

# 2SK0615 (2SK615)

## Silicon N-Channel MOS FET

For switching

### ■ Features

- Low ON-resistance
- High-speed switching
- Allowing to be driven directly by CMOS and TTL
- M type package, allowing easy automatic and manual insertion as well as stand-alone fixing to the printed circuit board.

### ■ Absolute Maximum Ratings (Ta = 25°C)

Parameter	Symbol	Ratings	Unit
Drain to Source voltage	V <sub>DS</sub>	80	V
Gate to Source voltage	V <sub>GSO</sub>	20	V
Drain current	I <sub>D</sub>	±0.5	A
Max drain current	I <sub>DP</sub>	±1	A
Allowable power dissipation	P <sub>D</sub> <sup>*</sup>	1	W
Channel temperature	T <sub>ch</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

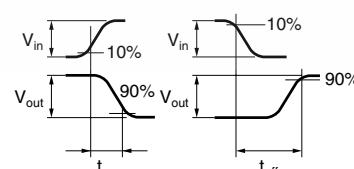
\* PC board: Copper foil of the drain portion should have a area of 1cm<sup>2</sup> or more and the board thickness should be 1.7mm.

### ■ Electrical Characteristics (Ta = 25°C)

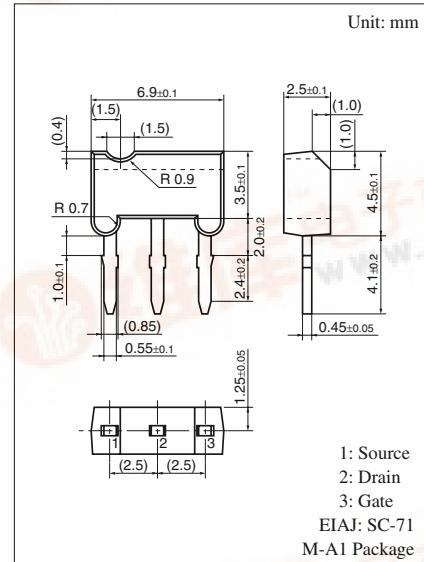
Parameter	Symbol	Conditions	min	typ	max	Unit
Drain to Source cut-off current	I <sub>DS</sub>	V <sub>DS</sub> = 60V, V <sub>GS</sub> = 0			10	μA
Gate to Source leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = 20V, V <sub>DS</sub> = 0			0.1	μA
Drain to Source breakdown voltage	V <sub>DSS</sub>	I <sub>DS</sub> = 100μA, V <sub>GS</sub> = 0	80			V
Gate threshold voltage	V <sub>th</sub>	I <sub>D</sub> = 1mA, V <sub>DS</sub> = V <sub>GS</sub>	1.5		3.5	V
Drain to Source ON-resistance	R <sub>DS(on)</sub> <sup>*1</sup>	I <sub>D</sub> = 0.5A, V <sub>GS</sub> = 10V		2	4	Ω
Forward transfer admittance	Y <sub>fs</sub>	I <sub>D</sub> = 0.2A, V <sub>DS</sub> = 15V, f = 1kHz		300		mS
Input capacitance (Common Source)	C <sub>iss</sub>	V <sub>DS</sub> = 10V, V <sub>GS</sub> = 0, f = 1MHz		45		pF
Output capacitance (Common Source)	C <sub>oss</sub>			30		pF
Reverse transfer capacitance (Common Source)	C <sub>rss</sub>			8		pF
Turn-on time	t <sub>on</sub> <sup>*1, 2</sup>			15		ns
Turn-off time	t <sub>off</sub> <sup>*1, 2</sup>			20		ns

\*1 Pulse measurement

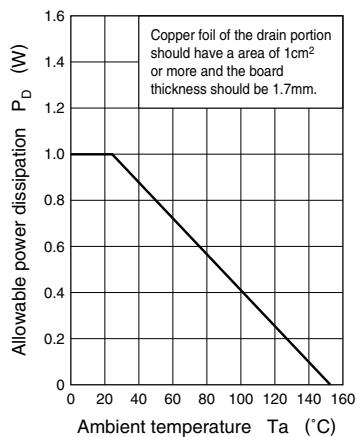
\*2 t<sub>on</sub>, t<sub>off</sub> measurement circuit



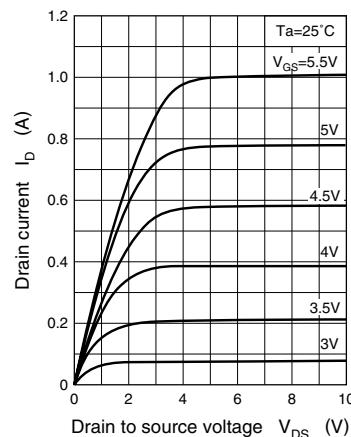
Note) The part number in the parenthesis shows conventional part number.



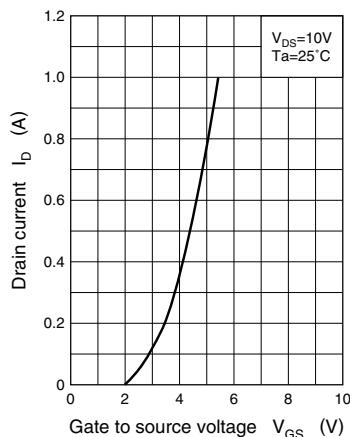
P<sub>D</sub> — Ta



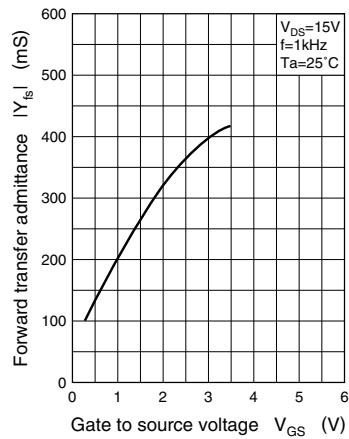
I<sub>D</sub> — V<sub>DS</sub>



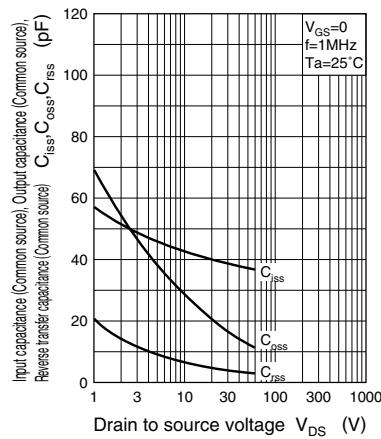
I<sub>D</sub> — V<sub>GS</sub>



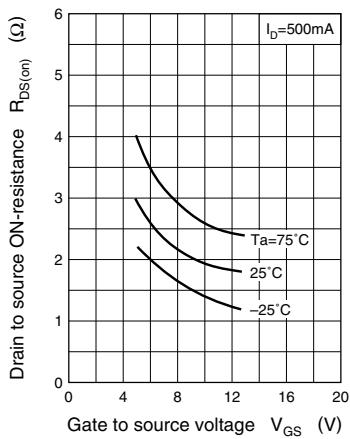
|Y<sub>fs</sub>| — V<sub>GS</sub>



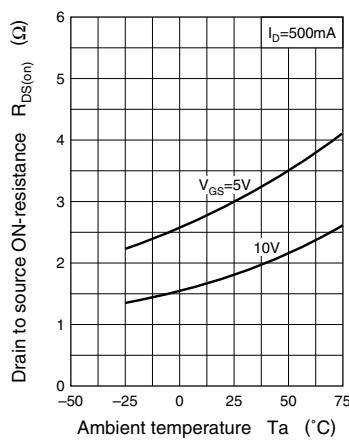
C<sub>iss</sub>, C<sub>oss</sub>, C<sub>rss</sub> — V<sub>DS</sub>



R<sub>DS(on)</sub> — V<sub>GS</sub>



R<sub>DS(on)</sub> — Ta



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