

TOSHIBA RF POWER AMPLIFIER MODULE

S-AU50M

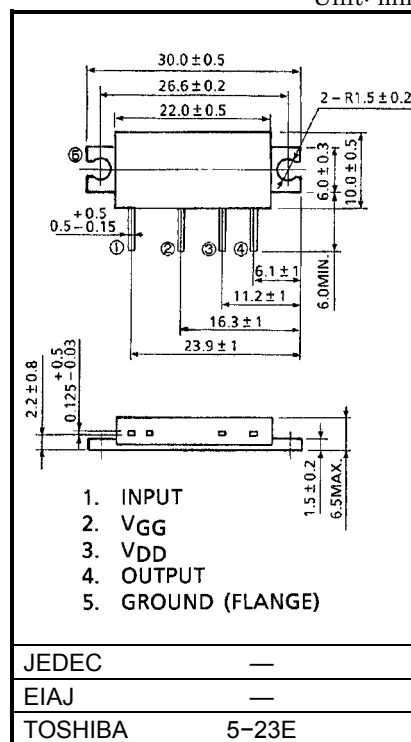
UHF BAND FM POWER AMPLIFIER MODULE

HAND-HELD TRANSCEIVER

Unit: mm

MAXIMUM RATINGS (T_c = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
DC Supply Voltage	V _{DD}	17	V
DC Supply Voltage	V _{GG}	6	V
Input Power	P _i	150	mW
Output Power	P _o	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



Weight: 3.5g

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• TOSHIBA is continually working to improve the quality and 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 comply with the standards of safety in making a safe design for the entire system, and to avoid situations in which a malfunction or failure of such TOSHIBA products 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 TOSHIBA products specifications. Also, please keep in mind the precautions and conditions set forth in the "Handling Guide for Semiconductor Devices," or "TOSHIBA Semiconductor Reliability Handbook" etc..

• The TOSHIBA products listed in this document are intended for usage in general electronics applications (computer, personal equipment, office equipment, measuring equipment, industrial robotics, domestic appliances, etc.). These TOSHIBA products are neither intended nor warranted for usage in equipment that requires extraordinarily high quality and/or reliability or a malfunction or failure of which may cause loss of human life or bodily injury ("Unintended Usage"). Unintended Usage include atomic energy control instruments, airplane or spaceship instruments, transportation instruments, traffic signal instruments, combustion control instruments, medical instruments, all types of safety devices, etc.. Unintended Usage of TOSHIBA products listed in this document shall be made at the customer's own risk.

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

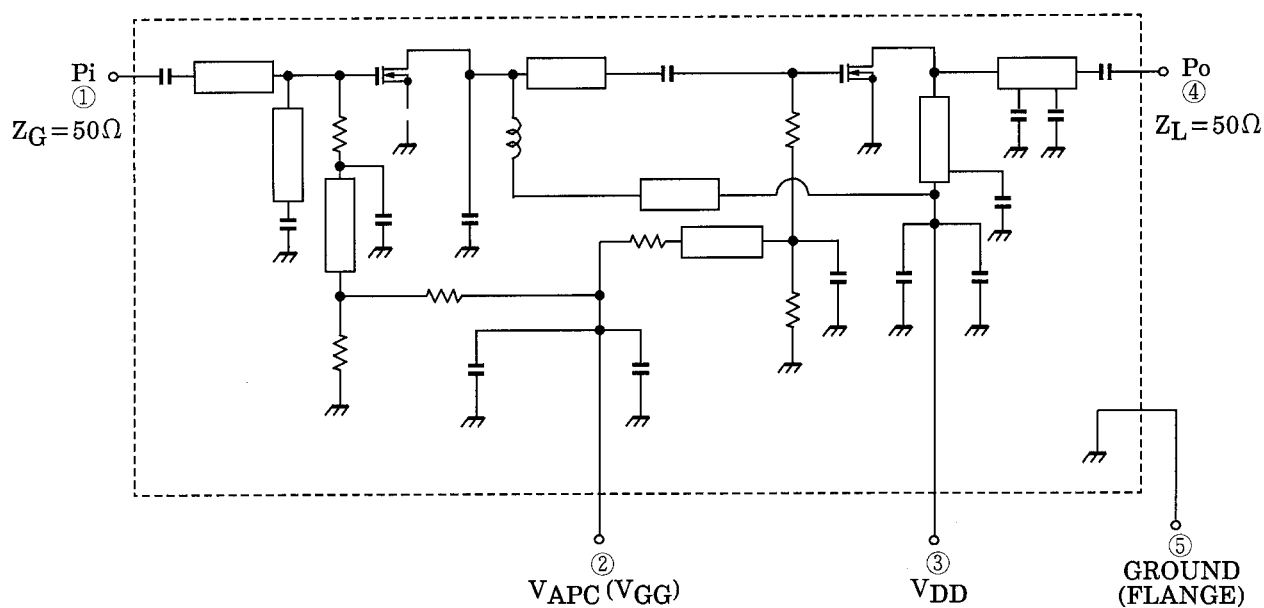
ELECTRICAL CHARACTERISTICS ($T_c = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT
Frequency Range	f_{range}	—	430	—	480	MHz
Output Power	P_o	$V_{DD} = 9.6\text{V}$, $V_{GG} = 4\text{V}$ $P_i = 50\text{mW}$, $Z_G = Z_L = 50\Omega$	7	—	—	W
Power Gain	G_p		21.4	—	—	dB
Total Efficiency	η_T		40	—	—	%
Input VSWR	VSWR _{in}		—	—	3.0	—
Harmonics	HRM		—	—	-25	dBc
Load Mismatch	—	$V_{DD} = 15\text{V}$, $P_i = 50\text{mW}$ $P_o = 7\text{W}$ ($V_{GG} = \text{adjust}$) VSWR LOAD 20: 1 ALL PHASE	No Degradation			—
Stability	—	$V_{DD} = 7.5\sim 11.5\text{V}$, $V_{GG} = 0\sim 4\text{V}$ $P_i = 50\text{mW}$ VSWR LOAD 3: 1 ALL PHASE	All spurious output than 60dB below desired signal			—

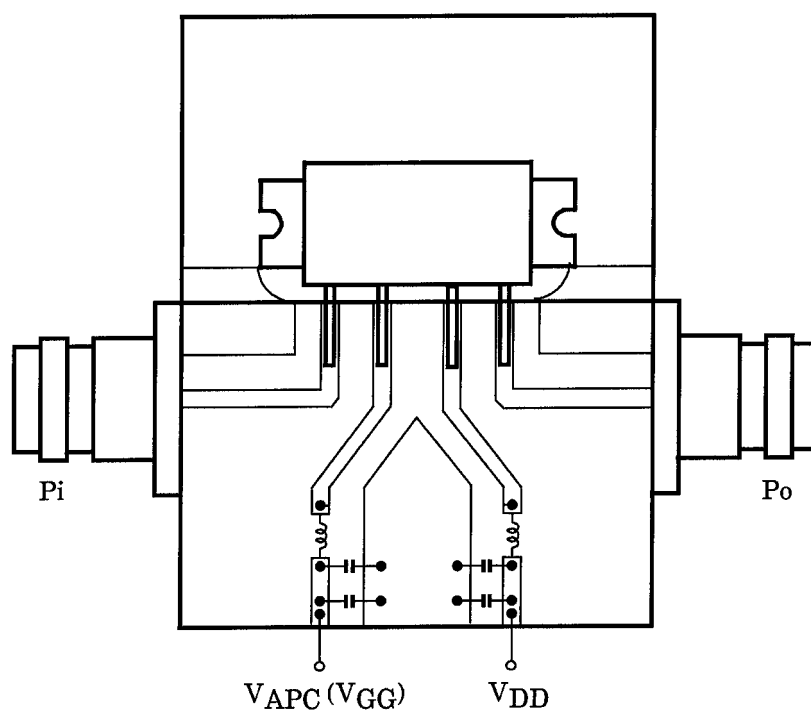
CAUTION

- 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.

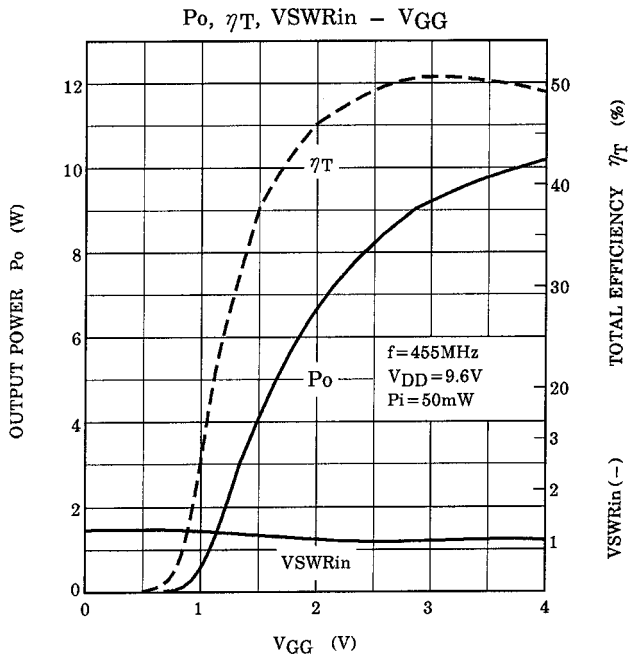
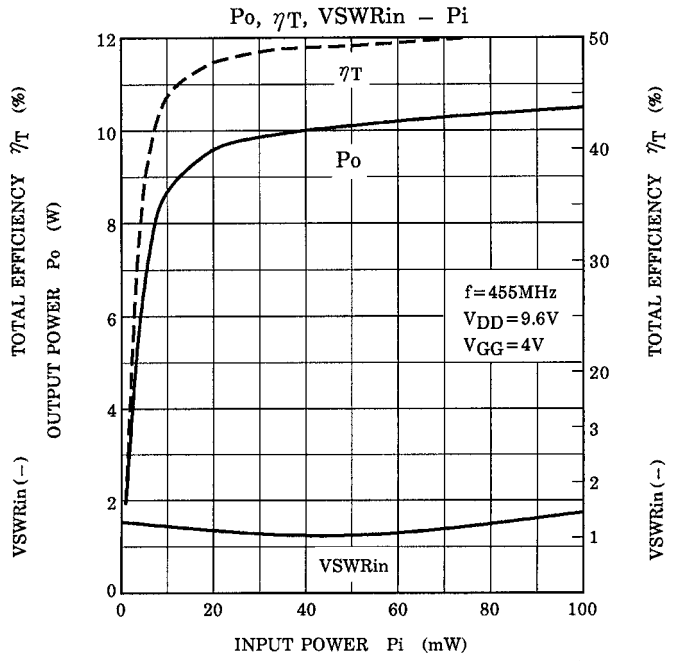
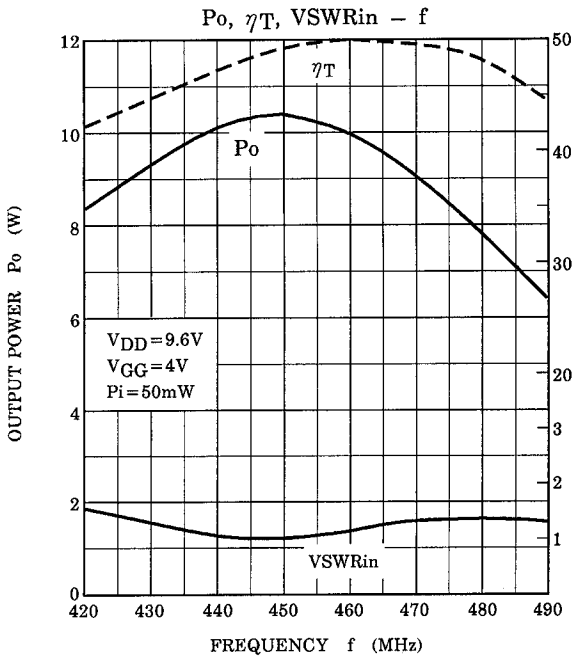
SCHEMATIC



TEST FIXTURE



C : 10000pF, 10 μ F PARALLEL
 L : ϕ 0.5, 3ID, 5T ENAMEL WIRE



CAUTION

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