

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL MOS TYPE

# 2SK3075

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

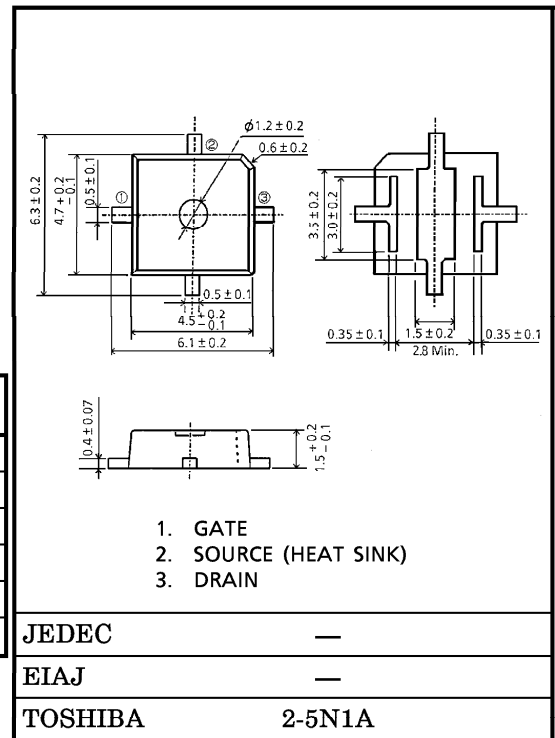
Unit in mm

- Output Power :  $P_O \geq 7.5W$
- Power Gain :  $G_p \geq 11.7dB$
- Drain Efficiency :  $\eta_D \geq 50\%$

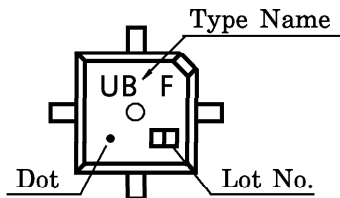
MAXIMUM RATINGS ( $T_a = 25^\circ C$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	$V_{DSS}$	30	V
Gate-Source Voltage	$V_{GSS}$	25	V
Drain Current	$I_D$	5	A
Drain Power Dissipation	$P_D^*$	20	W
Channel Temperature	$T_{ch}$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-45~150	$^\circ C$

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



MARKING



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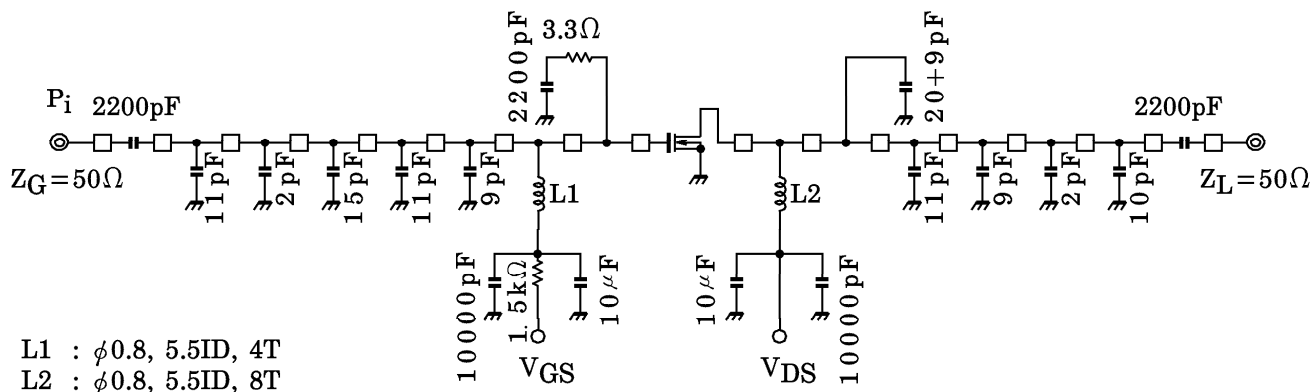
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

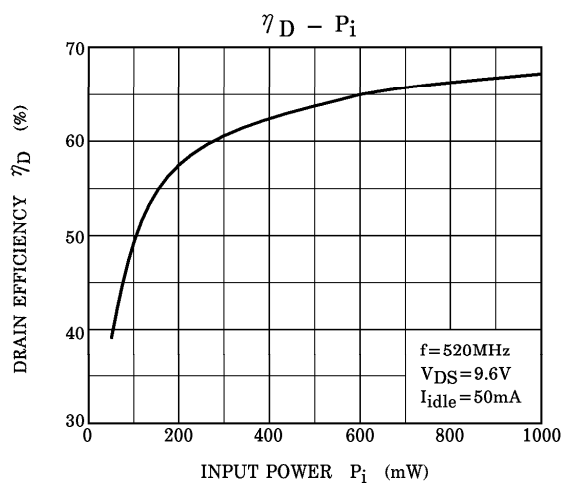
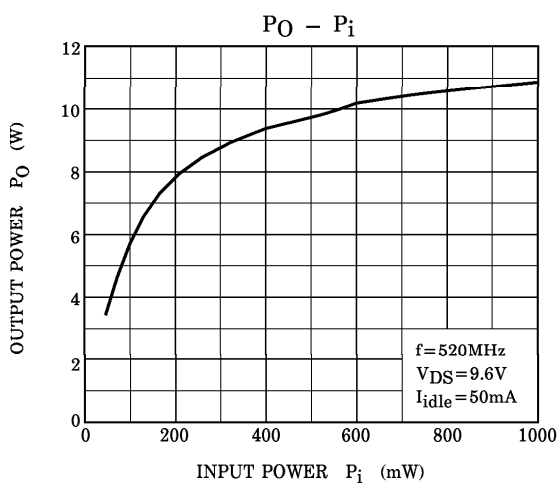
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Power	PO	V <sub>DS</sub> = 9.6V	7.5	—	—	W
Drain Efficiency	η <sub>D</sub>	I <sub>idle</sub> = 50mA (V <sub>GS</sub> = adjust) f = 520MHz, P <sub>i</sub> = 500mW	50	—	—	%
Power Gain	G <sub>P</sub>	Z <sub>G</sub> = Z <sub>L</sub> = 50Ω	11.7	—	—	dB
Gate Threshold Voltage	V <sub>th</sub>	V <sub>DS</sub> = 9.6V, I <sub>D</sub> = 0.5mA	1.0	1.5	2.0	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





**CAUTION**

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