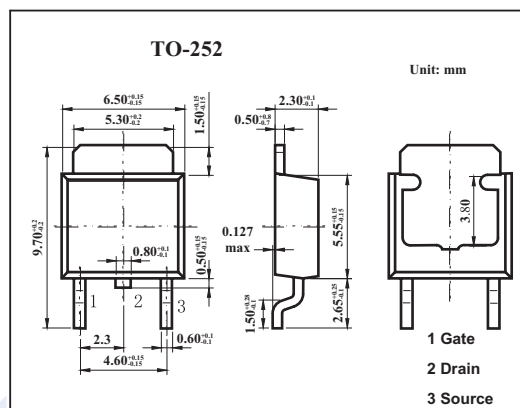
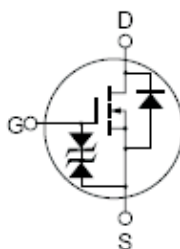


Silicon N-Channel Power F-MOSFET

2SK3031

■ Features

- Avalanche energy capacity guaranteed
- High-speed switching
- Low ON-resistance
- No secondary breakdown
- Low-voltage drive
- High electrostatic breakdown voltage



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

Parameter	Symbol	Rating	Unit
Drain to source voltage	V_{DS}	100	V
Gate to source voltage	V_{GS}	± 20	V
Drain current	I_D	± 15	A
	I_{DP}^*	± 30	A
Power dissipation	P_D	20	W
		1	W
Channel temperature	T_{ch}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

* $PW \leq 10 \mu\text{s}$, Duty Cycle $\leq 1\%$

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain to source breakdown voltage	V_{DS}	$I_D=1\text{mA}, V_{GS}=0$	100			V
Drain cut-off current	I_{DSS}	$V_{DS}=80\text{V}, V_{GS}=0$			10	μA
Gate leakage current	I_{GSS}	$V_{GS}=\pm 20\text{V}, V_{DS}=0$			± 10	μA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS}=10\text{V}, I_D=1\text{mA}$	1		2.5	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS}=10\text{V}, I_D=8\text{A}$	4	7.5		S
Drain to source on-state resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}, I_D=8\text{A}$		90	135	$\text{m}\Omega$
		$V_{GS}=4\text{V}, I_D=8\text{A}$		100	160	$\text{m}\Omega$
Input capacitance	C_{iss}	$V_{DS}=10\text{V}, V_{GS}=0, f=1\text{MHz}$		300		pF
Output capacitance	C_{oss}			190		pF
Reverse transfer capacitance	C_{rss}			30		pF
Turn-on delay time	t_{on}	$I_D=8\text{A}, V_{GS(on)}=10\text{V}, R_L=3.75\Omega, V_{DD}=30\text{V}$		20		ns
Rise time	t_r			85		ns
Turn-off delay time	t_{off}			1440		ns
Fall time	t_f			330		ns