

## MOS Field Effect Transistor 2SK3434

### ■ Features

- Super low on-state resistance:  
 $R_{DS(on)1} = 20\text{m}\Omega$  MAX. ( $V_{GS} = 10\text{V}$ ,  $I_D = 24\text{A}$ )  
 $R_{DS(on)2} = 31\text{m}\Omega$  MAX. ( $V_{GS} = 4\text{V}$ ,  $I_D = 24\text{A}$ )
- Low  $C_{iss}$ :  $C_{iss} = 2100\text{pF}$  TYP.
- Built-in gate protection diode



### ■ 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	$V_{GS}$	$\pm 20$	V
Drain current	$I_D$	$\pm 48$	A
	$I_{DP}^*$	$\pm 192$	A
Power dissipation	$P_D$	$T_C=25^\circ\text{C}$	56
		$T_A=25^\circ\text{C}$	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	Testconditions	Min	Typ	Max	Unit
Drain cut-off current	$I_{DSS}$	$V_{DS}=60\text{V}, V_{GS}=0$			10	$\mu\text{A}$
Gate leakage current	$I_{GSS}$	$V_{GS}=\pm 20\text{V}, V_{DS}=0$			$\pm 10$	$\mu\text{A}$
Gate cutoff voltage	$V_{GS(off)}$	$V_{DS}=10\text{V}, I_D=1\text{mA}$	1.5	2.0	2.5	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS}=10\text{V}, I_D=20\text{A}$	13	27		S
Drain to source on-state resistance	$R_{DS(on)1}$	$V_{GS}=10\text{V}, I_D=24\text{A}$		16	20	$\text{m}\Omega$
	$R_{DS(on)2}$	$V_{GS}=4\text{V}, I_D=24\text{A}$		22	31	$\text{m}\Omega$
Input capacitance	$C_{iss}$	$V_{DS}=10\text{V}, V_{GS}=0, f=1\text{MHz}$		2100		pF
Output capacitance	$C_{oss}$			340		pF
Reverse transfer capacitance	$C_{rss}$			170		pF
Turn-on delay time	$t_{on}$	$I_D=24\text{A}, V_{GS(on)}=10\text{V}, R_G=10\ \Omega, V_{DD}=30\text{V}$		40		ns
Rise time	$t_r$			400		ns
Turn-off delay time	$t_{off}$			120		ns
Fall time	$t_f$			160		ns
Total Gate Charge	$Q_G$				40	
Gate to Source Charge	$Q_{GS}$	$I_D=48\text{A}, V_{DD}=48\text{V}, V_{GS}=10\text{V}$		7		nC
Gate to Drain Charge	$Q_{GD}$			11		nC