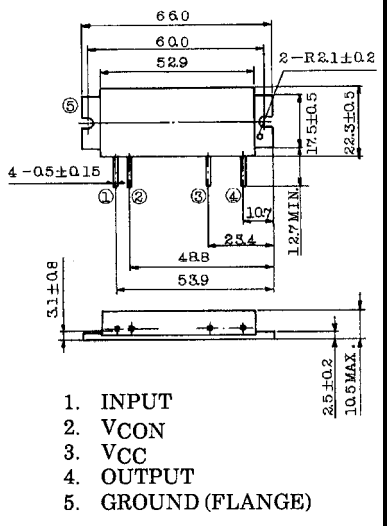
TOSHIBA RF Power Amplifier Module

S-AV10L,S-AV10H

VHF RF Power Amplifier Module

- High gain: Po ≥ 14 W, G_p ≥ 1.85dB, η_T ≥ 40%
- S-AV10L 135~155 MHz
- S-AV10H 150~175 MHz

Unit: mm



JEDEC	—
JEITA	—
TOSHIBA	5-53P

Weight: 35 g (typ.)

Maximum Ratings (Tc = 25°C)

Characteristics	Symbol	Rating	Unit
DC supply voltage	V_{CC}	16	V
DC supply voltage	V_{CON}	16	V
Input power	Pi	300	mW
Operating case temperature range	$T_{c\ (opr)}$	−30~100	°C
Storage temperature range	T_{stg}	−40~110	°C

Electrical Characteristics (Tc = 25°C)

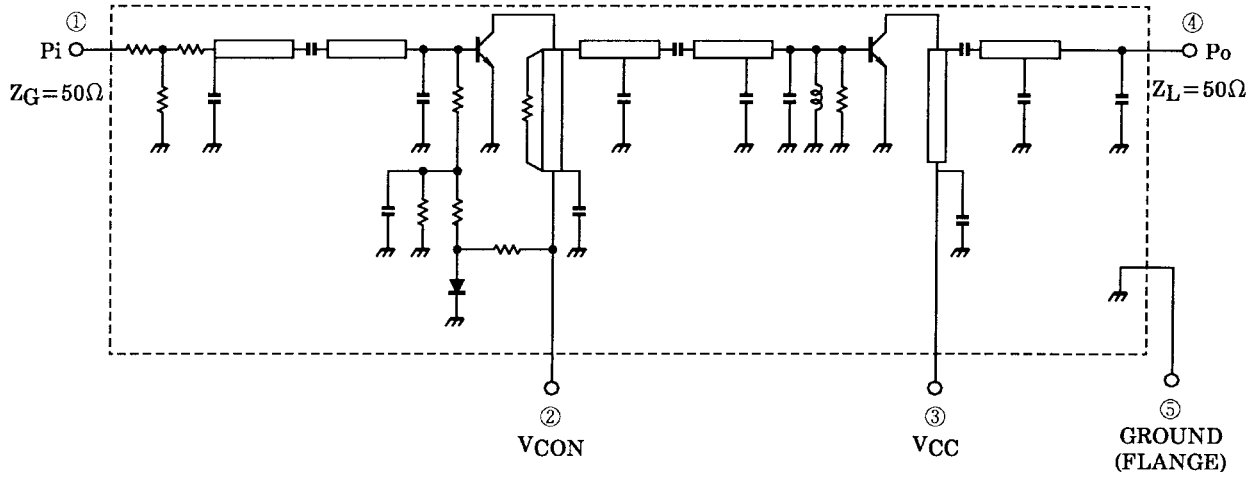
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Frequency range	f_{range}	—	135	—	175	MHz
Output power	Po	Pi = 200 mW V_{CC} = 12.5 V, V_{CON} = 12.5 V Z_G = Z_L = 50 Ω	14	—	—	W
Power gain	G_P		18.5	—	—	dB
Total efficiency	η_T		40	—	—	%
Input VSWR	$VSWR_{in}$		—	—	2	—
Harmonics	HRM		—	—	−25	dB
Load mismatch	—	V_{CC} = 15 V, V_{CON} = 12.5 V Po = 15 W (Pi = adjust) VSWR load 20: 1 all phase	No degradation			—
Power slump	—	Tc = −30~80°C V_{CC} = 12.5 V, Pi = 200 mW Po = 14 W (@Tc = 25°C)	—	0.8	—	dB
Stability	—	V_{CC} = 12.5 V, Pi = 200 mW V_{CON} = 0~12.5 V VSWR Load 3: 1 all phase	All spurious output than 60dB below desired signal			—

Caution

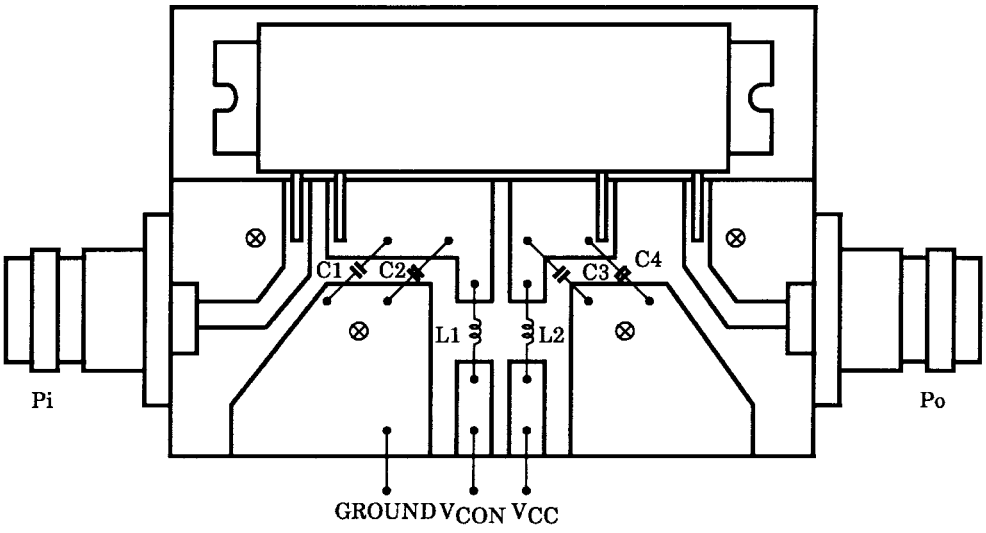
This product has intersetting cap. Please pay attention for exceeding stress and foreign matter in your application. And not to take away the cap.

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



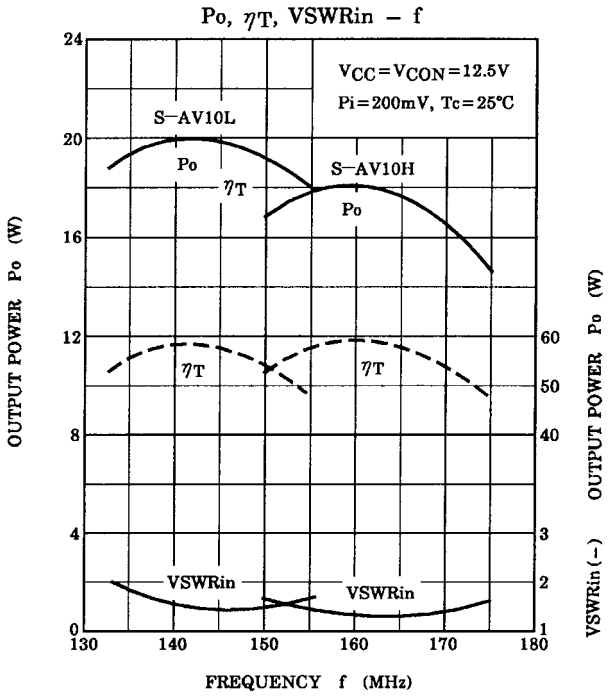
Test Fixture

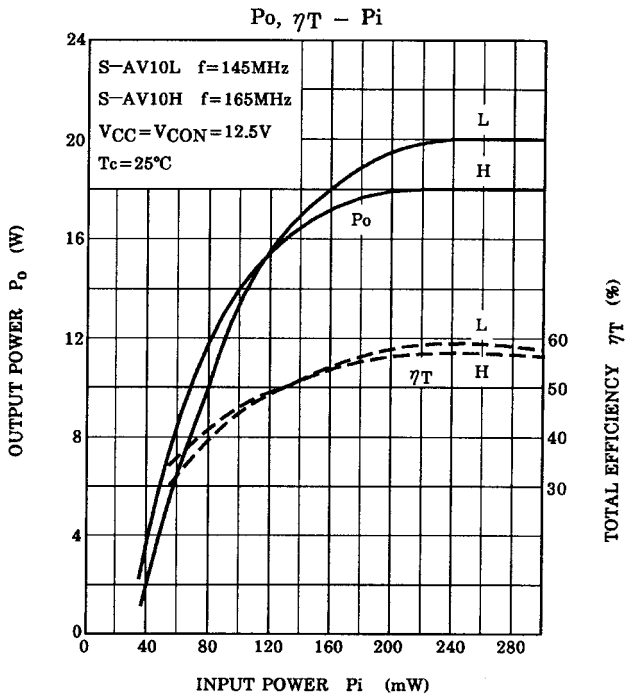


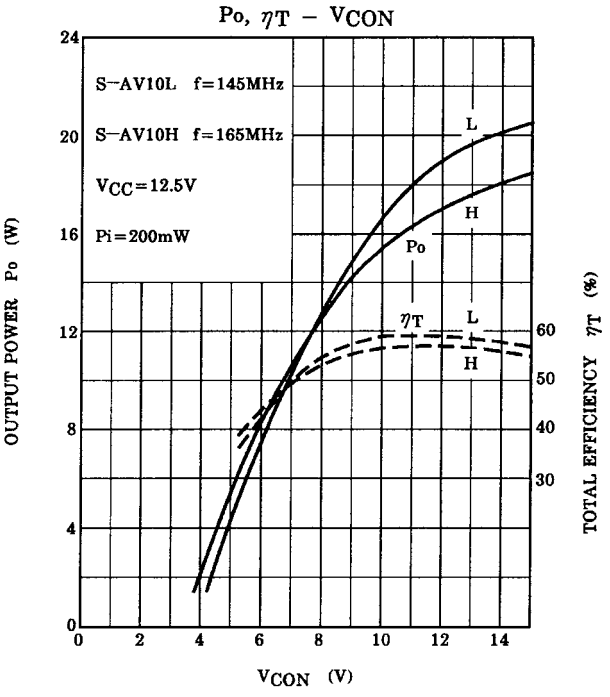
C1, C3: 15000 pF

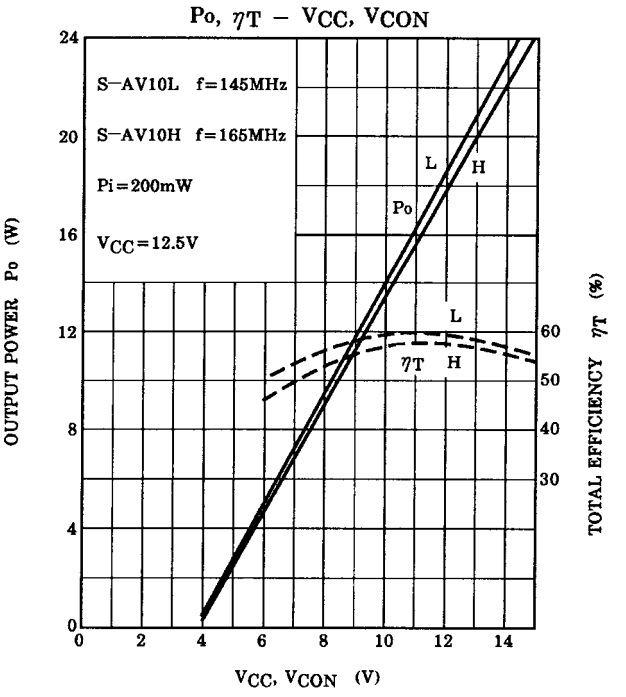
C2, C4: 10 μF

L1, L2: ϕ0.8 enamel wire, 8 T, 5ID









Caution

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

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