

## MOS Field Effect Transistor 2SK3366

### ■ Features

- Super low on-state resistance:  
 $R_{DS(on)1} = 21 \text{ m}\Omega \text{ MAX. (} V_{GS} = 10 \text{ V, } I_D = 10 \text{ A)}$   
 $R_{DS(on)2} = 33 \text{ m}\Omega \text{ MAX. (} V_{GS} = 4.5 \text{ V, } I_D = 10 \text{ A)}$   
 $R_{DS(on)3} = 43 \text{ m}\Omega \text{ MAX. (} V_{GS} = 4 \text{ V, } I_D = 10 \text{ A)}$
- Low  $C_{iss}$ :  $C_{iss} = 730 \text{ pF TYP.}$
- Built-in gate protection diode

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

Parameter	Symbol	Rating	Unit	
Drain to source voltage	$V_{DS}$	30	V	
Gate to source voltage	$V_{GS}$	$\pm 20$	V	
Drain current	$I_D$	$\pm 30$	A	
	$I_{DP}^*$	$\pm 80$	A	
Power dissipation	$P_D$	$T_A=25^\circ\text{C}$	1.0	W
		$T_C=25^\circ\text{C}$	30	
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	$I_{DSS}$	$V_{DS}=30\text{V}, V_{GS}=0$			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} $	$V_{DS}=10\text{V}, I_D=10\text{A}$	5	10		S
Drain to source on-state resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}, I_D=10\text{A}$		17.2	21	$\text{m}\Omega$
		$V_{GS}=4.5\text{V}, I_D=10\text{A}$		26	33	$\text{m}\Omega$
		$V_{GS}=4.0\text{V}, I_D=10\text{A}$		33	43	$\text{m}\Omega$
Input capacitance	$C_{iss}$	$V_{DS}=10\text{V}, V_{GS}=0, f=1\text{MHz}$		730		pF
Output capacitance	$C_{oss}$			250		pF
Reverse transfer capacitance	$C_{rss}$			120		pF
Turn-on delay time	$t_{on}$			28		ns
Rise time	$t_r$	$I_D=10\text{A}, V_{GS(on)}=10\text{V}, R_G=10\Omega, V_{DD}=15\text{V}$		420		ns
Turn-off delay time	$t_{off}$			47		ns
Fall time	$t_f$			64		ns
Total Gate Charge	$Q_G$	$V_{DD} = 24\text{V}, V_{GS} = 10 \text{ V, } I_D = 20\text{A}$		15		nC
Gate to Source Charge	$Q_{GS}$			2.8		nC
Gate to Drain Charge	$Q_{GD}$			4.1		nC

