

## MOS Field Effect Transistor 2SK3299

### Features

- Low gate charge  
Q<sub>G</sub> = 34 nC TYP. (V<sub>DD</sub> = 450 V, V<sub>GS</sub> = 10 V, I<sub>D</sub> = 10 A)
- Gate voltage rating ±30 V
- Low on-state resistance  
R<sub>DS(on)</sub> = 0.75 Ω MAX. (V<sub>GS</sub> = 10 V, I<sub>D</sub> = 5.0 A)
- Avalanche capability ratings
- Surface mount package available



### Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Drain to source voltage	V <sub>DSS</sub>	600	V
Gate to source voltage	V <sub>GSS</sub>	±30	V
Drain current	I <sub>D</sub>	±10	A
	I <sub>DP</sub> *	±40	A
Power dissipation	P <sub>D</sub>	T <sub>A</sub> =25°C	1.5
		T <sub>C</sub> =25°C	75
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	Test conditions	Min	Typ	Max	Unit
Drain cut-off current	I <sub>DSS</sub>	V <sub>DS</sub> =600V, V <sub>GS</sub> =0			100	μA
Gate leakage current	I <sub>GSS</sub>	V <sub>GS</sub> =±30V, V <sub>DS</sub> =0			±100	μA
Gate cutoff voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =1mA	2.5		3.5	V
Forward transfer admittance	Y <sub>fs</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =5.0A	3.2			S
Drain to source on-state resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> =10V, I <sub>D</sub> =5.0A		0.68	0.75	Ω
Input capacitance	C <sub>iss</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =0, f=1MHz		1580		pF
Output capacitance	C <sub>oss</sub>			280		pF
Reverse transfer capacitance	C <sub>rss</sub>			25		pF
Turn-on delay time	t <sub>on</sub>	I <sub>D</sub> =5.0A, V <sub>GS(on)</sub> =10V, R <sub>G</sub> =10Ω, V <sub>DD</sub> =150V		27		ns
Rise time	t <sub>r</sub>			17		ns
Turn-off delay time	t <sub>off</sub>			66		ns
Fall time	t <sub>f</sub>			24		ns