

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL MOS TYPE

# 2SK3078

900 MHz BAND AMPLIFIER APPLICATIONS (GSM)

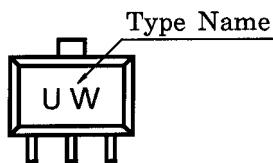
- Output Power :  $P_O = 27.0$  dBmW (Min.)
- Gain :  $G_P = 12.5$  dB (Min.)
- Drain Efficiency :  $\eta_D = 46\%$  (Typ.)

## MAXIMUM RATINGS (Ta = 25°C)

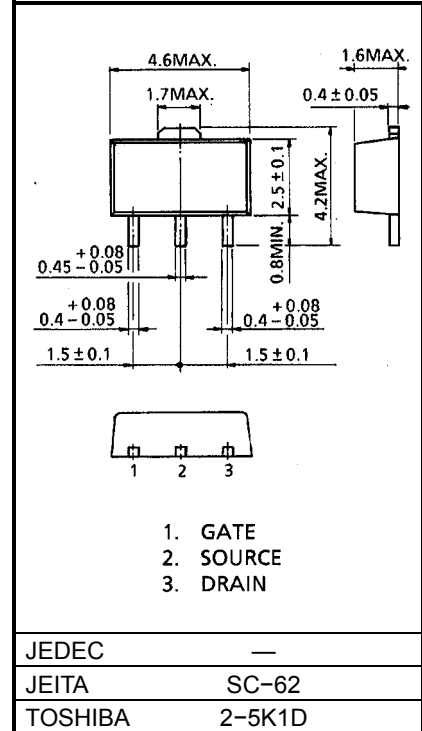
CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	$V_{DSS}$	10	V
Gate-Source Voltage	$V_{GSS}$	5	V
Drain Current	$I_D$	0.5	A
Power Dissipation	$P_{D^*}$	3.0	W
Channel Temperature	$T_{ch}$	150	°C
Storage Temperature Range	$T_{stg}$	-45~150	°C

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

## MARKING



Unit: mm



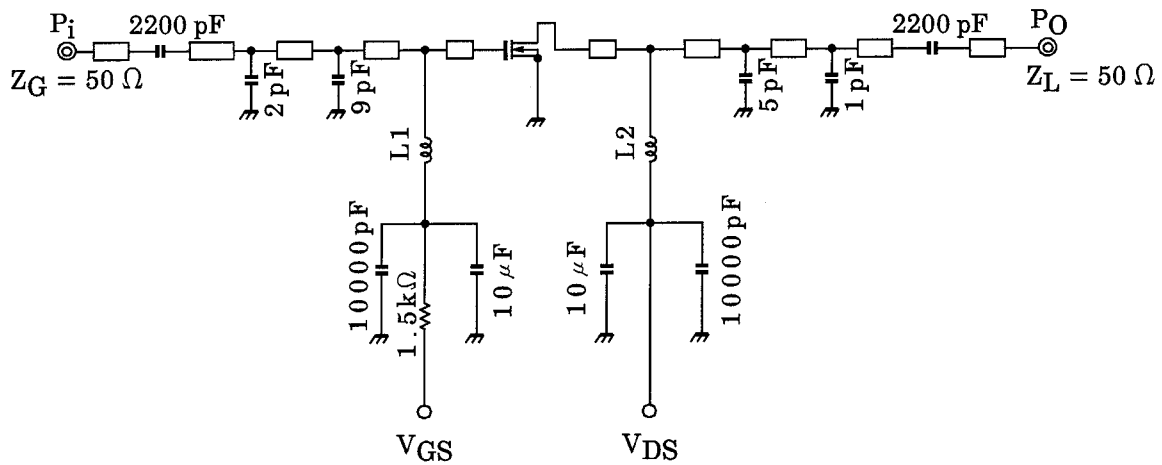
## ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT
Output Power	$P_O$	$V_{DS} = 4.8\text{ V}$ Iidle = 108 mA ( $V_{GS} = \text{adjust}$ ) $f = 915\text{ MHz}$ , $P_i = 14.5\text{ dBmW}$	27.0	—	—	dBmW
Drain Efficiency	$\eta_D$		—	46.0	—	%
Power Gain	$G_p$		12.5	—	—	dB
Threshold Voltage	$V_{th}$	$V_{DS} = 4.8\text{ V}$ , $I_D = 0.5\text{ mA}$	0.20	—	1.20	V
Drain Cut-off Current	$I_{DSS}$	$V_{DS} = 10\text{ V}$ , $V_{GS} = 0\text{ V}$	—	—	10	$\mu\text{A}$
Gate-Source Leakage Current	$I_{GSS}$	$V_{GS} = 5\text{ V}$ , $V_{DS} = 0\text{ V}$	—	—	5	$\mu\text{A}$

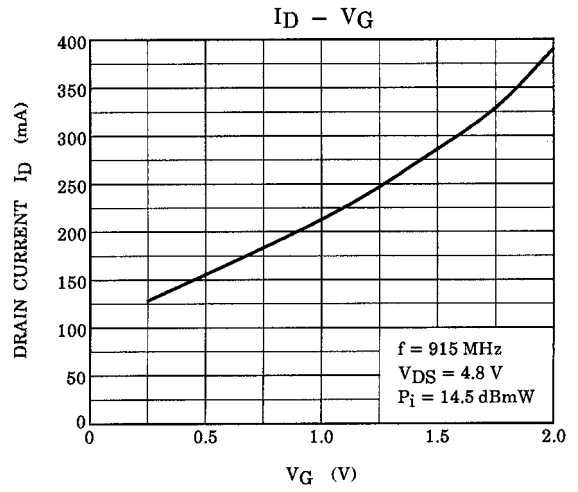
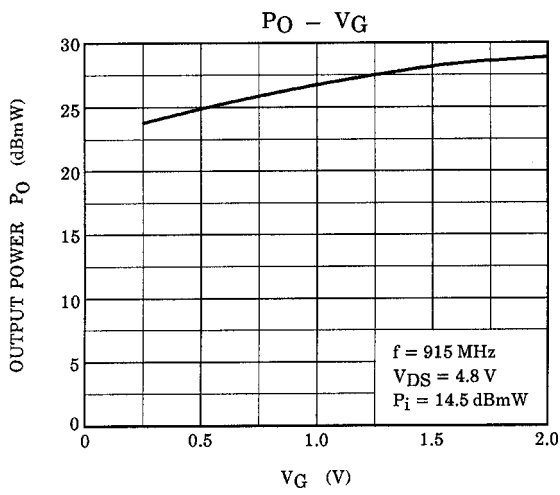
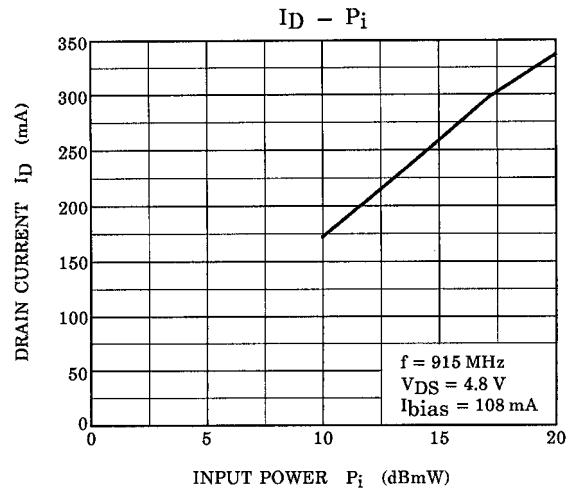
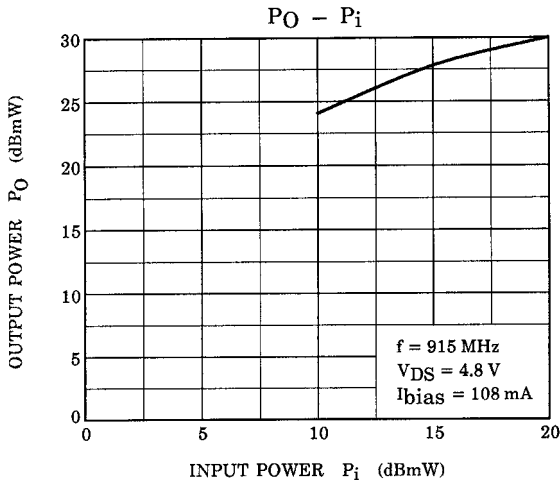
### CAUTION

This transistor is the electrostatic sensitive device.  
Please handle with caution.

### RF OUTPUT POWER TEST FIXTURE



- L1 :  $\phi 0.6\text{ mm}$ , 5.5 mmID, 4T
- L2 :  $\phi 0.6\text{ mm}$ , 5.5 mmID, 8T



**CAUTION**

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

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