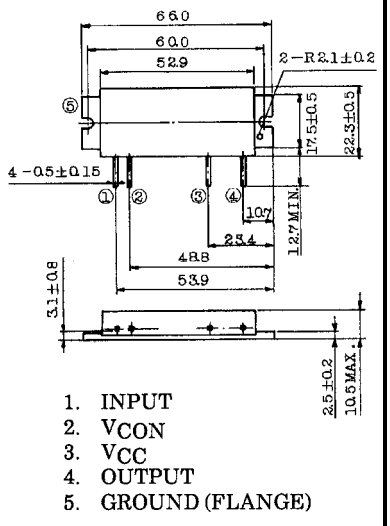
TOSHIBA RF Power Amplifier Module

# S-AV10L,S-AV10H

VHF RF Power Amplifier Module

- High gain: Po ≥ 14 W, $G_p$ ≥ 1.85dB, $\eta_T$ ≥ 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)

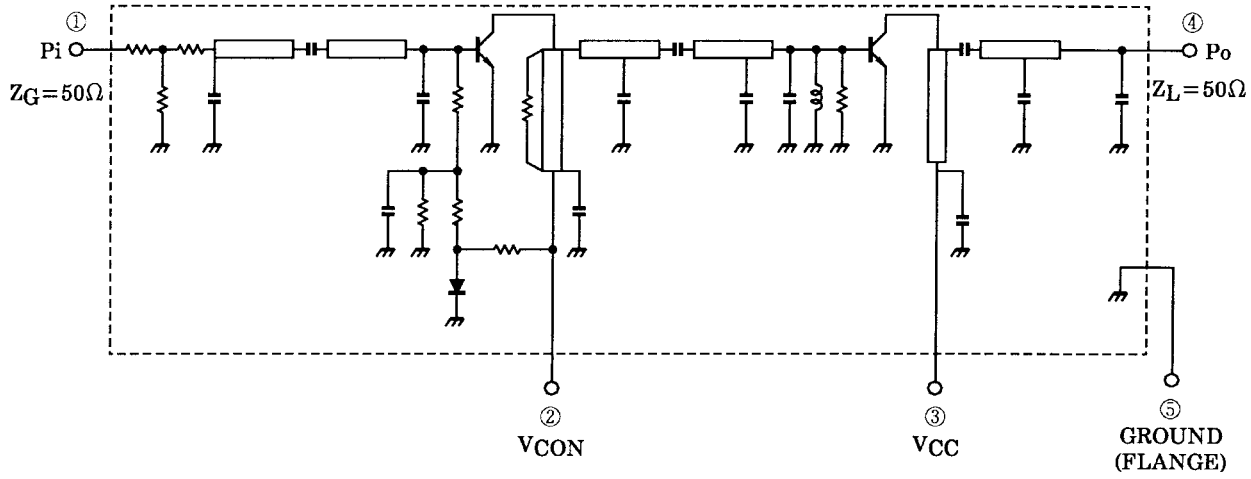
| Characteristics | Symbol | Test Condition | Min | Typ. | Max | Unit |
|---|---|---|---|---|---|---|
| Frequency range | $f_{range}$ | — | 135 | — | 175 | MHz |
| Output power | Po | Pi = 200 mW<br>$V_{CC}$ = 12.5 V, $V_{CON}$ = 12.5 V<br>$Z_G$ = $Z_L$ = 50 Ω | 14 | — | — | W |
| Power gain | $G_P$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

## Caution

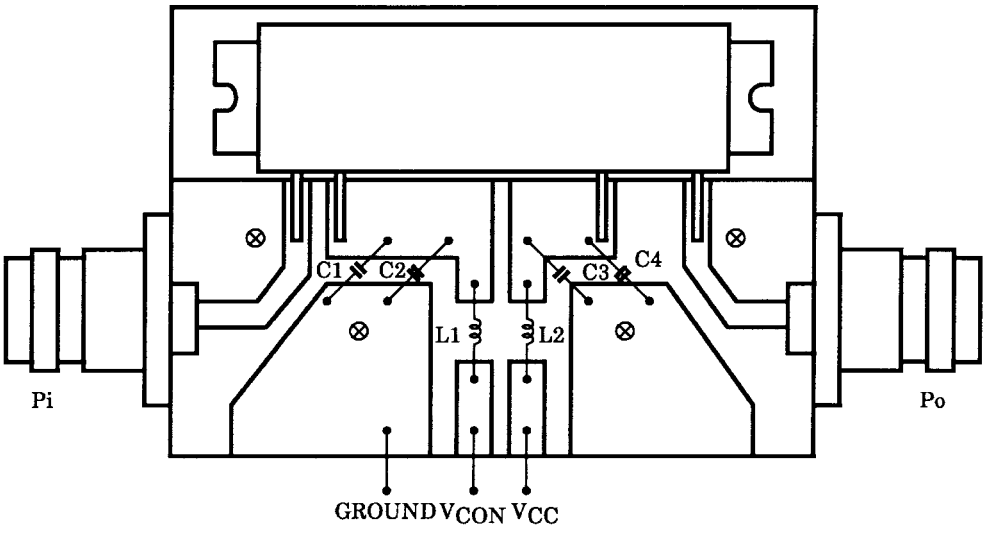
This product has intersetting cap. Please pay attention for exceeding stress and foreign matter in your application. And not to take away the cap.

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



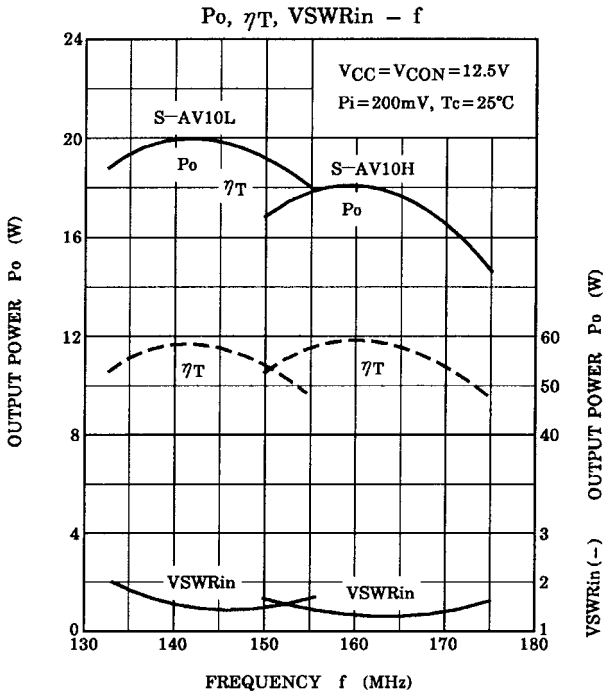

## Test Fixture

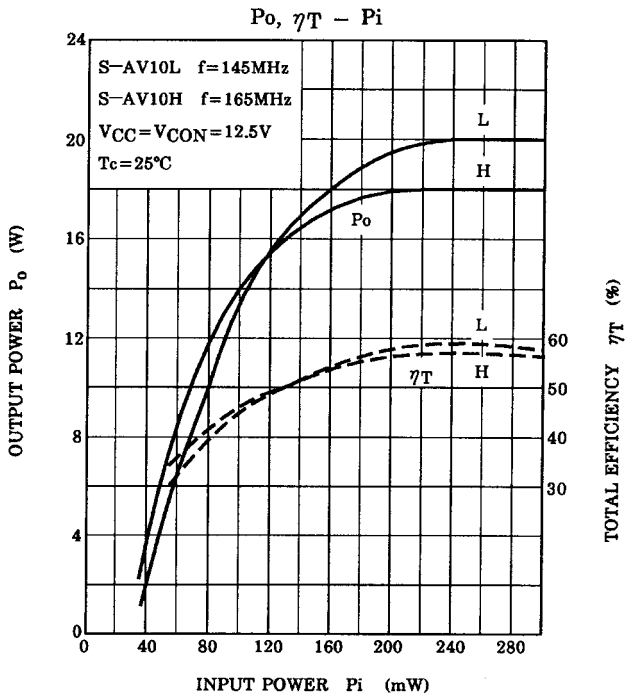


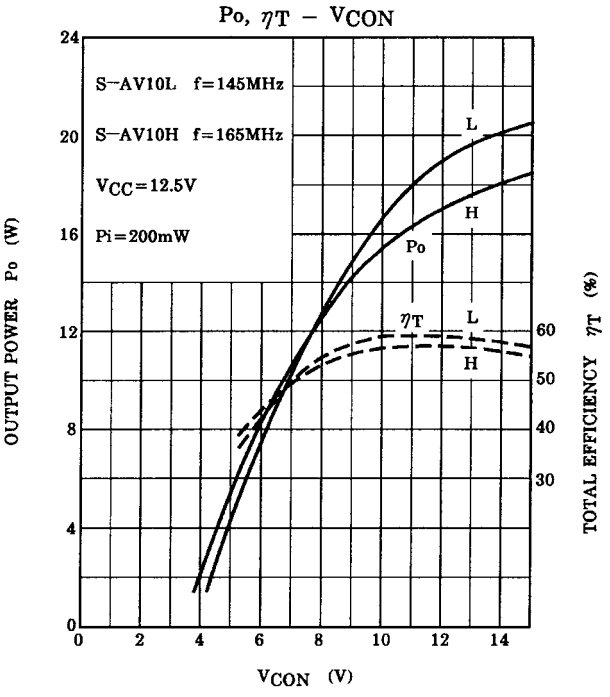

C1, C3: 15000 pF

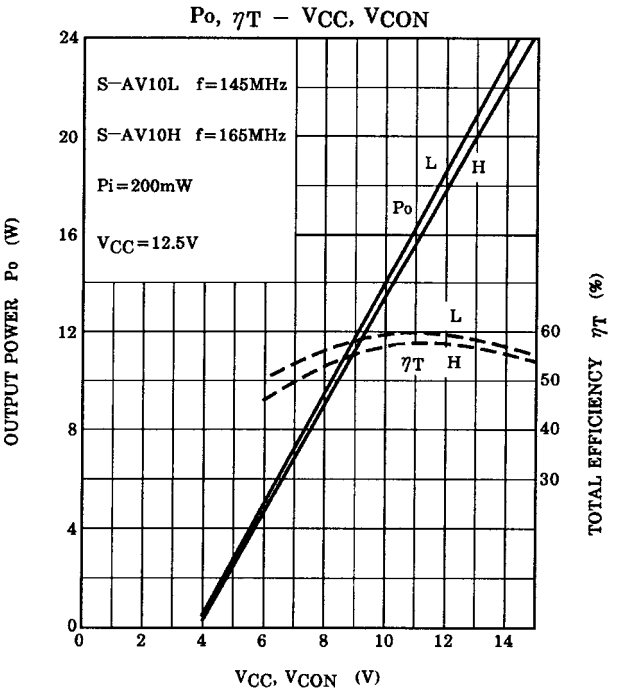
C2, C4: 10 μF

L1, L2: ϕ0.8 enamel wire, 8 T, 5ID




## Caution

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

## RESTRICTIONS ON PRODUCT USE

000707EAA

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