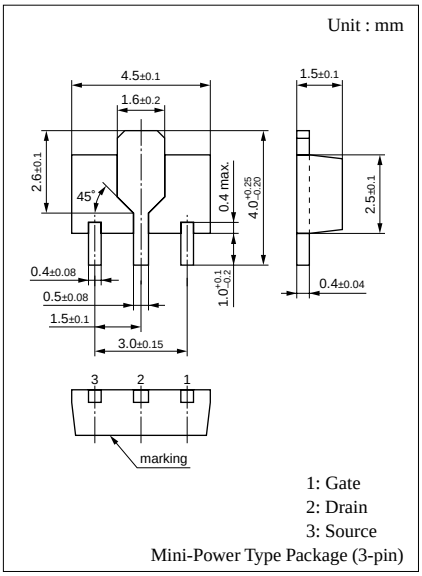
2SK2211

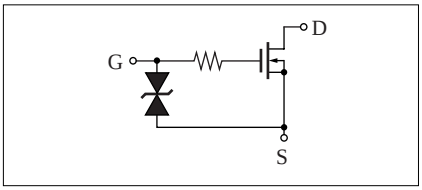
Silicon N-Channel MOS FET

For switching



Marking Symbol: 2M

Internal Connection



■ 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 $T_a = 25°C$

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

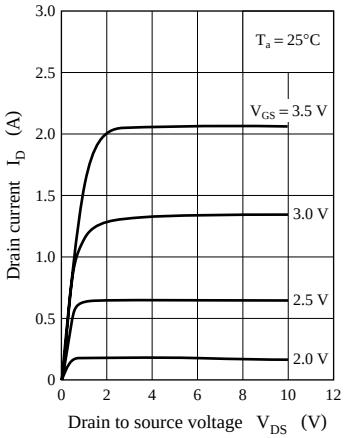
Note) * PC board: Copper foil of the drain portion should have a area of 1 cm^2 or more and the board thickness should be 1.7 mm.

■ Electrical Characteristics $T_a = 25°C$

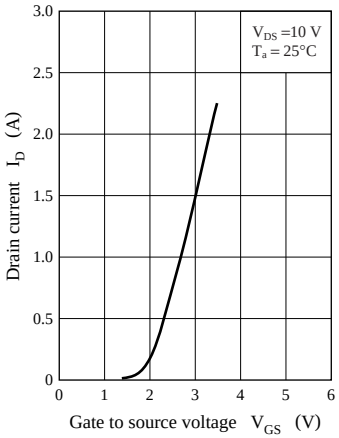
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain to Source cut-off current	I_{DSS}	V_{DS} = 25 V, V_{GS} = 0			10	μA
Gate to Source leakage current	I_{GSS}	V_{GS} = ±15 V, V_{DS} = 0			±10	μA
Drain to Source breakdown voltage	V_{DSS}	I_D = 0.1 mA, V_{GS} = 0	30			V
Gate to Source voltage	V_{GSS}	I_{GS} = 0.1 mA, V_{DS} = 0	±20			V
Gate threshold voltage	V_{th}	V_{DS} = 5 V, I_D = 1 mA	0.8		2	V
Drain to Source ON-resistance *	$R_{DS(ON)1}$	V_{GS} = 4 V, I_D = 0.5 A		0.48	0.75	Ω
	$R_{DS(ON)2}$	V_{GS} = 10 V, I_D = 0.5 A		0.35	0.6	Ω
Forward transfer admittance	$\|Yfs\|$	V_{DS} = 10 V, I_D = 0.5 A	0.5			S
Input capacitance (Common Source)	C_{iss}	V_{DS} = 10 V, V_{GS} = 0, f = 1 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 V, I_D = 0.5 A, V_{DD} = 10 V		12		ns
Fall time	t_f	R_L = 10 Ω		160		ns
Turn-off time (delay time)	t_{OFF}			60		ns

Note) *: Pulse measurement

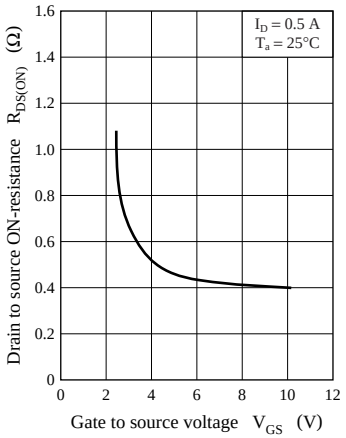
I_D — V_{DS}



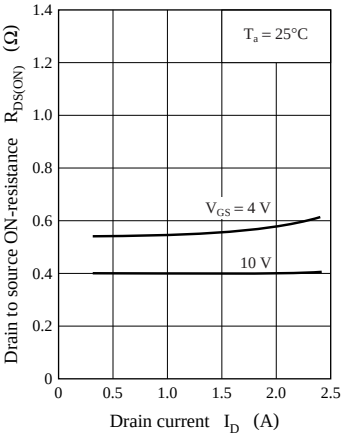
I_D — V_{DS}



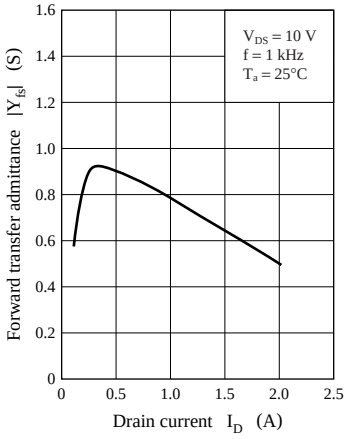
R_{DS} — V_{DS}



R_{DS} — I_D



$|Y_{fs}|$ — I_D



C_{iss}, C_{oss}, C_{rss} — V_{DS}