

2SK0664G

Silicon N-channel MOSFET

For switching circuits

■ Features

- High-speed switching
- S-mini type package, allowing downsizing of the sets and automatic insertion through the tape/magazine packing

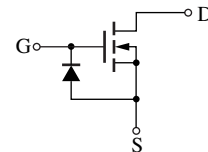
■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Drain-source surrender voltage	V_{DSS}	50	V
Gate-source voltage (Drain open)	V_{GSO}	8	V
Drain current	I_D	100	mA
Peak drain current	I_{DP}	200	mA
Power dissipation	P_D	150	mW
Channel temperature	T_{ch}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

■ Package

- Code
SMini3-F2
- Marking Symbol: 3N
- Pin Name
1: Gate
2: Source
3: Drain

■ Internal Connection



■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-source surrender voltage	V_{DSS}	$I_D = 100 \mu\text{A}$, $V_{GS} = 0$	50			V
Drain-source cutoff current	I_{DSS}	$V_{DS} = 10 \text{ V}$, $V_{GS} = 0$			10	μA
Gate-source cutoff current	I_{GSS}	$V_{GS} = 8 \text{ V}$, $V_{DS} = 0$			50	nA
Gate threshold voltage	V_{th}	$I_D = 100 \mu\text{A}$, $V_{DS} = V_{GS}$	1.5		3.5	V
Forward transfer admittance	$ Y_{fs} $	$I_D = 20 \text{ mA}$, $V_{DS} = 5 \text{ V}$, $f = 1 \text{ kHz}$	20			mS
Drain-source ON resistance	$R_{DS(on)}$	$I_D = 20 \text{ mA}$, $V_{GS} = 5 \text{ V}$			50	Ω
Short-circuit forward transfer capacitance (Common source)	C_{iss}	$V_{DS} = 5 \text{ V}$, $V_{GS} = 0$, $f = 1 \text{ MHz}$			15	pF
Short-circuit output capacitance (Common source)	C_{oss}				5.0	pF
Reverse transfer capacitance (Common source)	C_{rss}				1.0	pF
Turn-on time ^{*1, 2}	t_{on}	$V_{DD} = 5 \text{ V}$, $V_{GS} = 0 \text{ V} \sim 5 \text{ V}$, $R_L = 200 \Omega$		10		ns
Turn-off time ^{*1, 2}	t_{off}	$V_{DD} = 5 \text{ V}$, $V_{GS} = 5 \text{ V} \sim 0 \text{ V}$, $R_L = 200 \Omega$		20		ns

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

2. Observe precautions for handling. Electrostatic sensitive devices.

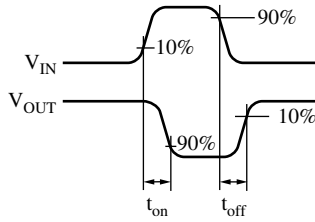
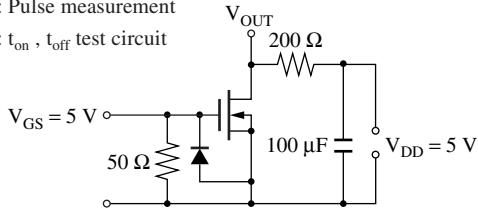
Note) The part number in the parenthesis shows conventional part number.

■ Electrical Characteristics (continue)

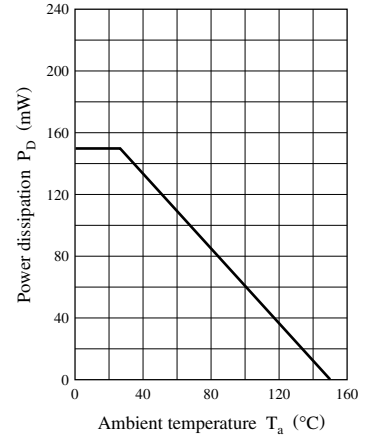
Note) (continue)

3. *1: Pulse measurement

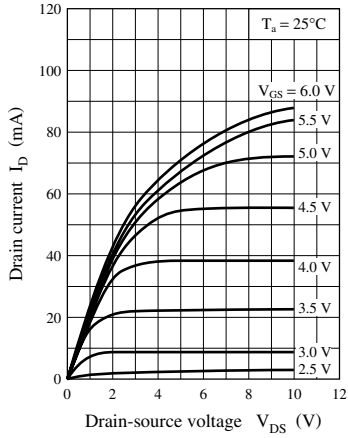
*2: t_{on} , t_{off} test circuit



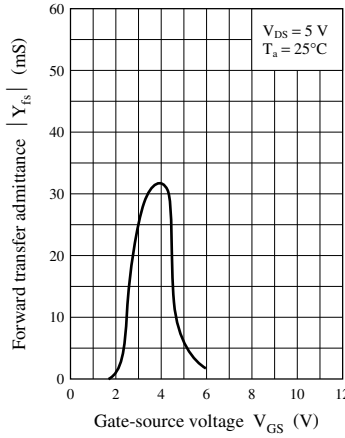
$P_D - T_a$



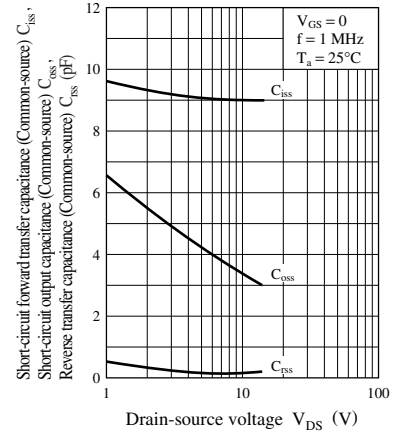
$I_D - V_{DS}$



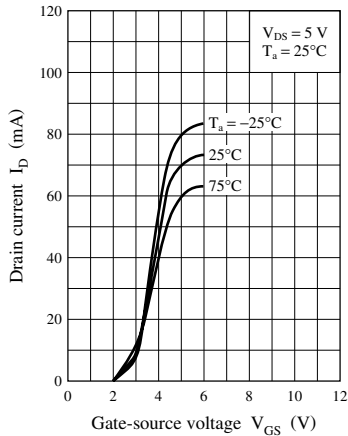
$|Y_{fs}| - V_{GS}$



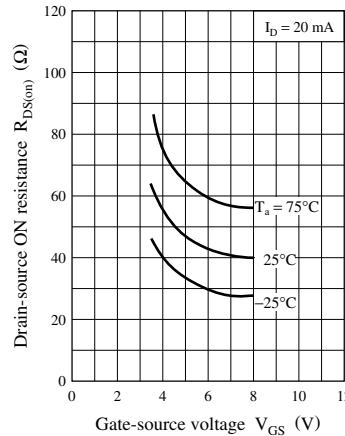
$C_{iss}, C_{oss}, C_{rss} - V_{DS}$



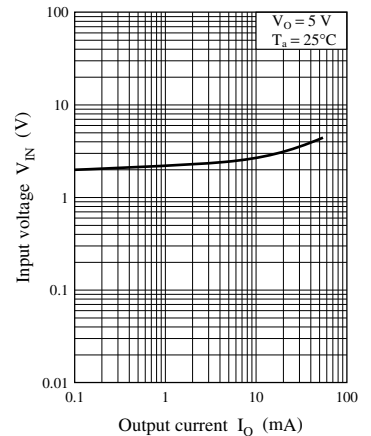
$I_D - V_{GS}$



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

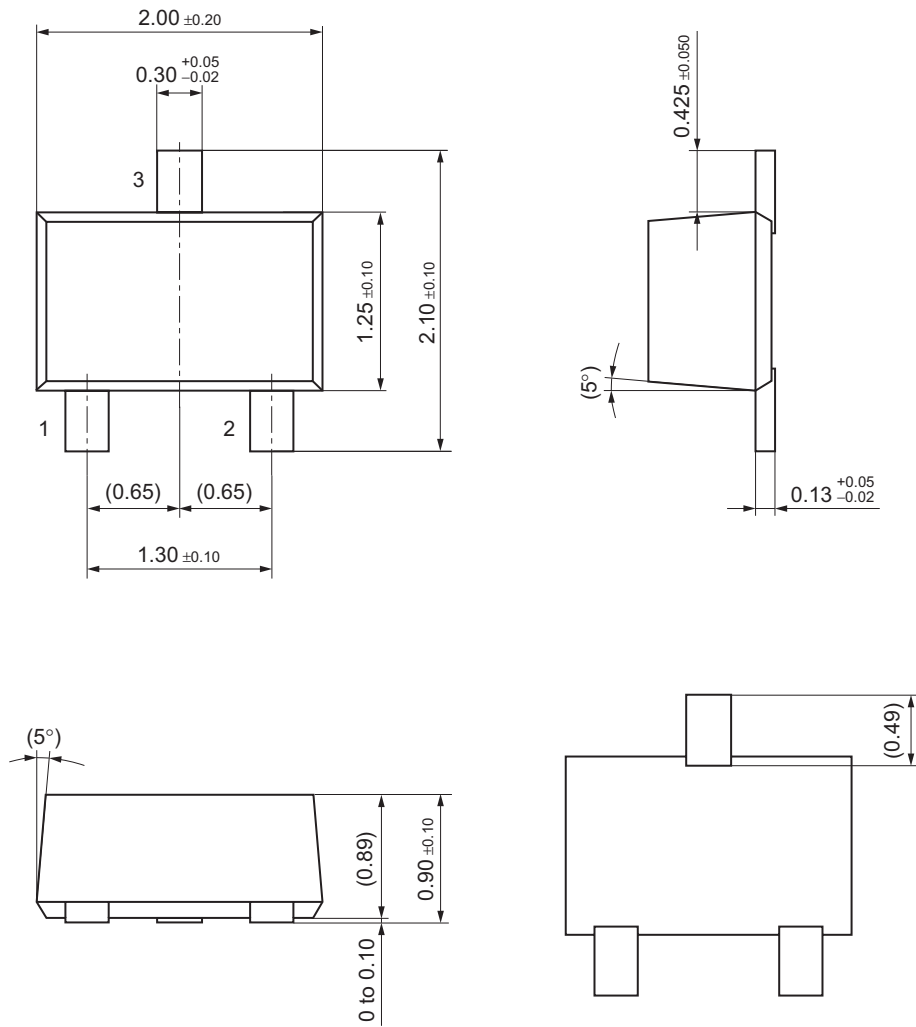
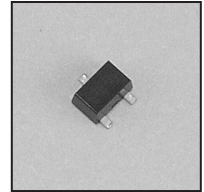


$V_{IN} - I_O$



SMini3-F2

Unit: mm



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