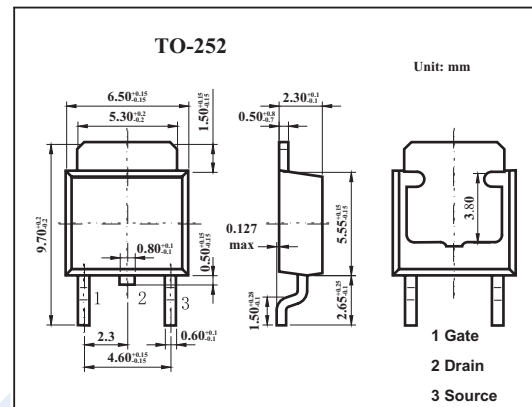
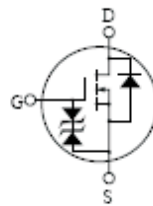


Silicon N-Channel Power F-MOSFET

2SK3024

■ 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	± 20	A
	I_{DP}^*	± 40	A
Power dissipation	P_D	20	W
		1	
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}	$V_{DS} = 50\text{V}$, $V_{GS} = 0$			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} $	$V_{DS} = 10\text{V}$, $I_D = 10\text{A}$	8	12		S
Drain to source on-state resistance	$R_{DS(on)}$	$V_{GS} = 10\text{V}$, $I_D = 10\text{A}$		33	50	$\text{m}\Omega$
		$V_{GS} = 4\text{V}$, $I_D = 10\text{A}$		44	70	$\text{m}\Omega$
Input capacitance	C_{iss}	$V_{DS} = 10\text{V}$, $V_{GS} = 0$, $f = 1\text{MHz}$		330		pF
Output capacitance	C_{oss}			290		pF
Reverse transfer capacitance	C_{rss}			70		pF
Turn-on delay time	t_{on}	$I_D = 10\text{A}$, $V_{GS(on)} = 10\text{V}$, $R_L = 3\Omega$, $V_{DD} = 30\text{V}$		20		ns
Rise time	t_r			125		ns
Turn-off delay time	t_{off}			1480		ns
Fall time	t_f			520		ns