

## MOS Field Effect Transistor 2SK3305

### ■ Features

- Low gate charge  
 $Q_G = 13 \text{ nC TYP. (} V_{DD} = 400\text{V, } V_{GS} = 10 \text{ V, } I_D = 5.0\text{A)}$
- Gate voltage rating  $\pm 30 \text{ V}$
- Low on-state resistance  
 $R_{DS(on)} = 1.5 \ \Omega \text{ MAX. (} V_{GS} = 10 \text{ V, } I_D = 2.5\text{A)}$
- Avalanche capability ratings



### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit	
Drain to source voltage	$V_{DSS}$	500	V	
Gate to source voltage	$V_{GSS}$	$\pm 30$	V	
Drain current	$I_D$	$\pm 5$	A	
	$I_{dp}^*$	$\pm 20$	A	
Power dissipation	$P_D$	$T_c=25^\circ\text{C}$	75	W
		$T_a=25^\circ\text{C}$	1.5	
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 cut-off current	$I_{DSS}$	$V_{DS}=500\text{V, } V_{GS}=0$			100	$\mu\text{A}$	
Gate leakage current	$I_{GSS}$	$V_{GS}=\pm 30\text{V, } V_{DS}=0$			$\pm 100$	$\mu\text{A}$	
Gate cutoff voltage	$V_{GS(off)}$	$V_{DS}=10\text{V, } I_D=1\text{mA}$	2.5		3.5	V	
Forward transfer admittance	$ Y_{fs} $	$V_{DS}=10\text{V, } I_D=2.5\text{A}$	1.0	3.0		S	
Drain to source on-state resistance	$R_{DS(on)}$	$V_{GS}=10\text{V, } I_D=2.5\text{A}$		1.3	1.5	$\Omega$	
Input capacitance	$C_{iss}$	$V_{DS}=10\text{V, } V_{GS}=0, f=1\text{MHz}$		700		pF	
Output capacitance	$C_{oss}$				115		pF
Reverse transfer capacitance	$C_{rss}$				6		pF
Turn-on delay time	$t_{on}$	$I_D=2.5\text{A, } V_{GS(on)}=10\text{V, } R_G=10 \ \Omega, V_{DD}=150\text{V, } R_L=60 \ \Omega$		16		ns	
Rise time	$t_r$				3		ns
Turn-off delay time	$t_{off}$				33		ns
Fall time	$t_f$				5.5		ns