

TOSHIBA RF POWER AMPLIFIER MODULE

**S-AV7**

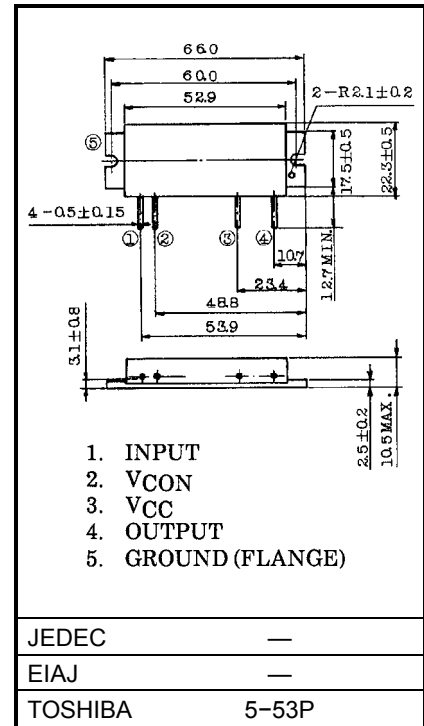
VHF HAM FM RF POWER AMPLIFIER MODULE

Unit in mm

- High Gain :  $P_o \geq 28W$ ,  $G_p \geq 21.4dB$ ,  $\eta_T \geq 45\%$

**MAXIMUM RATINGS (Tc = 25°C)**

CHARACTERISTIC	SYMBOL	RATING	UNIT
DC Supply Voltage	V <sub>CC</sub>	16	V
DC Supply Voltage	V <sub>CON</sub>	16	V
Input Power	P <sub>i</sub>	300	mW
Operating Case Temperature Range	T <sub>c (opr)</sub>	-30~100	°C
Storage Temperature Range	T <sub>stg</sub>	-40~110	°C



**ELECTRICAL CHARACTERISTICS (Tc = 25°C)**

Weight: 35g

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Frequency Range	f <sub>range</sub>	—	144	—	148	MHz
Output Power	P <sub>o</sub>	P <sub>i</sub> = 200mW V <sub>CC</sub> = 12.5V, V <sub>CON</sub> = 12.5V Z <sub>G</sub> = Z <sub>L</sub> = 50Ω	28	33	—	W
Power Gain	G <sub>p</sub>		21.4	22.2	—	dB
Total Efficiency	η <sub>T</sub>		45	52	—	%
Input VSWR	VSWR <sub>in</sub>		—	1.5	2	—
Harmonics	HRM		—	-30	-25	dB
Load Mismatch	—	V <sub>CC</sub> = 15V, V <sub>CON</sub> = 12.5V P <sub>o</sub> = 30W (P <sub>i</sub> = adjust) VSWR load 20: 1 all phase	No Degradation			—
Power Slump	—	T <sub>c</sub> = -30~80°C, V <sub>CC</sub> = 12.5V P <sub>i</sub> = 200mW, P <sub>o</sub> = 28W (@T <sub>c</sub> = 25°C)	—	0.8	—	dB
Stability	—	V <sub>CC</sub> = 12.5V, P <sub>i</sub> = 200mW V <sub>CON</sub> = 0~12.5V VSWR load 3: 1 all phase	All spurious output than 60dB below desired signal			—

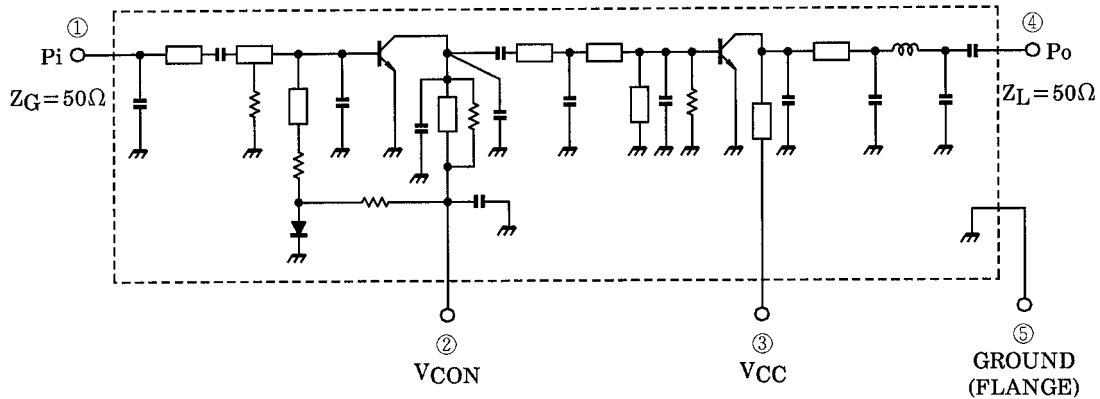
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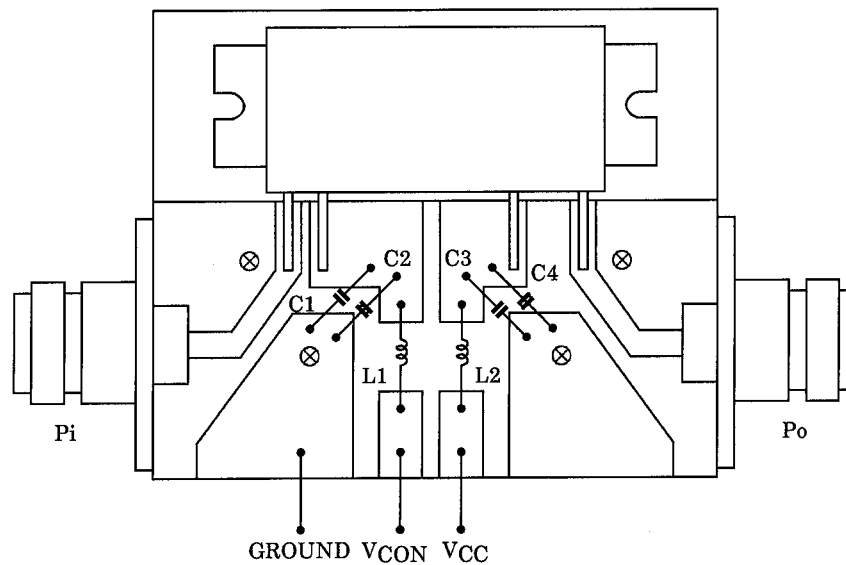
## CAUTION

- 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.

## SCHEMATIC



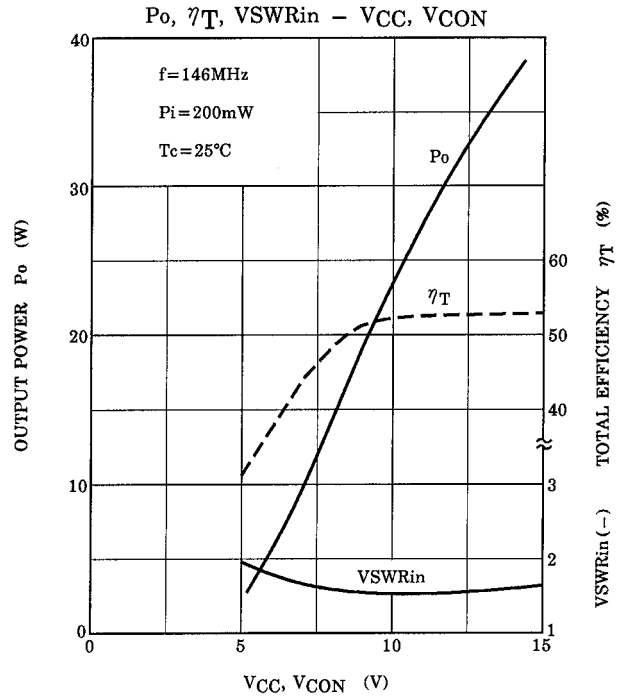
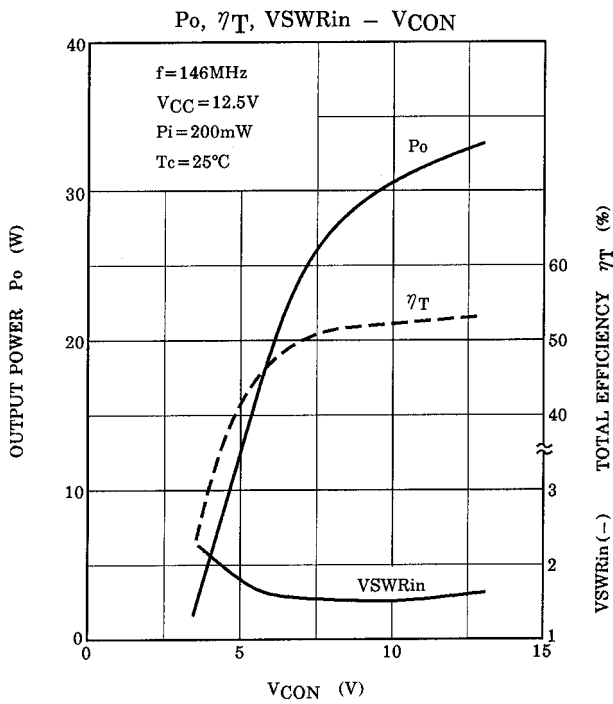
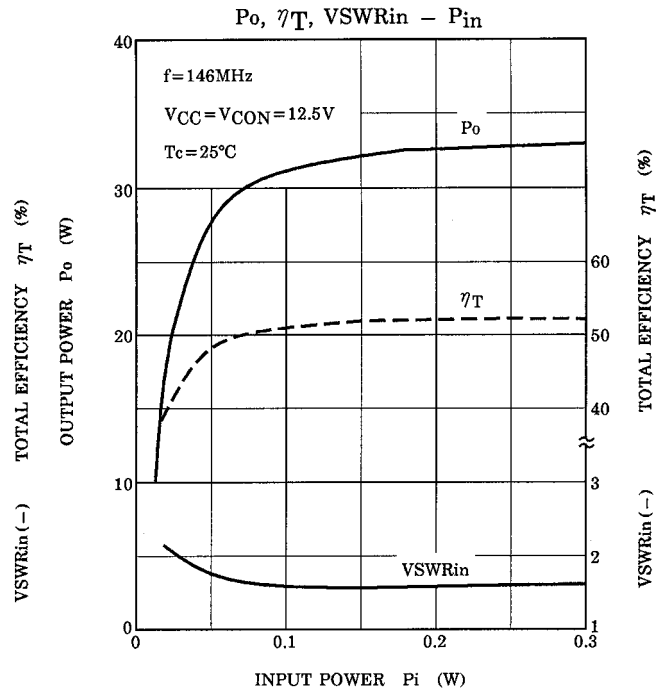
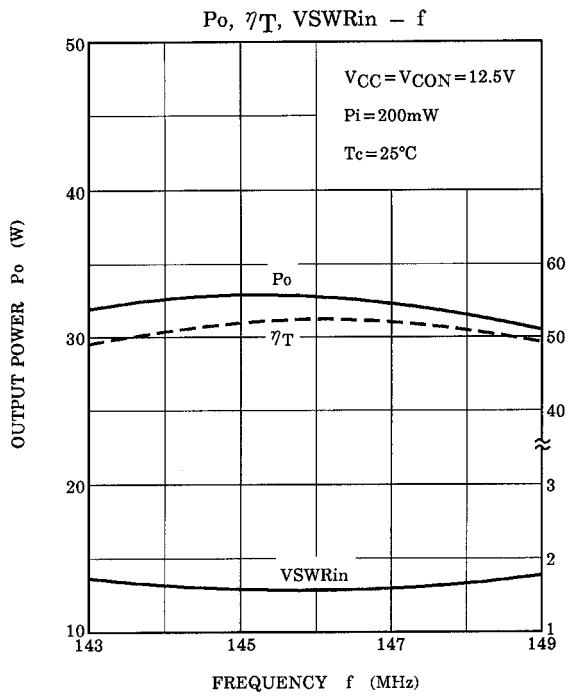
## TEST FIXTURE



C1, C3 : 15000pF  
 C2, C4 : 10μF  
 L1, L2 : φ0.8 ENAMEL WIRE, 8T, 5ID

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## CAUTION

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