

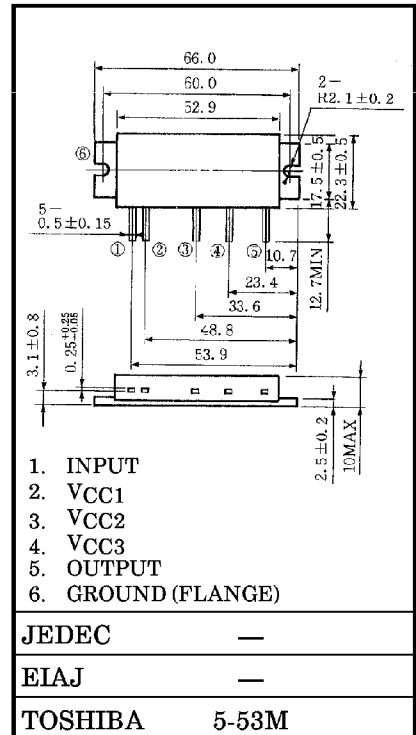
TOSHIBA RF POWER AMPLIFIER MODULE

S - A U 3 9

JAPAN MULTI CHANNEL ACCESS SYSTEM
(FM) RF POWER AMPLIFIER MODULE

- High Gain : $G_p = 18.1\text{dB (Min)}$
- High Efficiency : $\eta_T = 35\% \text{ (Min)}$

Unit in mm



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

CHARACTERISTIC	SYMBOL	RATING	UNIT
DC Supply Voltage	VCC1	16	V
DC Supply Voltage	VCC2	17	V
DC Supply Voltage	VCC3	17	V
Input Power	Pi	600	mW
Operating Case Temperature Range	$T_c \text{ (opr)}$	-30~100	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-40~110	$^\circ\text{C}$

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

Weight : 35g

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Frequency Range	f_{range}	—	889	—	915	MHz
Output Power	P_o	$P_i = 200\text{mW}$ $V_{CC1} = 11\text{V}$ $V_{CC2} = V_{CC3} = 13.5\text{V}$ $Z_G = Z_L = 50\Omega$	13	—	—	W
Power Gain	G_p		18.1	—	—	dB
Total Efficiency	η_T		35	—	—	%
Input VSWR	VSWR _{in}		—	1.5	2.5	—
Harmonics	HRM		—	—	-30	dB
Load Mismatch	—	$P_o = 13\text{W (} V_{CC1} = \text{adjust)}$ $V_{CC2} = V_{CC3} = 15\text{V}$ $P_i = 200\text{mW}$ VSWR load 20:1 all phase	No Degradation			—
Stability	—	$V_{CC2} = V_{CC3} = 13.5\text{V}$ $V_{CC1} = 0\sim 11\text{V}$ $P_i = 200\text{mW}$ VSWR load 3:1 all phase	All spurious output than 60dB below desired signal			—

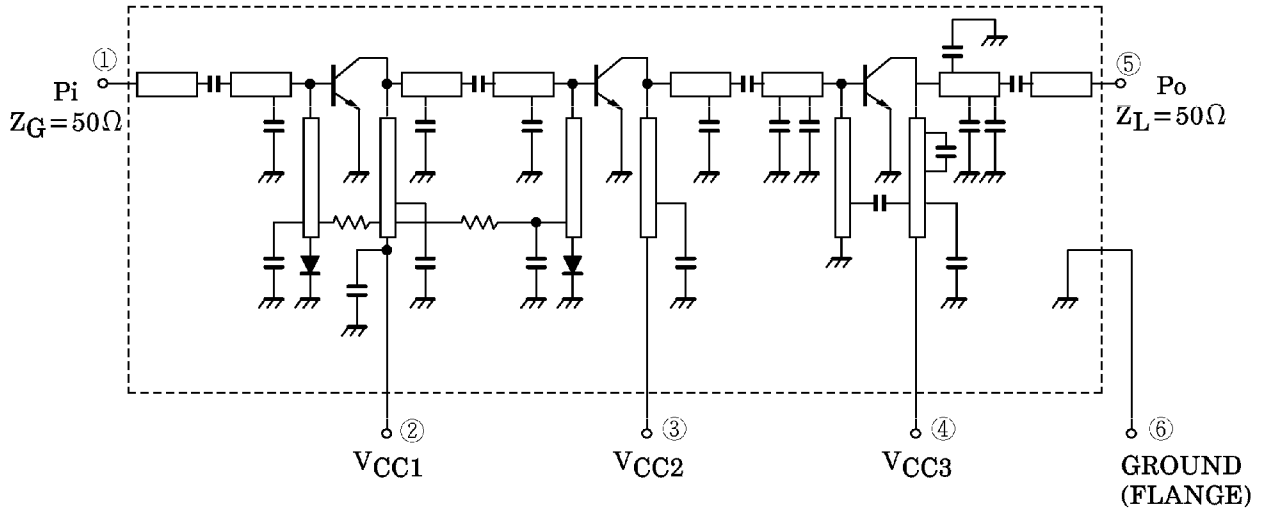
CAUTION

- This product has intersetting cap. Please pay attention for exceeding stress and foreign matter in your application. And not to take away the cap.
- Beryllia Ceramics is used in this product. The dust or vapor can be dangerous to humans. Do not break, cut, crush or dissolve chemically. Dispose of this product properly according to law. Do not intermingle with normal industrial or domestic waste.

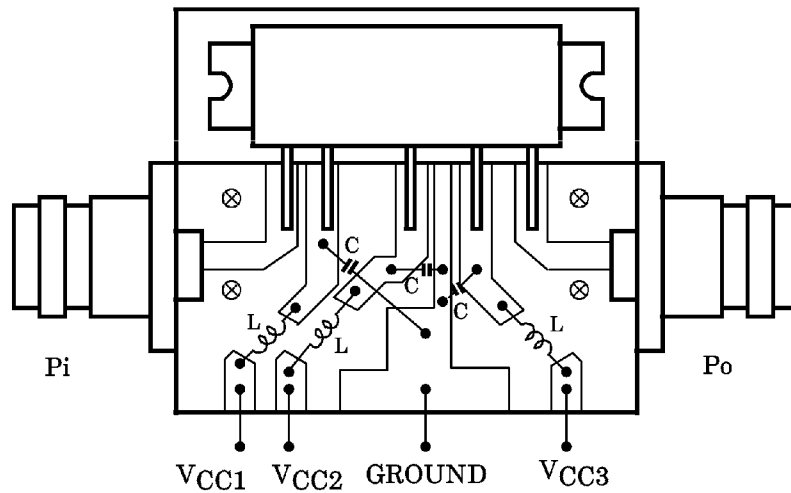
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• TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It 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



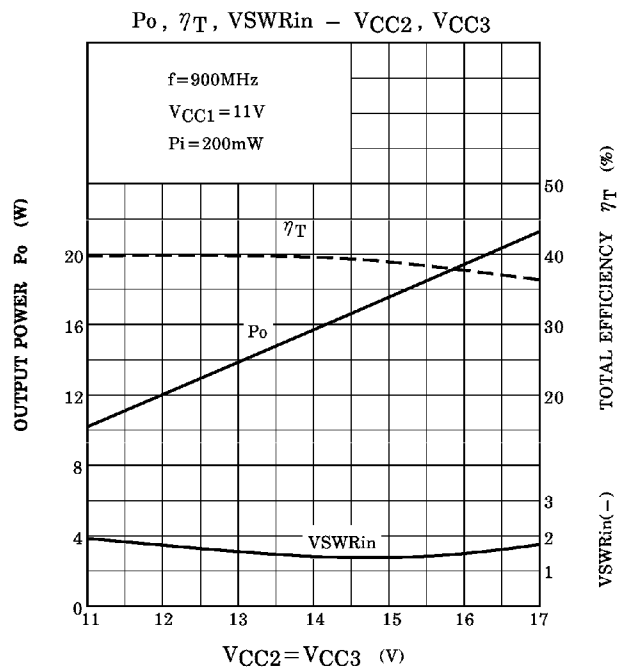
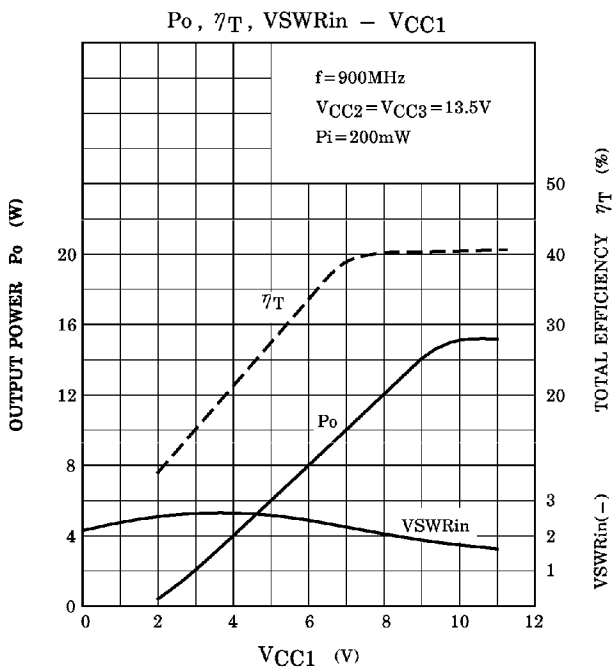
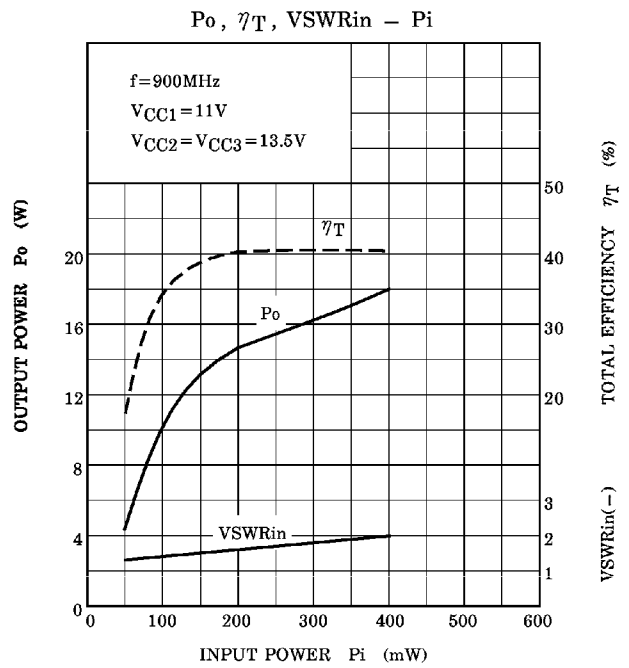
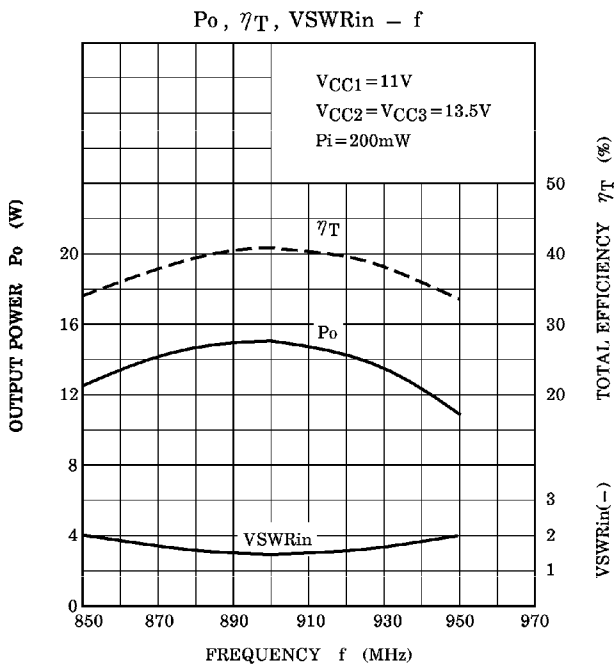
TEST FIXTURE



C : 1500pF, 10 μ F PARALLEL
 L : ϕ 0.8 ENAMEL WIRE 8T, 5ID

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CAUTION

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