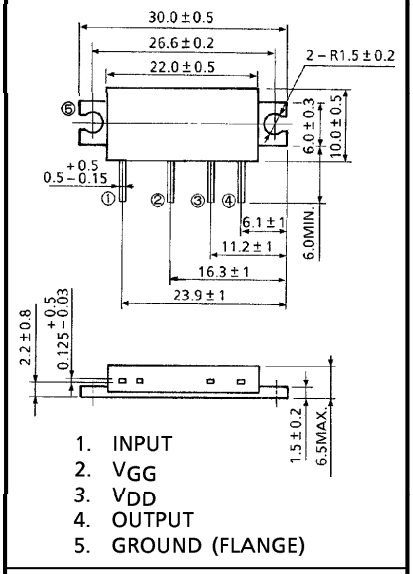
TOSHIBA RF POWER AMPLIFIER MODULE

S-AU50H

UHF BAND FM POWER AMPLIFIER MODULE

HAND-HELD TRANSCEIVER

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	5-23E

Weight : 3.5g

MAXIMUM RATINGS (Tc = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
DC Supply Voltage	V_{DD}	17	V
DC Supply Voltage	V_{GG}	6	V
Input Power	Pi	150	mW
Output Power	Po	12	W
Total Current	I_T	3	A
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	f_{range}	—	470	—	520	MHz
Output Power	Po	V_{DD}=9.6V, V_{GG}=4V Pi=50mW, Z_G=Z_L=50Ω	6.5	—	—	W
Power Gain	G_p		21.1	—	—	dB
Total Efficiency	η_T		40	—	—	%
Input VSWR	VSWRin		—	—	4.5	—
Harmonics	HRM		—	—	−30	dBc
Load Mismatch	—	V_{DD}=15V, Pi=50mW Po=7W (V_{GG}=adjust) VSWR LOAD 20 : 1 ALL PHASE	No Degradation			—
Stability	—	V_{DD}=7.5~11.5V, V_{GG}=0~4V Pi=50mW VSWR LOAD 3 : 1 ALL PHASE	All spurious output than 60dB below desired signal			—

CAUTION

- This product has intersetting cap. Please pay attention for exceeding stress and foreign matter in your application. And not to take away the cap.
- Do not intermingle with normal industrial or domestic waste.
- This product is electrostatic sensitivity, please handle with caution.

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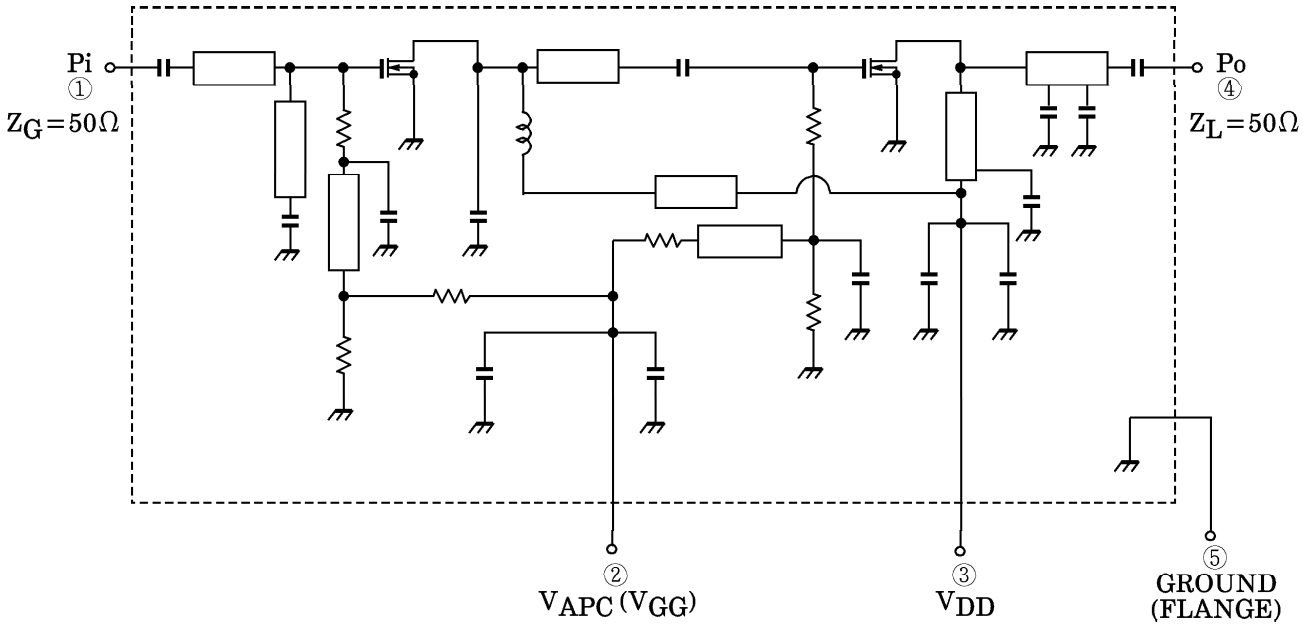
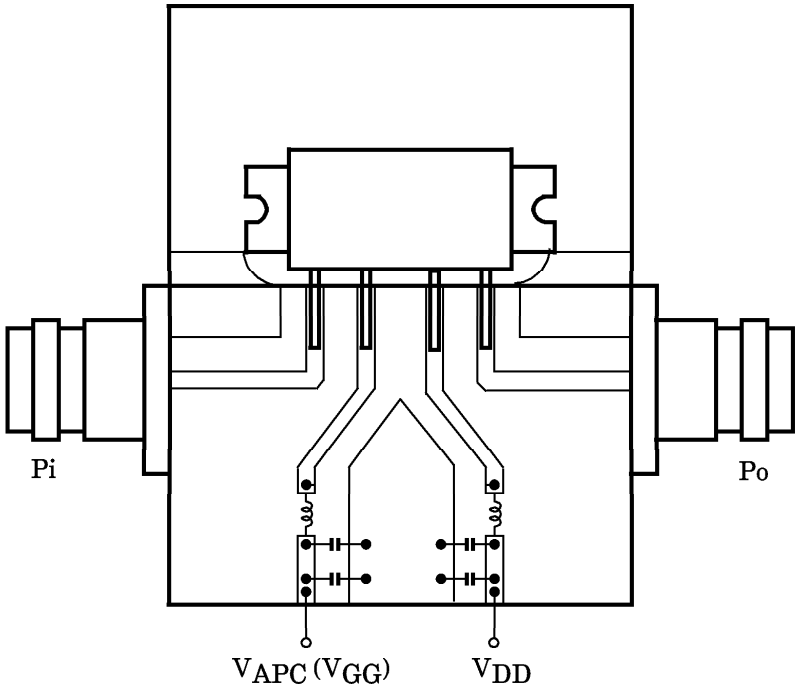
● TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.

SCHEMATIC



TEST FIXTURE



C : 10000pF, 10μF PARALLEL
L : ϕ0.5, 3ID, 5T ENAMEL WIRE

961001EAA2'

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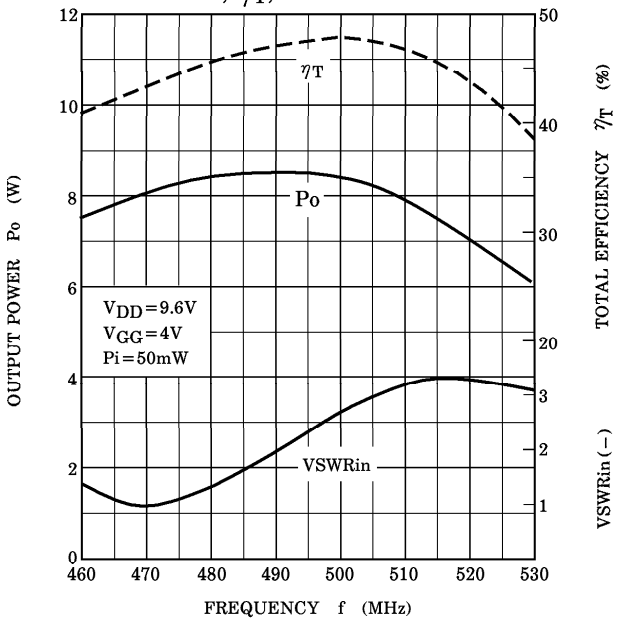
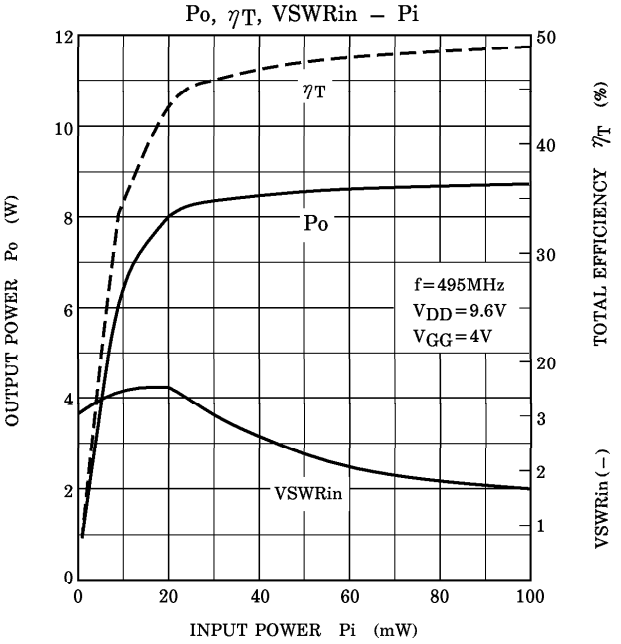
- The information contained herein is subject to change without notice.

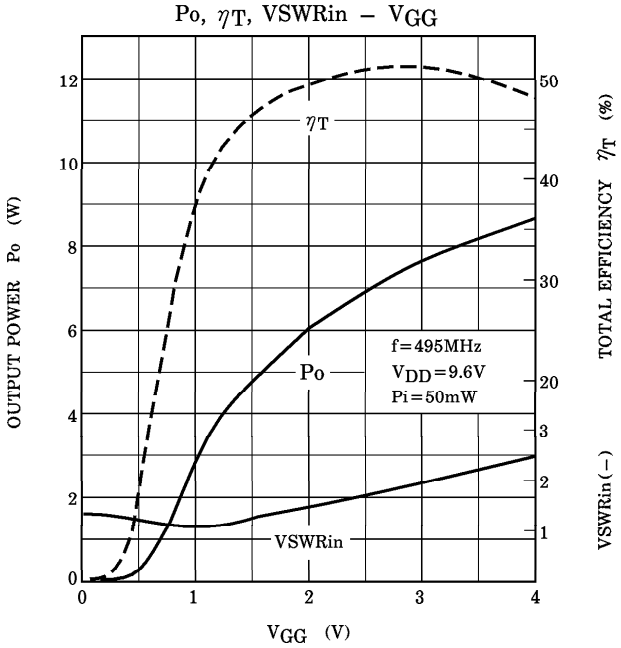
Po, η_T, VSWRin – f



Po, η_T, VSWRin – Pi



Po, η_T, VSWRin – V_{GG}



CAUTION

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