2SK4072

Silicon N-channel MOSFET

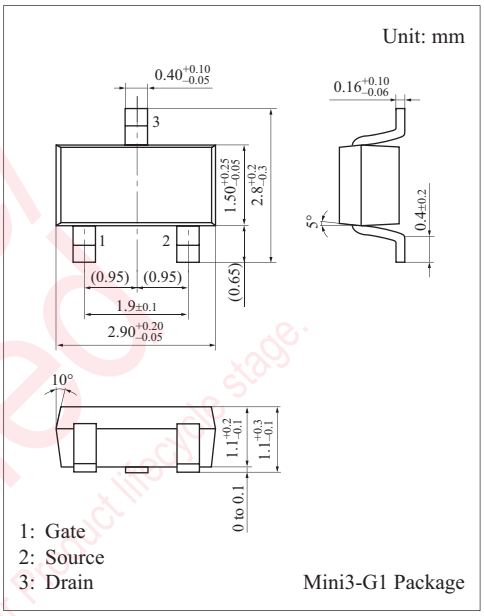
For switching circuits

■ Features

- High-speed switching
- Wide frequency band

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Drain-source surrender voltage	V_{DSS}	50	V
Gate-source surrender voltage	V_{GSS}	±7	V
Drain current	I_D	100	mA
Peak drain current	I_{DP}	200	mA
Power dissipation	P_D	200	mW
Channel temperature	T_{ch}	150	°C
Storage temperature	T_{stg}	–55 to +150	°C



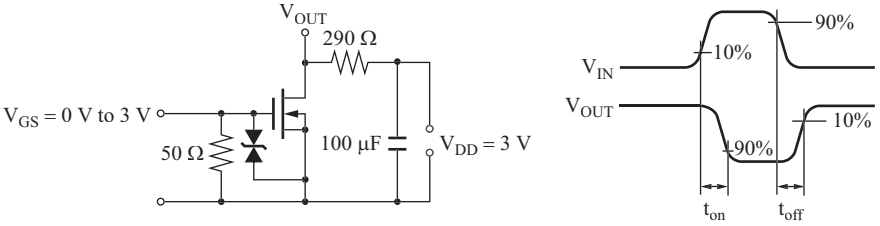
Marking Symbol: 5F

■ Electrical Characteristics $T_a = 25°C \pm 3°C$

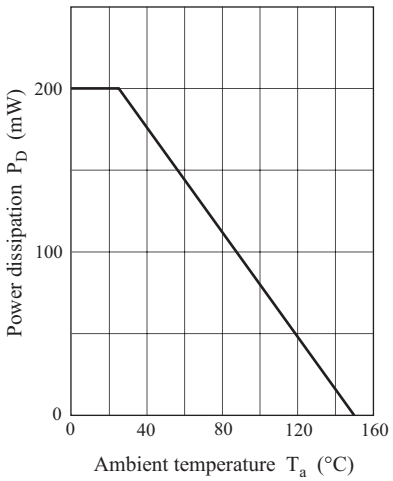
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-source surrender voltage	V_{DSS}	I_D = 10 µA, V_{GS} = 0	50			V
Drain-source cutoff current	I_{DSS}	V_{DS} = 50 V, V_{GS} = 0			1.0	µA
Gate-source cutoff current	I_{GSS}	V_{GS} = ±7 V, V_{DS} = 0			±5	µA
Gate threshold voltage	V_{TH}	I_D = 1.0 µA, V_{DS} = 3.0 V	0.9	1.2	1.5	V
Drain-source ON resistance	$R_{DS(on)}$	I_D = 10 mA, V_{GS} = 4.0 V		6	12	Ω
		I_D = 10 mA, V_{GS} = 2.5 V		8	15	
Forward transfer admittance	$\|Y_{fs}\|$	I_D = 10 mA, V_{DS} = 3.0 V	20	60		mS
Short-circuit forward transfer capacitance (Common source)	C_{iss}	V_{DS} = 3 V, V_{GS} = 0, f = 1 MHz		12		pF
Short-circuit output capacitance (Common source)	C_{oss}			7		pF
Reverse transfer capacitance (Common source)	C_{rss}			3		pF
Turn-on time *	t_{on}	V_{DD} = 3 V, V_{GS} = 0 V to 3 V, R_L = 470 Ω		200		ns
Turn-off time *	t_{off}	V_{DD} = 3 V, V_{GS} = 3 V to 0 V, R_L = 470 Ω		200		ns

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

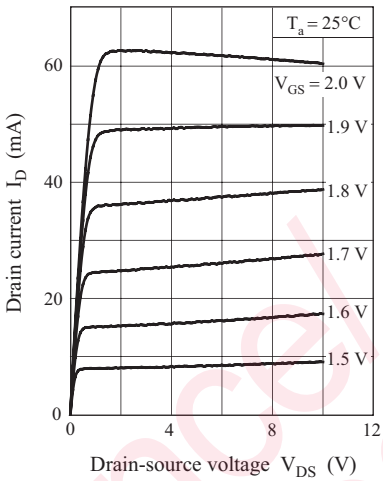
2. * : t_{on} , t_{off} measurement circuit



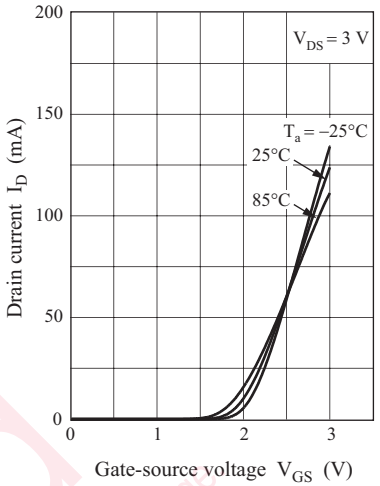
P_D — T_a



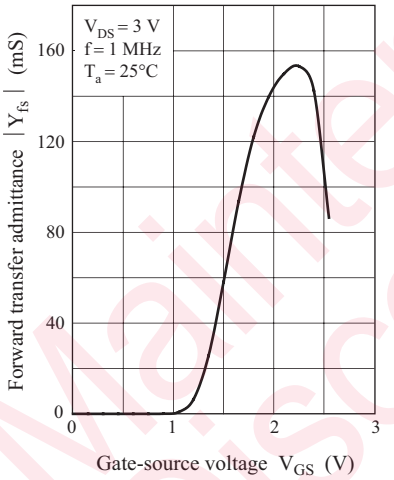
I_D — V_{DS}



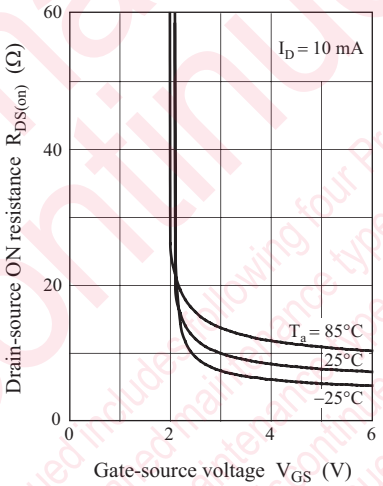
I_D — V_{GS}



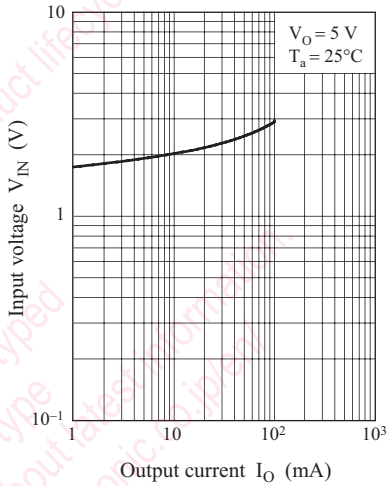
$|Y_{fs}|$ — V_{GS}



$R_{DS(on)}$ — V_{GS}



V_{IN} — I_O



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