

# XN01872 (XN1872)

## Silicon N-channel • Enhancement MOS FET

For switching

### ■ Features

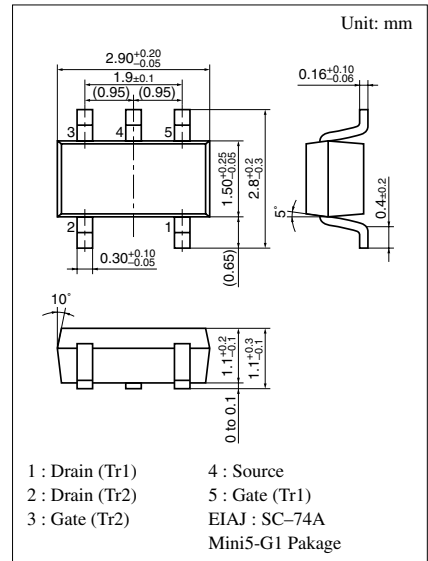
- Two elements incorporated into one package.  
(Source-coupled FETs)
- Reduction of the mounting area and assembly cost by one half.

### ■ Basic Part Number of Element

- 2SK0621(2SK621) × 2 elements

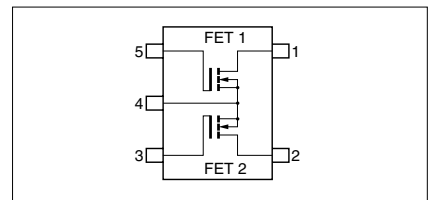
### ■ Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Ratings	Unit
Rating of element	Drain to source voltage	$V_{DSS}$	50	V
	Gate to source voltage	$V_{GSO}$	8	V
	Drain current	$I_D$	100	mA
		$I_{DM}$	200	mA
Overall	Total power dissipation	$P_T$	300	mW
	Channel temperature	$T_{ch}$	150	°C
	Storage temperature	$T_{stg}$	-55 to +150	°C



Marking Symbol: **5U**

Internal Connection



### ■ Electrical Characteristics (Ta=25°C)

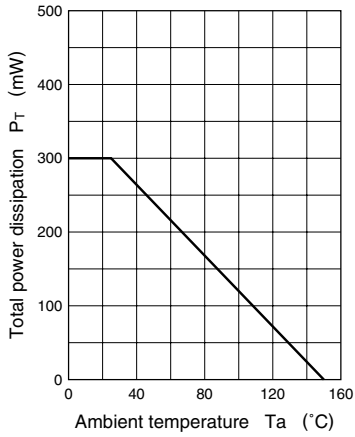
Parameter	Symbol	Conditions	min	typ	max	Unit
Drain to source voltage	$V_{DSS}$	$I_D = 100\mu A, V_{GS} = 0$	50			V
Drain current	$I_{DSS}$	$V_{DS} = 10V, V_{GS} = 0$			10	$\mu A$
Gate cutoff current	$I_{GSS}$	$V_{GS} = 8V, V_{DS} = 0$	40		80	$\mu A$
Gate threshold voltage	$V_{th}$	$I_D = 100\mu A, V_{DS} = V_{GS}$	1.5		3.5	V
Drain resistance	$R_{DS(on)}$	$I_D = 20mA, V_{GS} = 5V$			50	$\Omega$
Forward transfer admittance	$ Y_{fs} $	$I_D = 20mA, V_{DS} = 5V, f = 1kHz$	20	30		mS
Output voltage high level	$V_{OH}$	$V_{DS} = 5V, V_{GS} = 1V, R_L = 200\Omega$	4.5			V
Output voltage low level	$V_{OL}$	$V_{DS} = 5V, V_{GS} = 5V, R_L = 200\Omega$			1.0	V
Input resistance	$R_1+R_2^{*1}$		100		200	k $\Omega$
Turn-on time	$t_{on}^{*2}$	$V_{DD} = 5V, V_{GS} = 0 \text{ to } 5V, R_L = 200\Omega$			1.0	$\mu s$
Turn-off time	$t_{off}^{*2}$	$V_{DD} = 5V, V_{GS} = 5 \text{ to } 0V, R_L = 200\Omega$			1.0	$\mu s$
Common source short-circuit input capacitance	$C_{iss}$	$V_{DS} = 5V, V_{GS} = 0, f = 1MHz$		9	15	pF

\*1 Pulse measurement

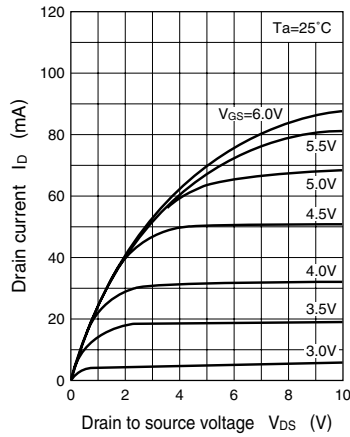
\*2 Resistance ratio  $R_1/R_2 = 1/50$

Note) The Part number in the Parenthesis shows conventional part number.

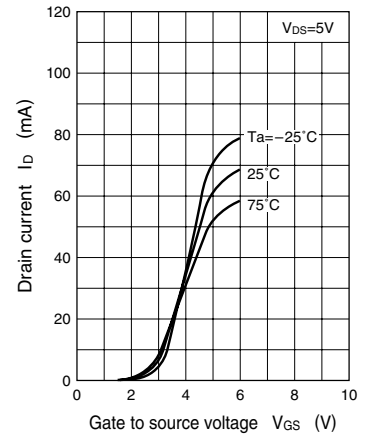
$P_T - T_a$



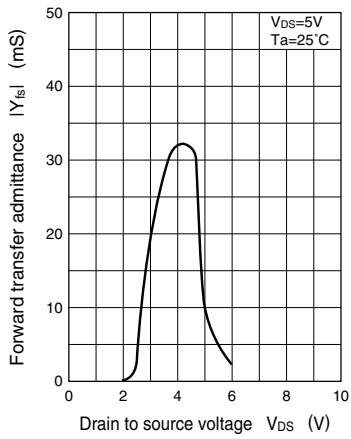
$I_D - V_{DS}$



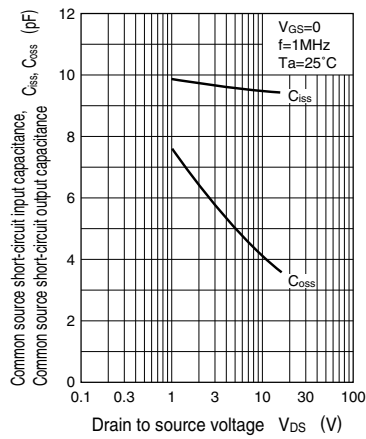
$I_D - V_{GS}$



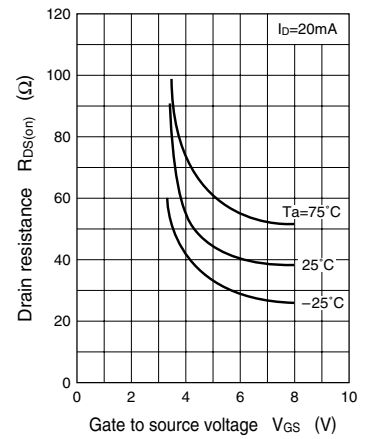
$|Y_{fs}| - V_{DS}$



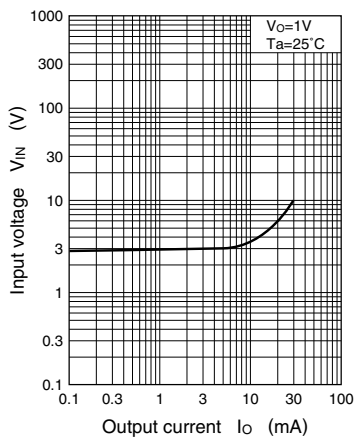
$C_{iss}, C_{oss} - V_{DS}$



$R_{DS(ON)} - V_{GS}$



$V_{IN} - I_O$



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