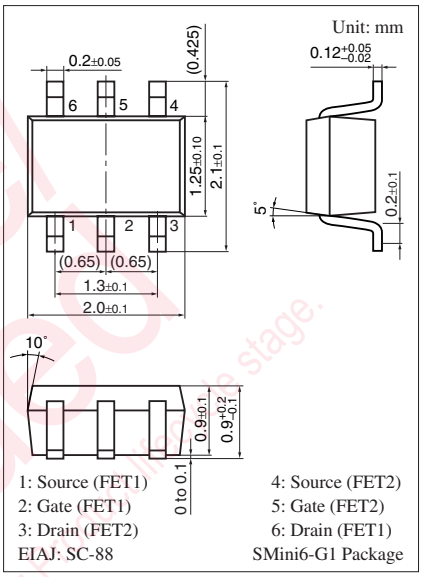
This product complies with the RoHS Directive (EU 2002/95/EC).

XP04878

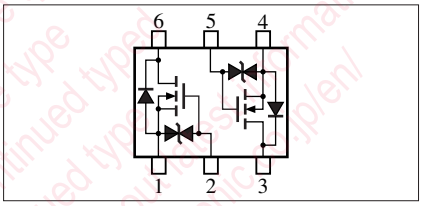
Silicon N-channel MOSFET

For switching



Marking Symbol: 7Y

Internal Connection



■ Features

- Allowing 2.5 V drive
- Incorporating a built-in gate protection-diode
- S-Mini type 6-pin package, reduction of the mounting area and assembly cost by one half

■ Basic Part Number

- 2SK3539 × 2

■ Absolute Maximum Ratings $T_a = 25°C$

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

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

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

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

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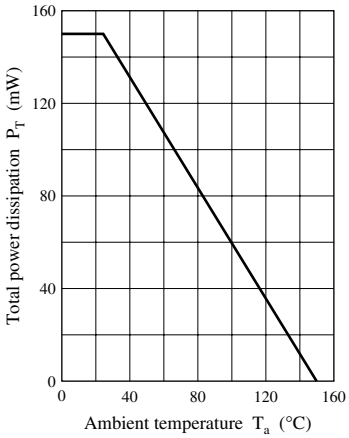
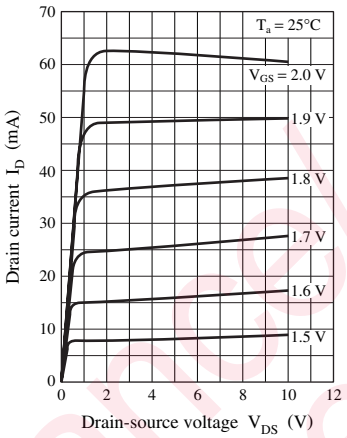
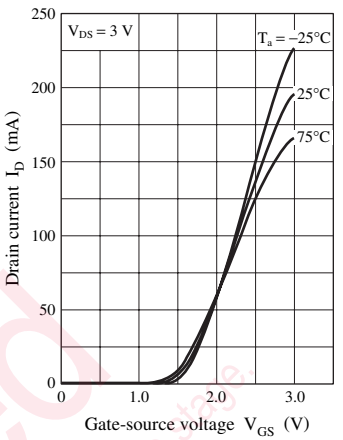
P_T — T_a



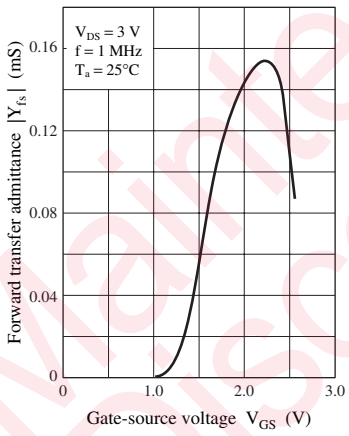
I_D — V_{DS}



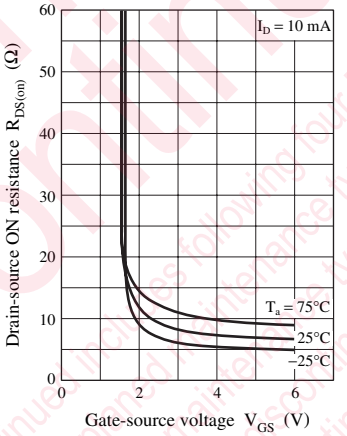
I_D — V_{GS}



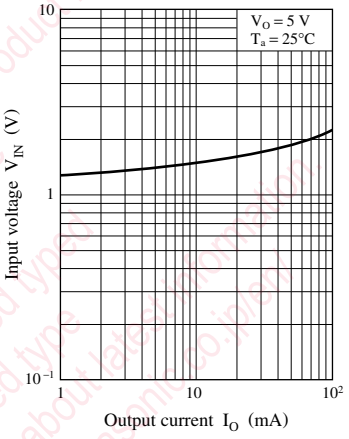
$|Y_{fs}|$ — V_{GS}



$R_{DS(on)}$ — V_{GS}



V_{IN} — I_O



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