TOSHIBA RF Power Amplifier Module

S-AV10L,S-AV10H

VHF RF Power Amplifier Module

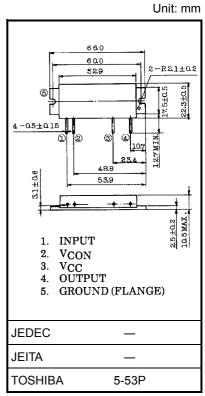
• High gain: Po \geq 14 W, $G_p \geq$ 1.85dB, $\eta_T \geq$ 40%

• S-AV10L 135~155 MHz

• S-AV10H 150~175 MHz

Maximum Ratings (Tc = 25°C)

| Characteristics | Symbol | Rating | Unit |
|----------------------------------|----------------------|----------------|------|
| DC supply voltage | V _{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 |



Weight: 35 g (typ.)

Electrical Characteristics (Tc = 25°C)

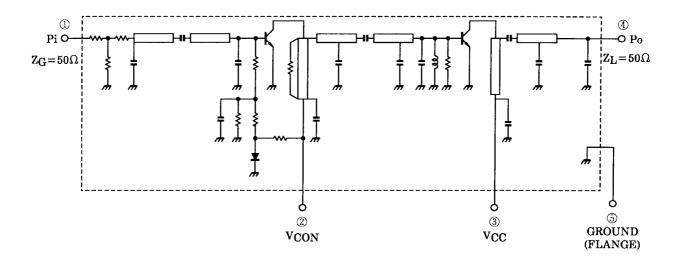
| Characteristics | Symbol | Test Condition | Min | Тур. | Max | Unit |
|------------------|--------------------|---|--------------------------|------|-----|------|
| Frequency range | f _{range} | _ | 135 | _ | 175 | MHz |
| Output power | Po | | 14 | _ | _ | W |
| Power gain | G _P | Pi = 200 mW |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

Caution

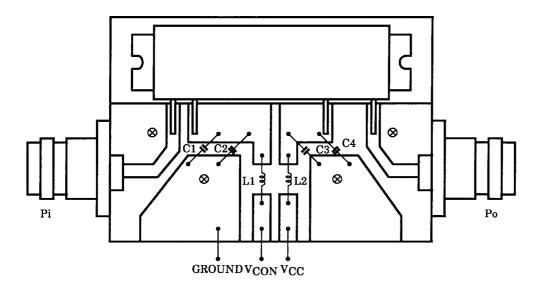
This product has intersetting cap. Please pay attention for exceeding stress and foreign matter in your application. And not to take away the cap.

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



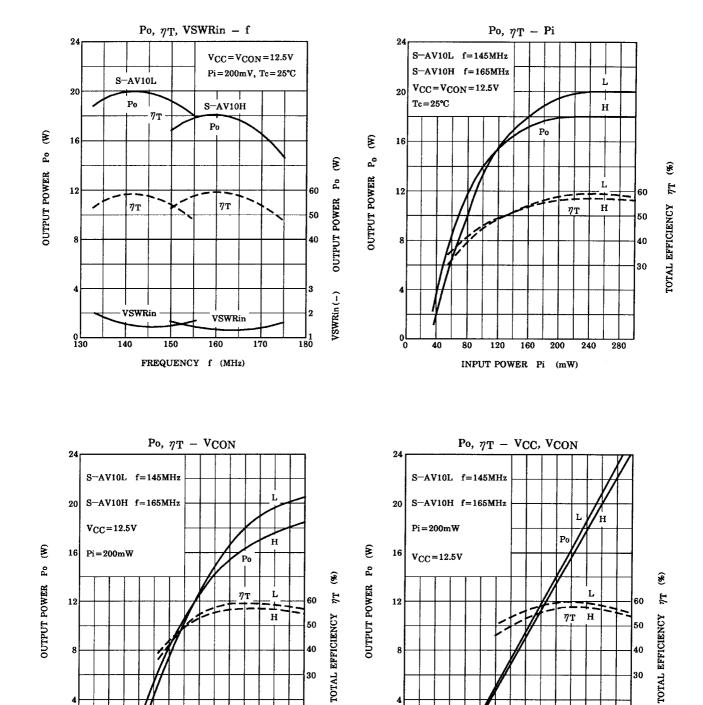
Test Fixture



C1, C3: 15000 pF

C2, C4: 10 µF

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



Caution

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

10

 v_{CON} (v)

12

 v_{CC} , v_{CON} (v)

10

12

2

RESTRICTIONS ON PRODUCT USE

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