

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL MOS TYPE

# 2SK3074

RF POWER MOSFET  
FOR VHF- AND UHF-BAND POWER AMPLIFIER

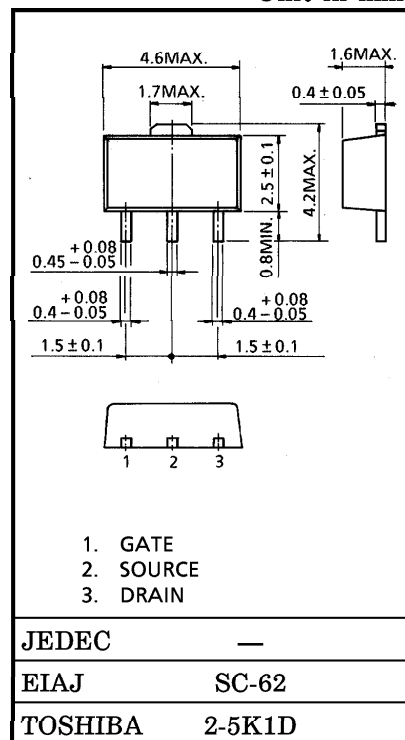
- Output Power :  $P_O \geq 630\text{mW}$
- Power Gain :  $G_P \geq 14.9\text{dB}$
- Drain Efficiency :  $\eta_D \geq 45\%$

MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )

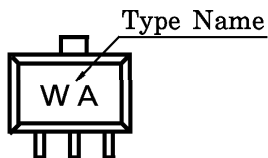
| CHARACTERISTIC            | SYMBOL    | RATING  | UNIT             |
|---------------------------|-----------|---------|------------------|
| Drain-Source Voltage      | $V_{DSS}$ | 30      | V                |
| Gate-Source Voltage       | $V_{GSS}$ | 25      | V                |
| Drain Current             | $I_D$     | 1       | A                |
| Drain Power Dissipation   | $P_D^*$   | 3       | W                |
| Channel Temperature       | $T_{ch}$  | 150     | $^\circ\text{C}$ |
| Storage Temperature Range | $T_{stg}$ | -45~150 | $^\circ\text{C}$ |

\* :  $T_c = 25^\circ\text{C}$  When mounted on a 1.6mm glass epoxy PCB

Unit in mm



MARKING



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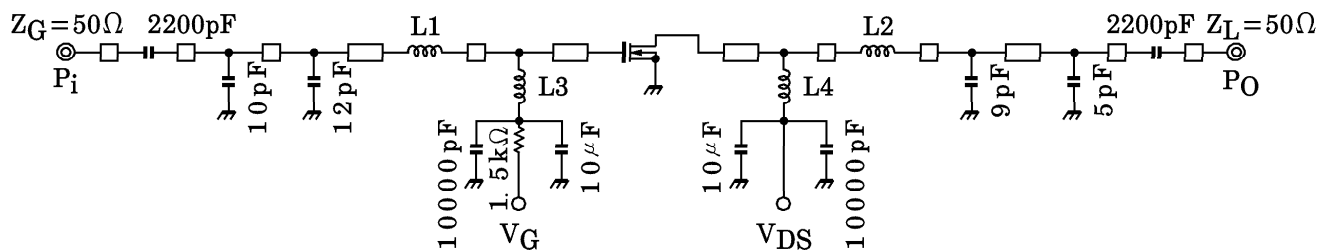
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC              | SYMBOL           | TEST CONDITION   | MIN. | TYP. | MAX. | UNIT |
|-----------------------------|------------------|--|------|------|------|------|
| Output Power                | P <sub>O</sub>   | V <sub>DS</sub> = 9.6V   | 630  | —    | —    | mW   |
| Drain Efficiency            | η <sub>D</sub>   | I <sub>idle</sub> = 50mA (V <sub>GS</sub> = adjust)<br>f = 520MHz, P <sub>i</sub> = 20mW | 45   | —    | —    | %    |
| Power Gain                  | G <sub>P</sub>   | Z <sub>G</sub> = Z <sub>L</sub> = 50Ω  | 14.9 | —    | —    | dB   |
| Gate Threshold Voltage      | V <sub>th</sub>  | V <sub>DS</sub> = 9.6V, I <sub>D</sub> = 0.5mA   | 1.4  | 1.9  | 2.4  | V    |
| Drain Cut-off Current       | I <sub>DSS</sub> | V <sub>DS</sub> = 20V, V <sub>GS</sub> = 0   | —    | —    | 10   | μA   |
| Gate-Source Leakage Current | I <sub>GSS</sub> | V <sub>GS</sub> = 10V, V <sub>DS</sub> = 0   | —    | —    | 5    | μA   |

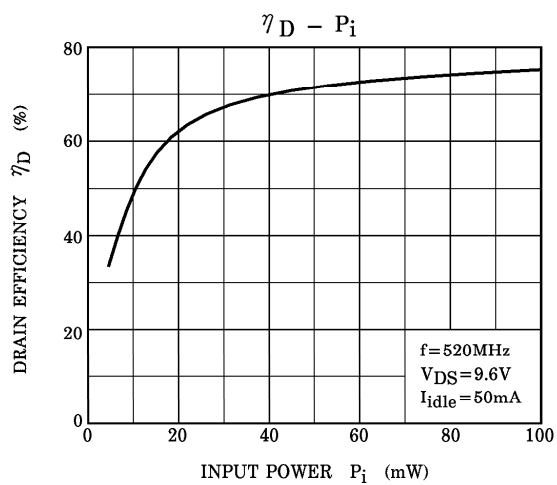
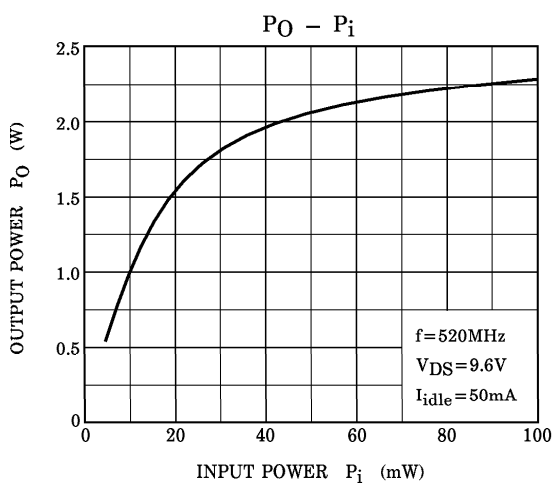
HANDLING PRECAUTION

- When handling individual devices, be sure that working desks, human bodies and soldering iron are protected against electrostatic electricity.

RF OUTPUT POWER TEST FIXTURE



- L1, L2 : φ0.8, 2ID, 1T
- L3 : φ0.8, 5.5ID, 4T
- L4 : φ0.8, 5.5ID, 8T



**CAUTION**

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