

TOSHIBA RF Power Amplifier Module

# S-AV10L,S-AV10H

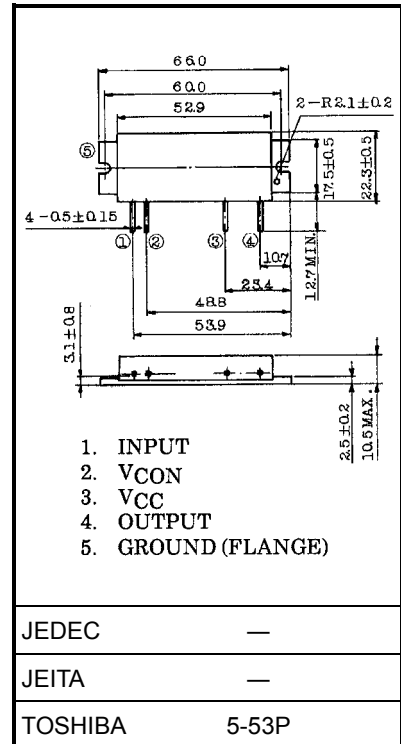
VHF RF Power Amplifier Module

Unit: mm

- High gain:  $P_o \geq 14$  W,  $G_p \geq 1.85$ dB,  $\eta_T \geq 40\%$
- S-AV10L 135~155 MHz
- S-AV10H 150~175 MHz

## Maximum Ratings (Tc = 25°C)

Characteristics	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: 35 g (typ.)

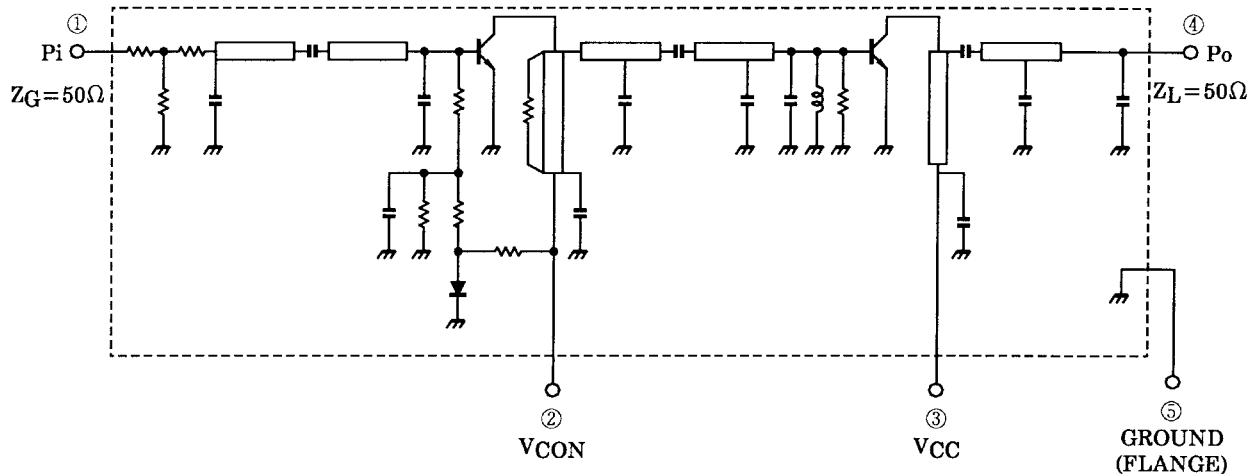
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Frequency range	f <sub>range</sub>	—	135	—	175	MHz
Output power	P <sub>o</sub>	P <sub>i</sub> = 200 mW V <sub>CC</sub> = 12.5 V, V <sub>CON</sub> = 12.5 V Z <sub>G</sub> = Z <sub>L</sub> = 50 Ω	14	—	—	W
Power gain	G <sub>p</sub>		18.5	—	—	dB
Total efficiency	η <sub>T</sub>		40	—	—	%
Input VSWR	VSWR <sub>in</sub>		—	—	2	—
Harmonics	HRM		—	—	-25	dB
Load mismatch	—		V <sub>CC</sub> = 15 V, V <sub>CON</sub> = 12.5 V P <sub>o</sub> = 15 W (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> = 12.5 V, P <sub>i</sub> = 200 mW P <sub>o</sub> = 14 W (@T <sub>c</sub> = 25°C)	—	0.8	—	dB
Stability	—	V <sub>CC</sub> = 12.5 V, P <sub>i</sub> = 200 mW V <sub>CON</sub> = 0~12.5 V VSWR Load 3: 1 all phase	All spurious output than 60dB below desired signal			—

## Caution

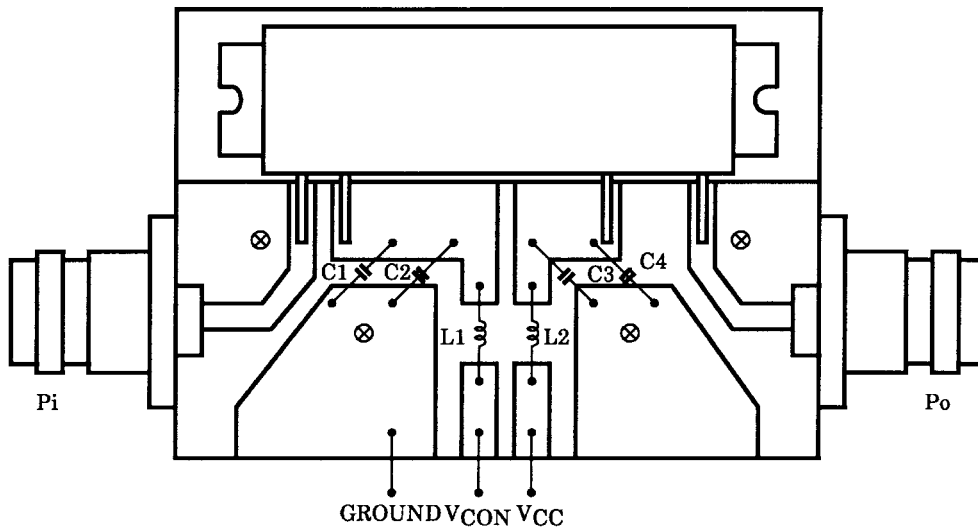
This product has intersetting cap. Please pay attention for exceeding stress and foreign matter in your application. And not to take away the cap.

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.

## Schematic



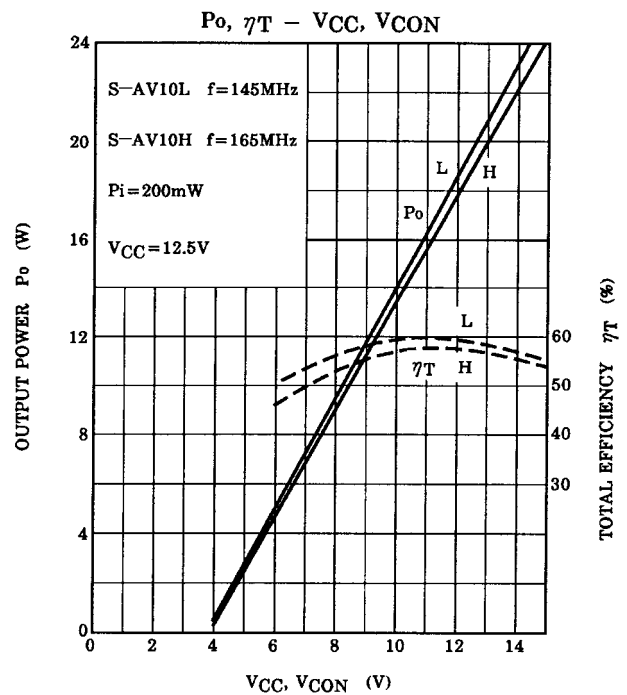
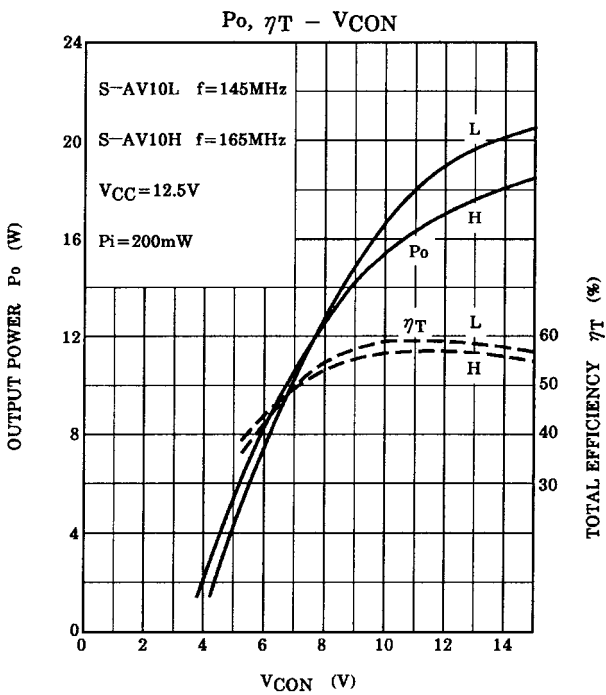
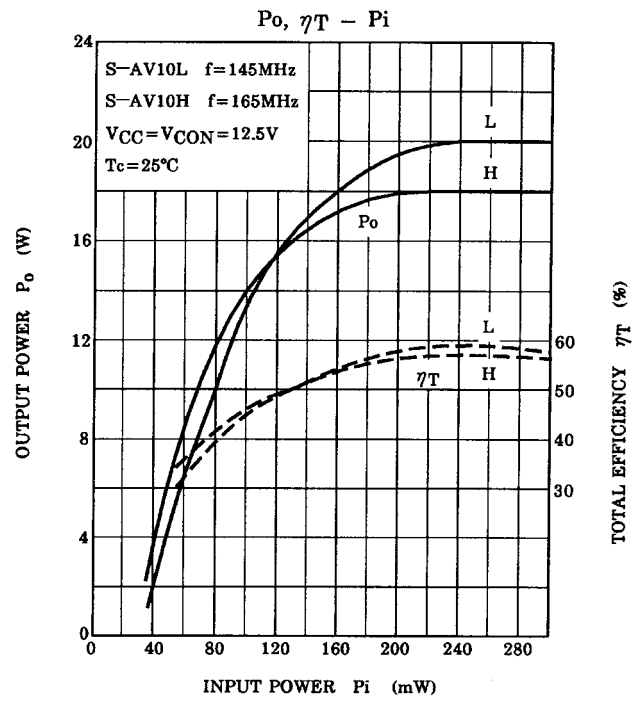
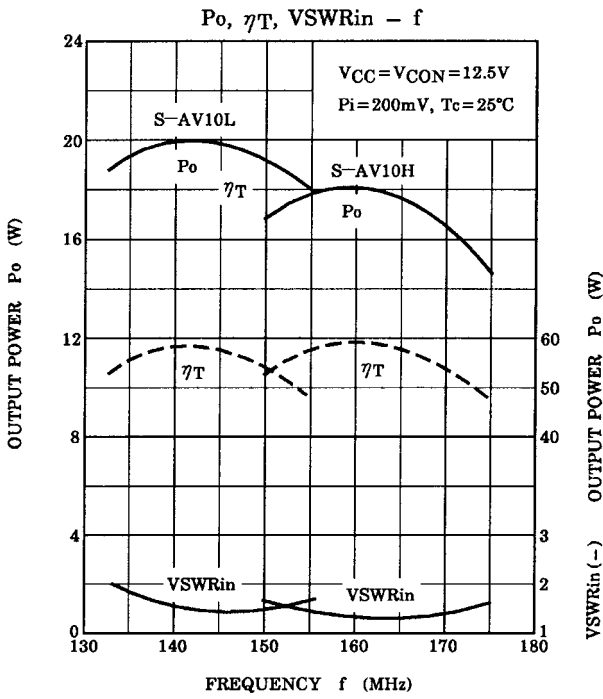
## Test Fixture



C1, C3: 15000 pF

C2, C4: 10  $\mu$ F

L1, L2:  $\phi$ 0.8 enamel wire, 8 T, 5ID



**Caution**

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

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