

## N-Channel Enhancement Mode MOSFET

### 2SK3494

#### ■ Features

- Low on-resistance, low Qg
- High avalanche resistance



#### ■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Drain to source voltage	V <sub>DSS</sub>	250	V
Gate to source voltage	V <sub>GSS</sub>	±30	V
Drain current	I <sub>D</sub>	20	A
	I <sub>DP</sub> *	80	A
Power dissipation	P <sub>D</sub>	T <sub>C</sub> =25°C	50
		T <sub>A</sub> =25°C	1.4
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 cut-off current	I <sub>DSS</sub>	V <sub>DS</sub> =200V, V <sub>GS</sub> =0			10	μA	
Gate leakage current	I <sub>GSS</sub>	V <sub>GS</sub> =±30V, V <sub>DS</sub> =0			±1	μA	
Gate threshold voltage	V <sub>th</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =1mA	2.0		4.0	V	
Forward transfer admittance	Y <sub>fs</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =10A	7	14		S	
Drain to source on-state resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> =10V, I <sub>D</sub> =10A		82	105	mΩ	
Input capacitance	C <sub>iss</sub>	V <sub>DS</sub> =25V, V <sub>GS</sub> =0, f=1MHZ		2450		pF	
Output capacitance	C <sub>oss</sub>				356		pF
Reverse transfer capacitance	C <sub>rss</sub>				40		pF
Turn-on delay time	t <sub>on</sub>	I <sub>D</sub> =10A, V <sub>GS(on)</sub> =10V, R <sub>L</sub> =10Ω, V <sub>DD</sub> =100V		36		ns	
Rise time	t <sub>r</sub>			20		ns	
Turn-off delay time	t <sub>off</sub>			184		ns	
Fall time	t <sub>f</sub>			29		ns	
Total Gate Charge	Q <sub>G</sub>	I <sub>D</sub> =10A, V <sub>DD</sub> =100V, V <sub>GS</sub> =10V		41		nC	
Gate to Source Charge	Q <sub>GS</sub>			8.4		nC	
Gate to Drain Charge	Q <sub>GD</sub>			14		nC	