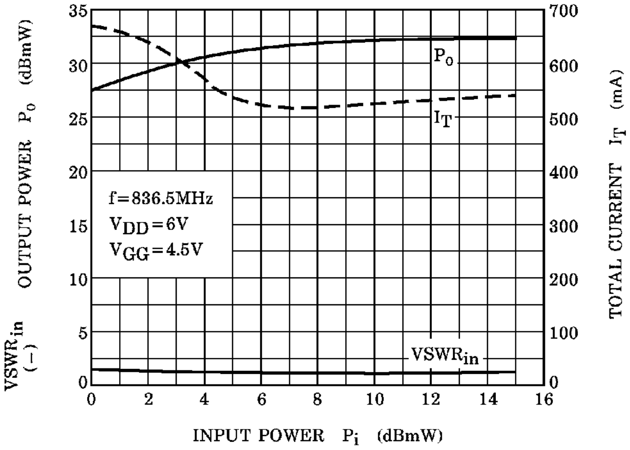


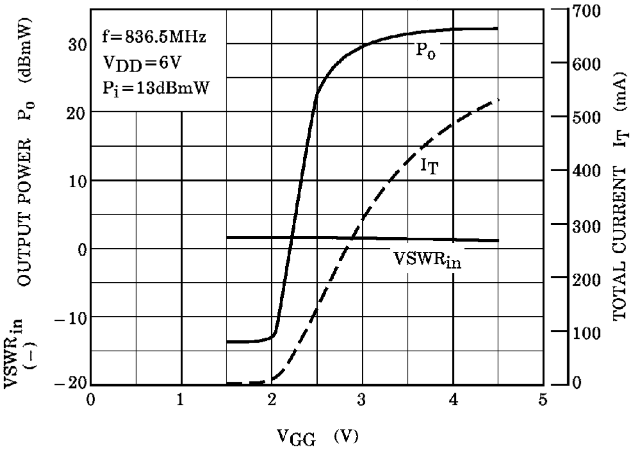
TEST FIXTURE



C_1 : 1000pF
C_2 : 0.1μF
C_3 : 1μF


P_o, I_T, $VSWR_{in}$ – f


P_o, I_T, $VSWR_{in}$ – P_i

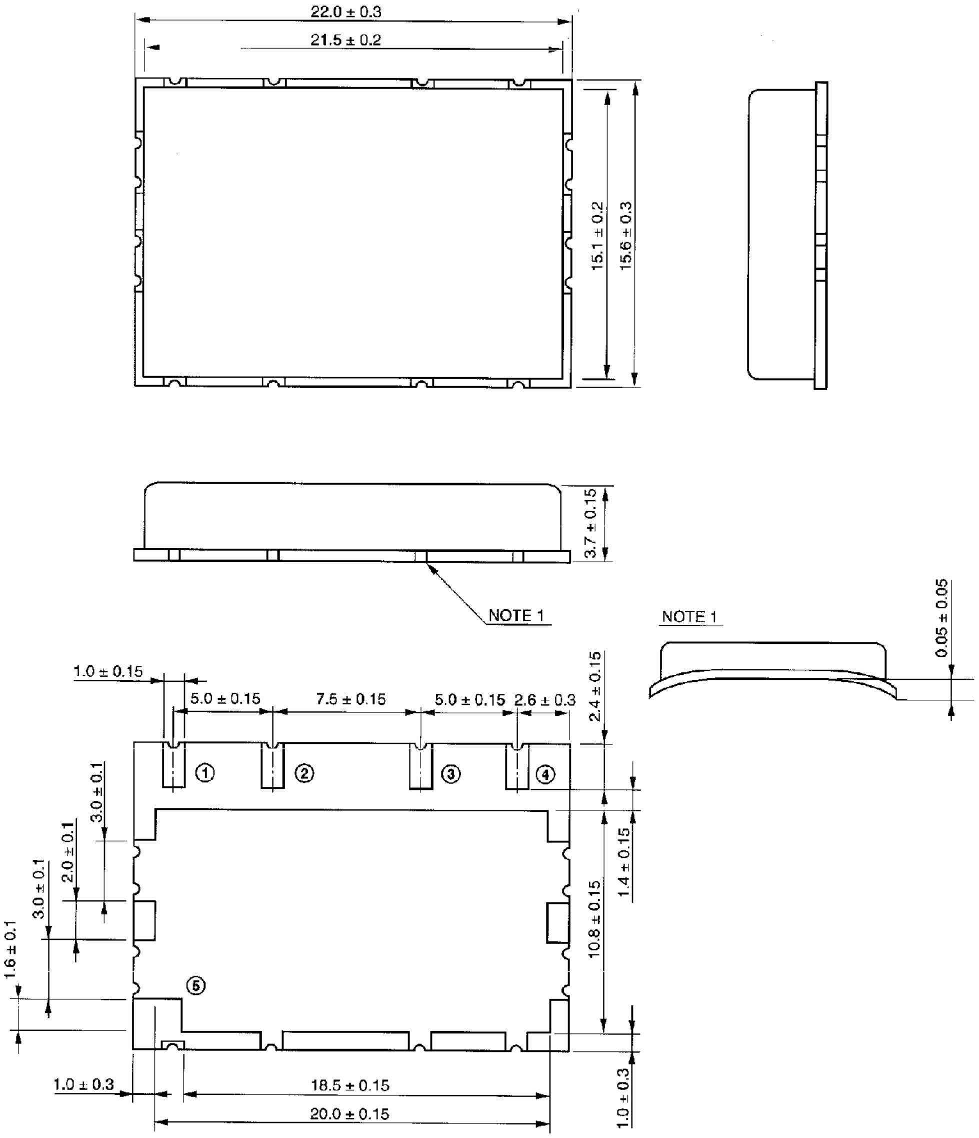

P_o, I_T, $VSWR_{in}$ – V_{GG}

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 V_{GG}
③ V_{DD}
④ OUTPUT
⑤ GROUND (PATTERN)

JEDEC	—
EIAJ	—
TOSHIBA	5-22P