

2SK3539

Silicon N-channel MOSFET

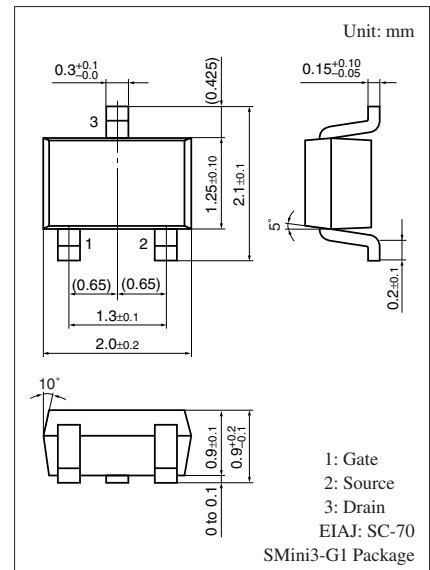
For switching

■ Features

- High-speed switching
- Wide frequency band
- Gate protection diode built-in

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

Parameter	Symbol	Rating	Unit
Drain-source voltage	V_{DS}	50	V
Gate-source voltage (Drain open)	V_{GSO}	± 7	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	$^\circ\text{C}$

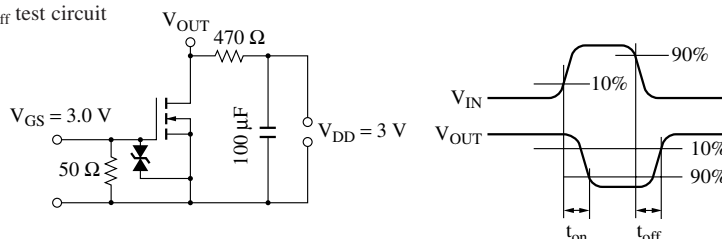


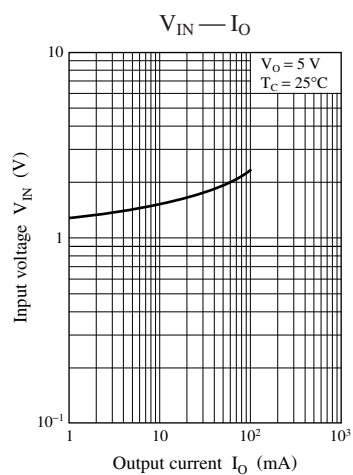
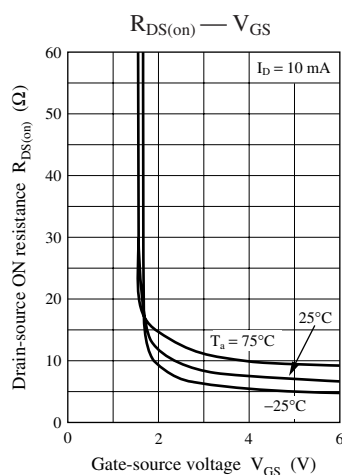
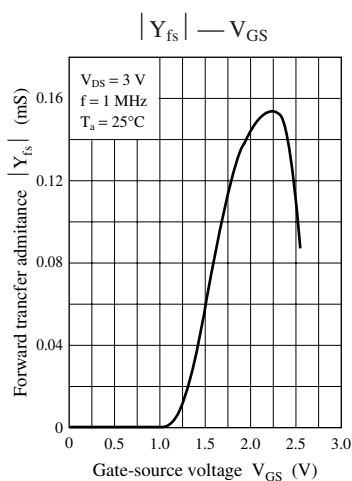
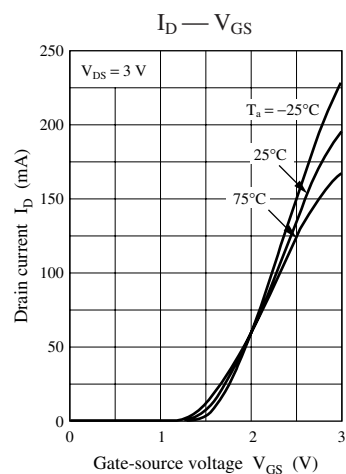
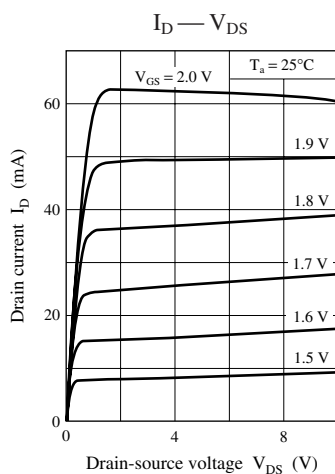
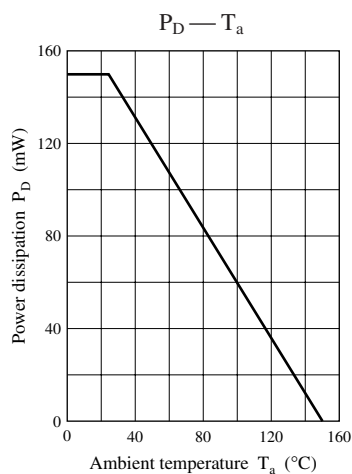
Marking Symbol: 5F

■ 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}	$I_D = 10\ \mu\text{A}$, $V_{GS} = 0$	50			V
Drain-source cutoff current	I_{DSS}	$V_{DS} = 50\ \text{V}$, $V_{GS} = 0$			1.0	μA
Gate-Source cutoff current	I_{GSS}	$V_{GS} = \pm 7\ \text{V}$, $V_{DS} = 0$			± 5.0	μA
Gate threshold voltage	V_{th}	$I_D = 1.0\ \mu\text{A}$, $V_{DS} = 3\ \text{V}$	0.9	1.2	1.5	V
Drain-source ON resistance	$R_{DS(on)}$	$I_D = 10\ \text{mA}$, $V_{GS} = 2.5\ \text{V}$		8	15	Ω
		$I_D = 10\ \text{mA}$, $V_{GS} = 4.0\ \text{V}$		6	12	
Forward transfer admittance	$ Y_{fs} $	$I_D = 10\ \text{mA}$, $V_{DS} = 3\ \text{V}$, $f = 1\ \text{kHz}$	20	60		mS
Short-circuit forward transfer capacitance (Common source)	C_{iss}	$V_{DS} = 3\ \text{V}$, $V_{GS} = 0$, $f = 1\ \text{MHz}$		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}	$V_{DD} = 3\ \text{V}$, $V_{GS} = 0\ \text{V}$ to $3\ \text{V}$, $R_L = 470\ \Omega$		200		ns
Turn-off time *	t_{off}	$V_{DD} = 3\ \text{V}$, $V_{GS} = 3\ \text{V}$ to $0\ \text{V}$, $R_L = 470\ \Omega$		200		ns

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

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



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