

## 2SK2211

## Silicon N-Channel MOS FET

For switching

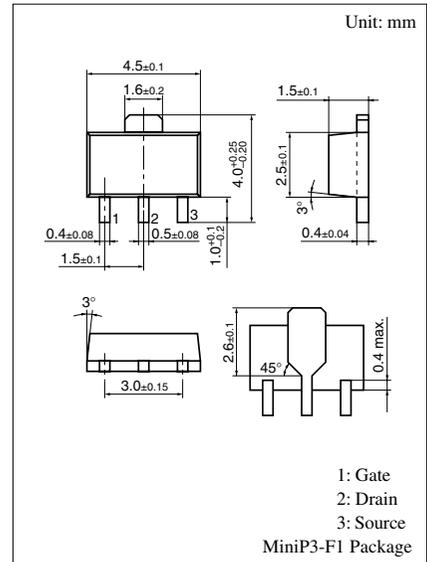
## ■ Features

- Low ON-resistance  $R_{DS(on)}$
- High-speed switching
- Mini-power type package, allowing downsizing of the sets and automatic insertion through the tape/magazine packing.

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

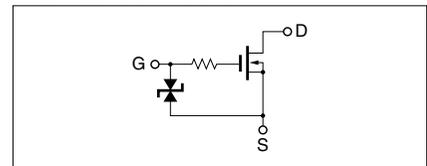
Parameter	Symbol	Ratings	Unit
Drain to Source breakdown voltage	$V_{DSS}$	30	V
Gate to Source voltage	$V_{GSS}$	$\pm 20$	V
Drain current	$I_D$	1.0	A
Max drain current	$I_{DP}$	2.0	A
Allowable power dissipation	$P_D^*$	1.0	W
Channel temperature	$T_{ch}$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

\* PC board: Copper foil of the drain portion should have an area of  $1\text{cm}^2$  or more and the board thickness should be 1.7mm.



Marking Symbol: 2M

Internal Connection

■ Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Conditions	min	typ	max	Unit
Drain to Source cut-off current	$I_{DSS}$	$V_{DS} = 25\text{V}, V_{GS} = 0$			10	$\mu\text{A}$
Gate to Source leakage current	$I_{GSS}$	$V_{GS} = \pm 15\text{V}, V_{DS} = 0$			$\pm 10$	$\mu\text{A}$
Drain to Source breakdown voltage	$V_{DSS}$	$I_D = 0.1\text{mA}, V_{GS} = 0$	30			V
Gate to Source voltage	$V_{GSS}$	$I_{GS} = 0.1\text{mA}, V_{DS} = 0$	$\pm 20$			V
Gate threshold voltage	$V_{th}$	$V_{DS} = 5\text{V}, I_D = 1\text{mA}$	0.8		2.0	V
Drain to Source ON-resistance	$R_{DS(on)1}^{*1}$	$V_{GS} = 4\text{V}, I_D = 0.5\text{A}$		0.48	0.75	$\Omega$
	$R_{DS(on)2}^{*1}$	$V_{GS} = 10\text{V}, I_D = 0.5\text{A}$		0.35	0.60	$\Omega$
Forward transfer admittance	$ Y_{fs} ^{*1}$	$V_{DS} = 10\text{V}, I_D = 0.5\text{A}$	0.5			S
Input capacitance (Common Source)	$C_{iss}$	$V_{DS} = 10\text{V}, V_{GS} = 0, f = 1\text{MHz}$		87		pF
Output capacitance (Common Source)	$C_{oss}$			69		pF
Reverse transfer capacitance (Common Source)	$C_{rss}$			23		pF
Turn-on time (delay time)	$t_{d(on)}$	$V_{GS} = 10\text{V}, I_D = 0.5\text{A}$ $V_{DD} = 10\text{V}, R_L = 20\Omega$		12		ns
Fall time	$t_f$			160		ns
Turn-off time (delay time)	$t_{d(off)}$			60		ns

\*1 Pulse measurement

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