

MOS Field Effect Transistor 2SK3435

Features

- Super low on-state resistance:
 $R_{DS(on)1} = 14\text{m}\Omega$ MAX. ($V_{GS} = 10\text{V}$, $I_D = 40\text{A}$)
 $R_{DS(on)2} = 22\text{m}\Omega$ MAX. ($V_{GS} = 4\text{V}$, $I_D = 40\text{A}$)
- Low C_{iss} : $C_{iss} = 3200\text{pF}$ 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}	± 20	V
Drain current	I_D	± 80	A
	I_{DP}^*	± 320	A
Power dissipation	$T_c = 25^\circ\text{C}$	84	W
	$T_A = 25^\circ\text{C}$	1.5	W
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	μA
Gate leakage current	I_{GSS}	$V_{GS} = \pm 20\text{V}, V_{DS} = 0$			± 10	μA
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} $	$V_{DS} = 10\text{V}, I_D = 40\text{A}$	21	43		S
Drain to source on-state resistance	$R_{DS(on)1}$	$V_{GS} = 10\text{V}, I_D = 40\text{A}$		11	14	$\text{m}\Omega$
	$R_{DS(on)2}$	$V_{GS} = 4\text{V}, I_D = 40\text{A}$		16	22	$\text{m}\Omega$
Input capacitance	C_{iss}	$V_{DS} = 10\text{V}, V_{GS} = 0, f = 1\text{MHz}$		3200		pF
Output capacitance	C_{oss}			520		pF
Reverse transfer capacitance	C_{rss}			260		pF
Turn-on delay time	t_{on}			80		ns
Rise time	t_r	$I_D = 40\text{A}, V_{GS(on)} = 10\text{V}, R_G = 10\Omega, V_{DD} = 30\text{V}$		1200		ns
Turn-off delay time	t_{off}			200		ns
Fall time	t_f			350		ns
Total Gate Charge	Q_G			60		nC
Gate to Source Charge	Q_{GS}	$I_D = 80\text{A}, V_{DD} = 48\text{V}, V_{GS} = 10\text{V}$		10		nC
Gate to Drain Charge	Q_{GD}			16		nC