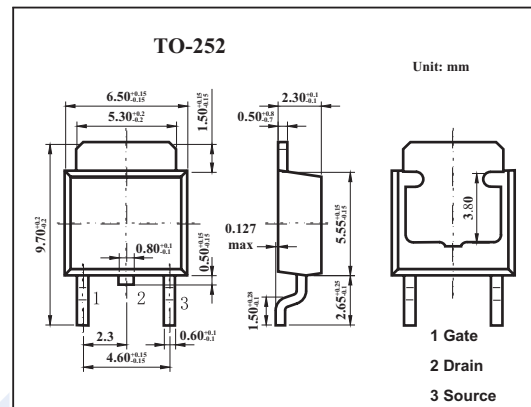
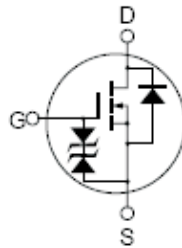


## Silicon N-Channel Power F-MOSFET

### 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 Ta = 25°C

Parameter	Symbol	Rating	Unit	
Drain to source voltage	V <sub>DSS</sub>	100	V	
Gate to source voltage	V <sub>GSS</sub>	±20	V	
Drain current	I <sub>D</sub>	±15	A	
	I <sub>DP</sub> *	±30	A	
Power dissipation	P <sub>D</sub>	T <sub>C</sub> =25°C	20	W
		T <sub>A</sub> =25°C	1	W
Channel temperature	T <sub>ch</sub>	150	°C	
Storage temperature	T <sub>stg</sub>	-55 to +150	°C	

\* PW ≤ 10 μs, Duty Cycle ≤ 1%

#### ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain to source breakdown voltage	V <sub>DSS</sub>	I <sub>D</sub> =1mA, V <sub>GS</sub> =0	100			V
Drain cut-off current	I <sub>DSS</sub>	V <sub>DS</sub> =80V, V <sub>GS</sub> =0			10	μA
Gate leakage current	I <sub>GSS</sub>	V <sub>GS</sub> =±20V, V <sub>DS</sub> =0			±10	μA
Gate threshold voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =1mA	1		2.5	V
Forward transfer admittance	Y <sub>fs</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =8A	4	7.5		S
Drain to source on-state resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> =10V, I <sub>D</sub> =8A		90	135	mΩ
		V <sub>GS</sub> =4V, I <sub>D</sub> =8A		100	160	mΩ
Input capacitance	C <sub>iss</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =0, f=1MHZ		300		pF
Output capacitance	C <sub>oss</sub>			190		pF
Reverse transfer capacitance	C <sub>rss</sub>			30		pF
Turn-on delay time	t <sub>on</sub>			20		ns
Rise time	t <sub>r</sub>	I <sub>D</sub> =8A, V <sub>GS(on)</sub> =10V, R <sub>L</sub> =3.75Ω, V <sub>DD</sub> =30V		85		ns
Turn-off delay time	t <sub>off</sub>			1440		ns
Fall time	t <sub>f</sub>			330		ns