

# 2SK2211

## Silicon N-Channel MOS FET

For switching

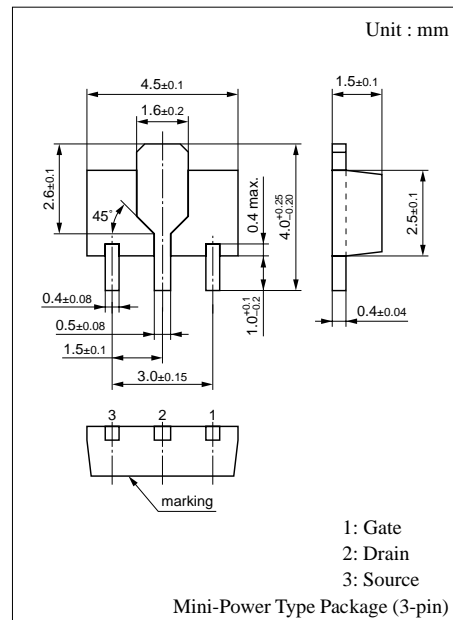
### ■ Features

- 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 $T_a = 25^\circ\text{C}$

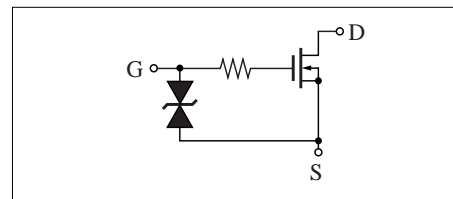
Parameter	Symbol	Ratings	Unit
Drain to Source voltage	$V_{DS}$	30	V
Gate to Source voltage	$V_{GSO}$	$\pm 20$	V
Drain current	$I_D$	$\pm 1$	A
Max drain current	$I_{PD}$	$\pm 2$	A
Allowable power dissipation *	$P_D$	1	W
Channel temperature	$P_{ch}$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

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



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	V
Drain to Source ON-resistance *	$R_{DS(ON)1}$	$V_{GS} = 4\text{ V}, I_D = 0.5\text{ A}$		0.48	0.75	$\Omega$
	$R_{DS(ON)2}$	$V_{GS} = 10\text{ V}, I_D = 0.5\text{ A}$		0.35	0.6	$\Omega$
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = 10\text{ V}, I_D = 0.5\text{ A}$	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	$t_{ON}$	$V_{GS} = 10\text{ V}, I_D = 0.5\text{ A}, V_{DD} = 10\text{ V}$ $R_L = 10\ \Omega$		12		ns
Fall time	$t_f$			160		ns
Turn-off time (delay time)	$t_{OFF}$			60		ns

Note) \*: Pulse measurement

