

# 2SK0614 (2SK614)

## Silicon N-Channel MOS FET

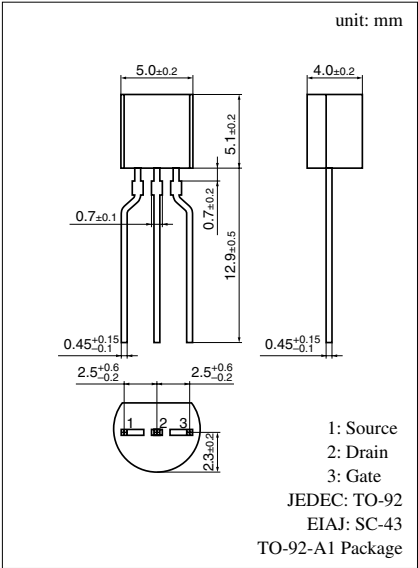
For switching

### ■ Features

- Low ON-resistance  $R_{DS(on)}$
- High-speed switching
- Allowing to be driven directly by CMOS and TTL

### ■ Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Ratings	Unit
Drain to Source voltage	$V_{DS}$	80	V
Gate to Source voltage	$V_{GS}$	20	V
Drain current	$I_D$	$\pm 0.5$	A
Max drain current	$I_{DP}$	$\pm 1$	A
Allowable power dissipation	$P_D$	750	mW
Channel temperature	$T_{ch}$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

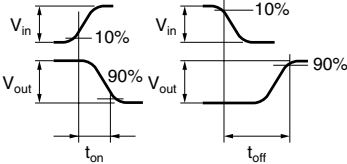
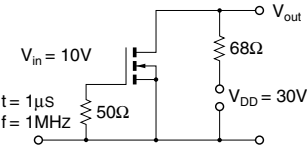


### ■ Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

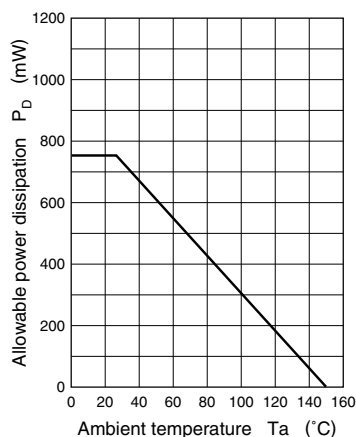
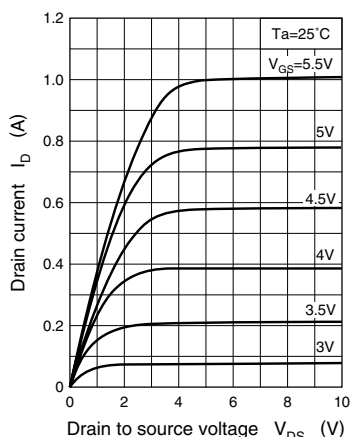
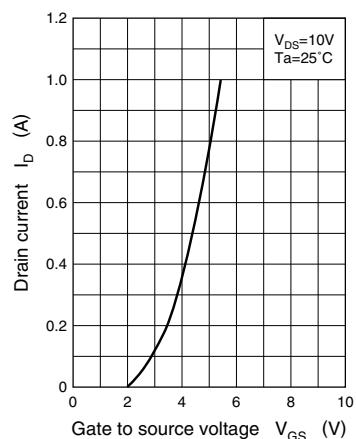
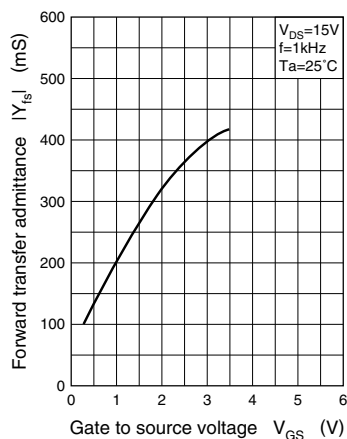
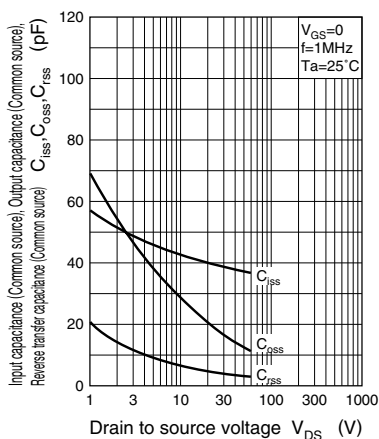
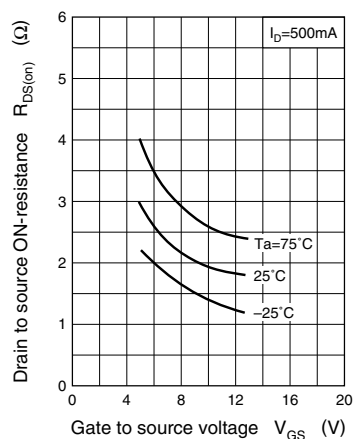
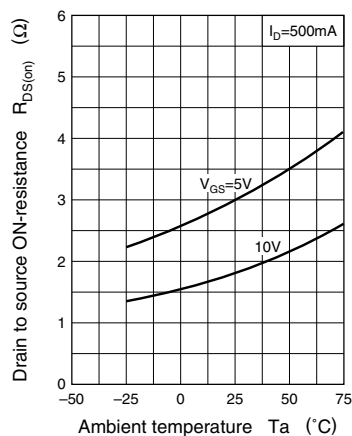
Parameter	Symbol	Conditions	min	typ	max	Unit
Drain to Source cut-off current	$I_{DSS}$	$V_{DS} = 60\text{V}, V_{GS} = 0$			10	$\mu\text{A}$
Gate to Source leakage current	$I_{GSS}$	$V_{GS} = 20\text{V}, V_{DS} = 0$			0.1	$\mu\text{A}$
Drain to Source breakdown voltage	$V_{DSS}$	$I_D = 100\mu\text{A}, V_{GS} = 0$	80			V
Gate threshold voltage	$V_{th}$	$I_D = 1\text{mA}, V_{DS} = V_{GS}$	1.5		3.5	V
Drain to Source ON-resistance	$R_{DS(on)}$ <sup>*1</sup>	$I_D = 0.5\text{A}, V_{GS} = 10\text{V}$		2	4	$\Omega$
Forward transfer admittance	$ Y_{fs} $	$I_D = 0.2\text{A}, V_{DS} = 15\text{V}, f = 1\text{kHz}$		300		mS
Input capacitance (Common Source)	$C_{iss}$	$V_{DS} = 10\text{V}, V_{GS} = 0, f = 1\text{MHz}$		45		pF
Output capacitance (Common Source)	$C_{oss}$			30		pF
Reverse transfer capacitance (Common Source)	$C_{rss}$			8		pF
Turn-on time	$t_{on}$ <sup>*2</sup>			15		ns
Turn-off time	$t_{off}$ <sup>*2</sup>			20		ns

<sup>\*1</sup> Pulse measurement

<sup>\*2</sup>  $t_{on}, t_{off}$  measurement circuit



Note) The part number in the parenthesis shows conventional part number.

$P_D - T_a$  $I_D - V_{DS}$  $I_D - V_{GS}$  $|Y_{fs}| - V_{GS}$  $C_{iss}, C_{oss}, C_{rss} - V_{DS}$  $R_{DS(on)} - V_{GS}$  $R_{DS(on)} - T_a$ 

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