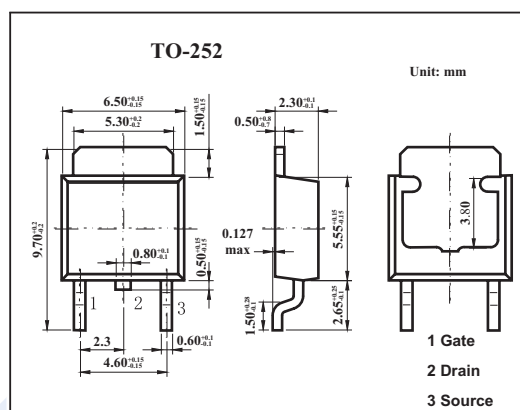
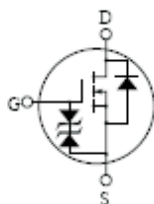


Silicon N-Channel Power F-MOSFET

2SK3022

■ 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}	60	V
Gate to source voltage	V_{GS}	± 20	V
Drain current	I_D	± 5	A
	I_{dp}^*	± 10	A
Power dissipation $T_c=25^\circ\text{C}$ $T_A=25^\circ\text{C}$	P_D	10 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	Test conditions	Min	Typ	Max	Unit
Drain to source breakdown voltage	V_{DS}	$I_D=1\text{mA}, V_{GS}=0$	60			V
Drain cut-off current	I_{DSS}	$V_{DS}=40\text{V}, V_{GS}=0$			10	μA
Gate leakage current	I_{GSS}	$V_{GS}=\pm 20\text{V}, V_{DS}=0$			± 10	μA
Gate threshold voltage	V_{th}	$V_{DS}=10\text{V}, I_D=1\text{mA}$	1		2.5	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS}=10\text{V}, I_D=3\text{A}$	2	4		S
Drain to source on-state resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}, I_D=3\text{A}$		90	135	$\text{m}\Omega$
		$V_{GS}=4\text{V}, I_D=3\text{A}$		130	200	$\text{m}\Omega$
Input capacitance	C_{iss}	$V_{DS}=10\text{V}, V_{GS}=0, f=1\text{MHz}$		220		pF
Output capacitance	C_{oss}			90		pF
Reverse transfer capacitance	C_{rss}			50		pF
Turn-on delay time	t_{on}			15		ns
Rise time	t_r	$I_D=3\text{A}, V_{GS(on)}=10\text{V}, R_L=10\Omega, V_{DD}=30\text{V}$		30		ns
Turn-off delay time	t_{off}			170		ns
Fall time	t_f			550		ns