

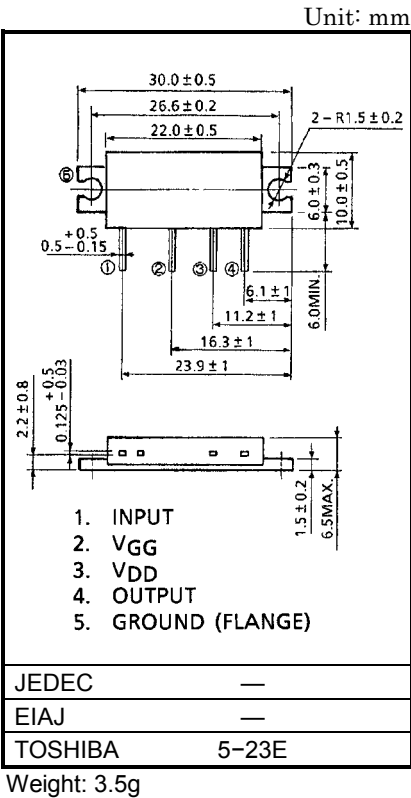
TOSHIBA RF POWER AMPLIFIER MODULE

S-AU50M

UHF BAND FM POWER AMPLIFIER MODULE  
HAND-HELD TRANSCEIVER

MAXIMUM RATINGS (Tc = 25°C)

| CHARACTERISTIC                   | SYMBOL               | RATING  | UNIT |
|----------------------------------|----------------------|---------|------|
| DC Supply Voltage                | V <sub>DD</sub>      | 17      | V    |
| DC Supply Voltage                | V <sub>GG</sub>      | 6       | V    |
| Input Power                      | P <sub>i</sub>       | 150     | mW   |
| Output Power                     | P <sub>o</sub>       | 12      | W    |
| Total Current                    | I <sub>T</sub>       | 3       | A    |
| Operating Case Temperature Range | T <sub>c (opr)</sub> | -30~100 | °C   |
| Storage Temperature Range        | T <sub>stg</sub>     | -40~110 | °C   |



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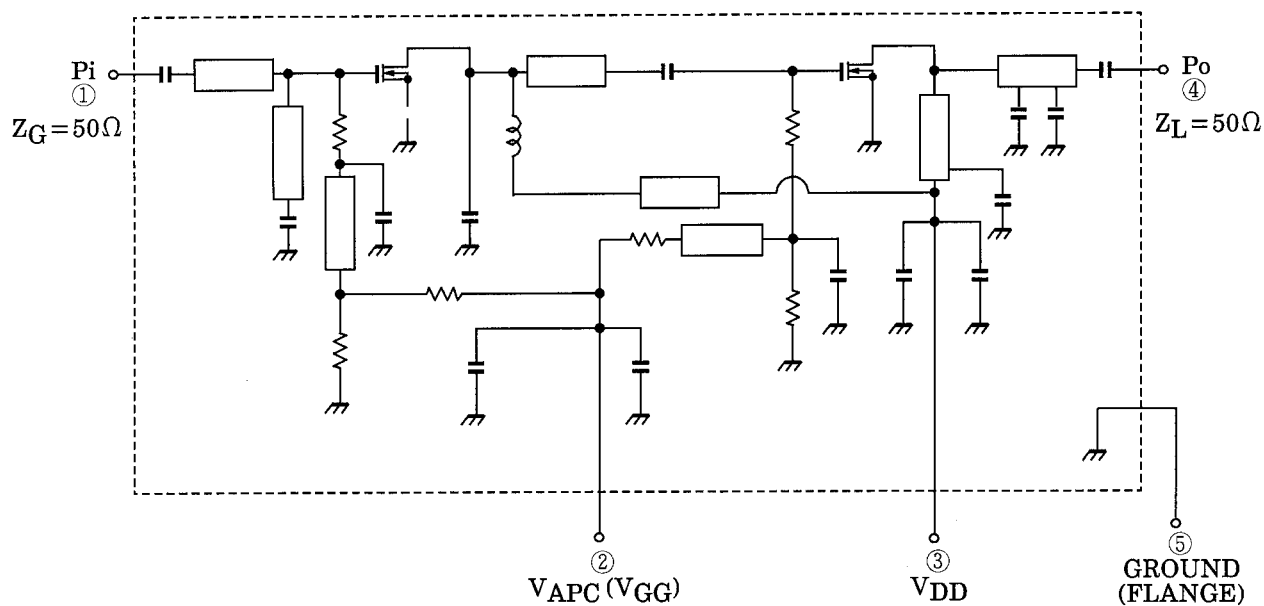
ELECTRICAL CHARACTERISTICS ( $T_c = 25^\circ\text{C}$ )

| CHARACTERISTIC   | SYMBOL             | TEST CONDITION                                                                                                             | MIN                                                | TYP. | MAX | UNIT |
|------------------|--------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|------|-----|------|
| Frequency Range  | $f_{\text{range}}$ | —                                                                                                                          | 430                                                | —    | 480 | MHz  |
| Output Power     | $P_o$              | $V_{DD} = 9.6\text{V}$ , $V_{GG} = 4\text{V}$<br>$P_i = 50\text{mW}$ , $Z_G = Z_L = 50\Omega$                              | 7                                                  | —    | —   | W    |
| Power Gain       | $G_p$              |                                                                                                                            | 21.4                                               | —    | —   | dB   |
| Total Efficiency | $\eta_T$           |                                                                                                                            | 40                                                 | —    | —   | %    |
| Input VSWR       | VSWR <sub>in</sub> |                                                                                                                            | —                                                  | —    | 3.0 | —    |
| Harmonics        | HRM                |                                                                                                                            | —                                                  | —    | -25 | dBc  |
| Load Mismatch    | —                  | $V_{DD} = 15\text{V}$ , $P_i = 50\text{mW}$<br>$P_o = 7\text{W}$ ( $V_{GG} = \text{adjust}$ )<br>VSWR LOAD 20: 1 ALL PHASE | No Degradation                                     |      |     | —    |
| Stability        | —                  | $V_{DD} = 7.5\sim 11.5\text{V}$ , $V_{GG} = 0\sim 4\text{V}$<br>$P_i = 50\text{mW}$<br>VSWR LOAD 3: 1 ALL PHASE            | All spurious output than 60dB below desired signal |      |     | —    |

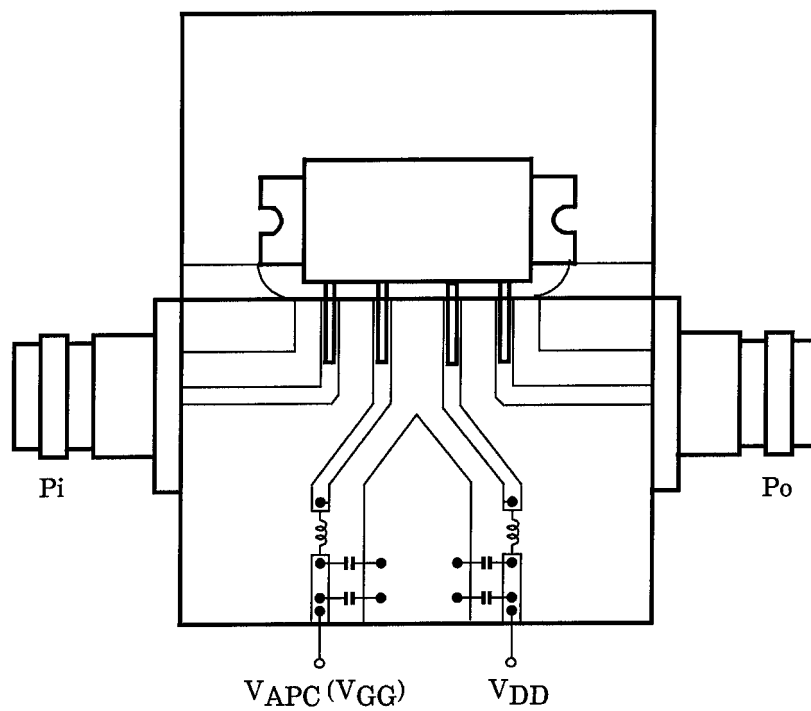
## CAUTION

- This product has intersetting cap. Please pay attention for exceeding stress and foreign matter in your application. And not to take away the cap.
- Do not intermingle with normal industrial or domestic waste.
- This product is electrostatic sensitivity, please handle with caution.

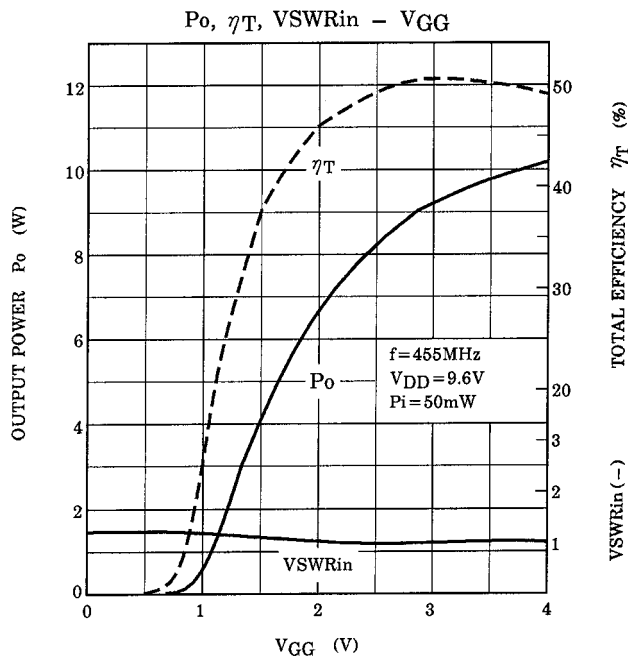
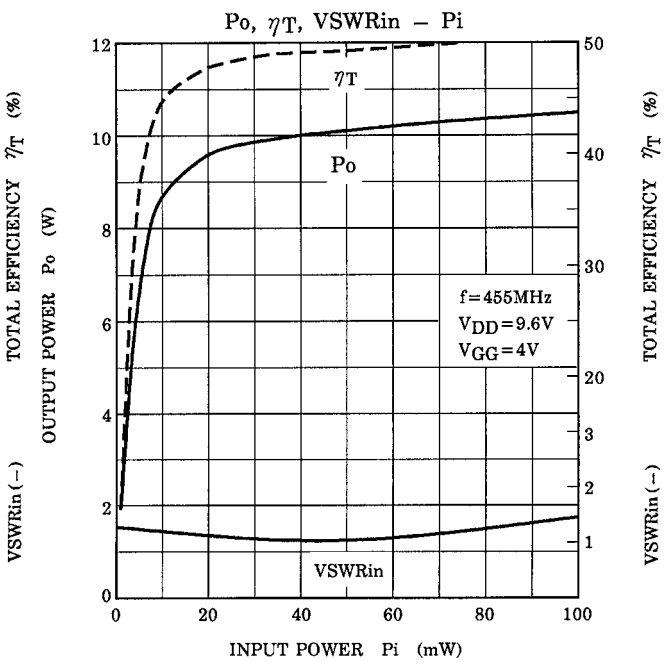
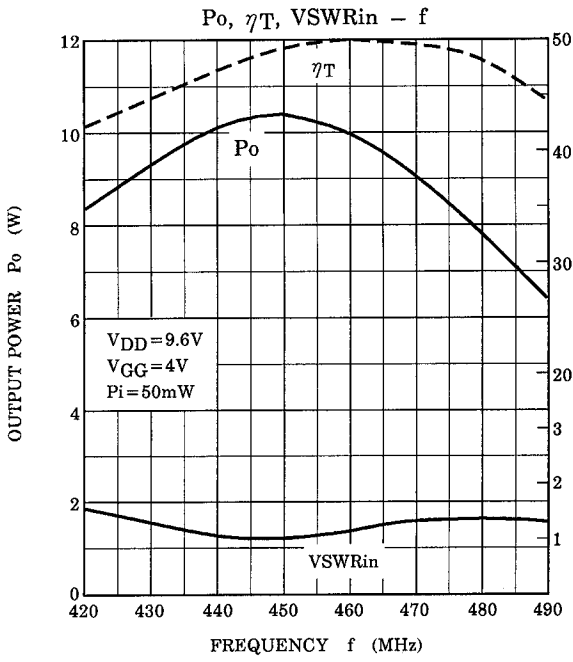
## SCHEMATIC



## TEST FIXTURE



C : 10000pF, 10 $\mu$ F PARALLEL  
 L :  $\phi$ 0.5, 3ID, 5T ENAMEL WIRE



CAUTION

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