

## 2SK1374

## Silicon N-Channel MOS FET

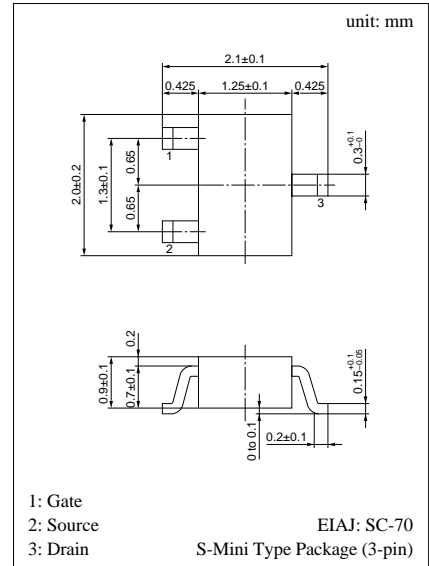
For switching

## ■ Features

- High-speed switching
- Wide frequency band
- Incorporating a built-in gate protection-diode
- Allowing 2.5V drive

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

Parameter	Symbol	Ratings	Unit
Drain to Source voltage	$V_{DS}$	50	V
Gate to Source voltage	$V_{GSO}$	10	V
Drain current	$I_D$	50	mA
Max drain current	$I_{DP}$	100	mA
Allowable power dissipation	$P_D$	150	mW
Channel temperature	$T_{ch}$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

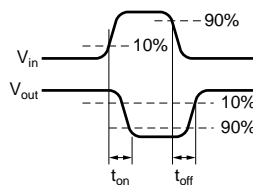
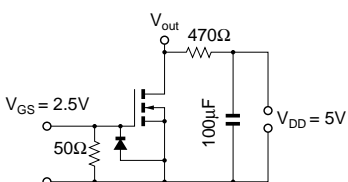


Marking Symbol: 4V

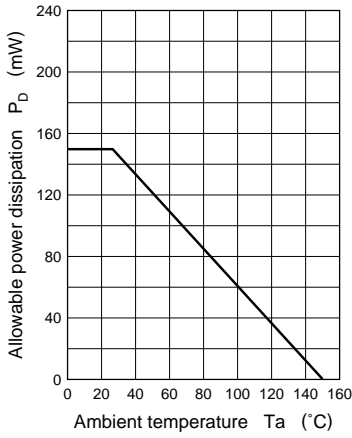
■ Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Conditions	min	typ	max	Unit
Drain to Source cut-off current	$I_{DSS}$	$V_{DS} = 20\text{V}, V_{GS} = 0$			1	$\mu\text{A}$
Gate to Source leakage current	$I_{GSS}$	$V_{GS} = 10\text{V}, V_{DS} = 0$			1	$\mu\text{A}$
Drain to Source breakdown voltage	$V_{DSS}$	$I_D = 10\mu\text{A}, V_{GS} = 0$	50	100		V
Gate threshold voltage	$V_{th}$	$I_D = 100\mu\text{A}, V_{DS} = 5\text{V}$	0.5	0.8	1.1	V
Drain to Source ON-resistance	$R_{DS(on)}^{*1}$	$I_D = 10\text{mA}, V_{GS} = 2.5\text{V}$		27	50	$\Omega$
Forward transfer admittance	$ Y_{fs} $	$I_D = 10\text{mA}, V_{DS} = 5\text{V}, f = 1\text{kHz}$	20	39		mS
Input capacitance (Common Source)	$C_{iss}$	$V_{DS} = 5\text{V}, V_{GS} = 0, f = 1\text{MHz}$		4.5		pF
Output capacitance (Common Source)	$C_{oss}$			4.1		pF
Reverse transfer capacitance (Common Source)	$C_{rss}$			1.2		pF
Turn-on time	$t_{on}^{*2}$	$V_{DD} = 5\text{V}, V_{GS} = 0 \text{ to } 2.5\text{V}, R_L = 470\Omega$		0.2		$\mu\text{s}$
Turn-off time	$t_{off}^{*2}$	$V_{DD} = 5\text{V}, V_{GS} = 2.5 \text{ to } 0\text{V}, R_L = 470\Omega$		0.2		$\mu\text{s}$

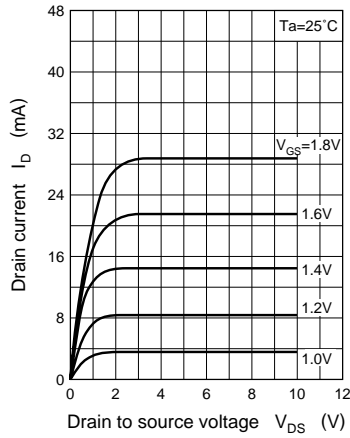
\*1 Pulse measurement

\*2  $t_{on}, t_{off}$  measurement circuit

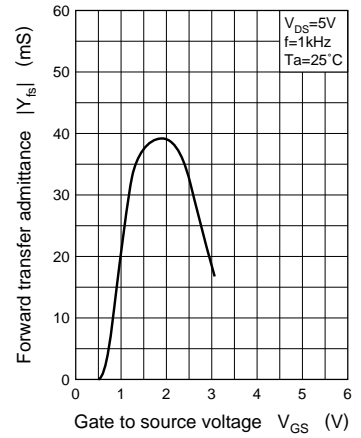
$P_D - T_a$



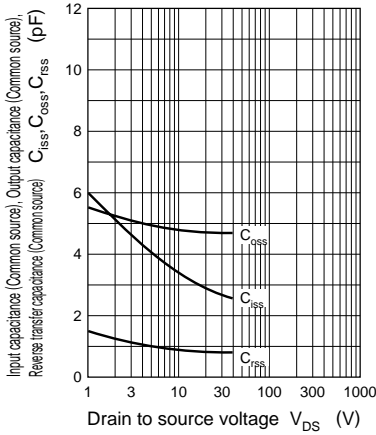
$I_D - V_{DS}$



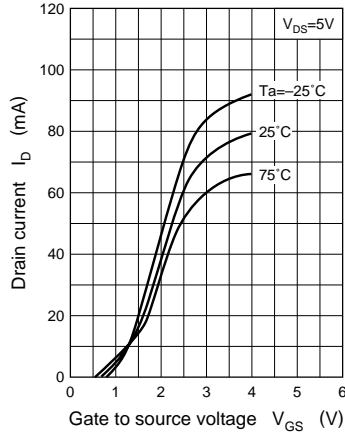
$|Y_{fs}| - V_{GS}$



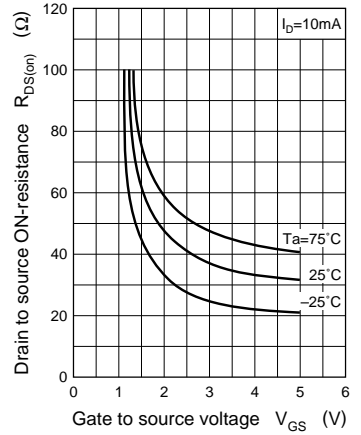
$C_{iss}, C_{oss}, C_{rss} - V_{DS}$



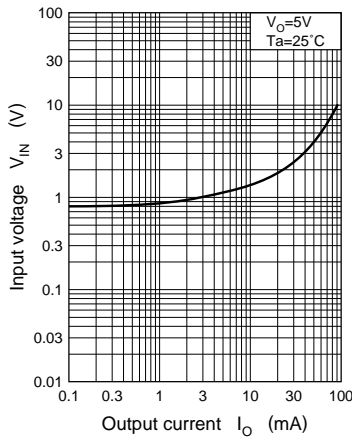
$I_D - V_{GS}$



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



$V_{IN} - I_O$



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