

2SK2960

Silicon N-Channel Power F-MOS FET

■ Features

- Avalanche energy capacity guaranteed: EAS > 250mJ
- $V_{GS} = \pm 30V$ guaranteed
- High-speed switching: $t_f = 55ns$
- No secondary breakdown

■ Applications

- Contactless relay
- Driving circuit for a solenoid
- Driving circuit for a motor
- Control equipment
- Switching power supply

■ Absolute Maximum Ratings ($T_C = 25^\circ C$)

Parameter		Symbol	Ratings	Unit
Drain to Source breakdown voltage		V_{DSS}	400	V
Gate to Source voltage		V_{GSS}	± 30	V
Drain current	DC	I_D	± 10	A
	Pulse	I_{DP}	± 20	A
Avalanche energy capacity		EAS*	250	mJ
Allowable power dissipation	$T_C = 25^\circ C$	P_D	50	W
	$T_a = 25^\circ C$		2	
Channel temperature		T_{ch}	150	$^\circ C$
Storage temperature		T_{stg}	-55 to +150	$^\circ C$

* $L = 5mH$, $I_L = 10A$, 1 pulse

■ Electrical Characteristics ($T_C = 25^\circ C$)

Parameter	Symbol	Conditions	min	typ	max	Unit
Drain to Source cut-off current	I_{DSS}	$V_{DS} = 320V$, $V_{GS} = 0$			0.1	mA
Gate to Source leakage current	I_{GSS}	$V_{GS} = \pm 30V$, $V_{DS} = 0$			± 1	μA
Drain to Source breakdown voltage	V_{DSS}	$I_D = 1mA$, $V_{GS} = 0$	400			V
Gate threshold voltage	V_{th}	$V_{DS} = 10V$, $I_D = 1mA$	2		5	V
Drain to Source ON-resistance	$R_{DS(on)}$	$V_{GS} = 10V$, $I_D = 5A$		0.4	0.52	Ω
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = 10V$, $I_D = 5A$	3	5		S
Diode forward voltage	V_{DSF}	$I_{DR} = 10A$, $V_{GS} = 0$			-1.5	V
Input capacitance (Common Source)	C_{iss}	$V_{DS} = 10V$, $V_{GS} = 0$, $f = 1MHz$		1400		pF
Output capacitance (Common Source)	C_{oss}			290		pF
Reverse transfer capacitance (Common Source)	C_{rss}			100		pF
Turn-on time (delay time)	$t_{d(on)}$	$V_{GS} = 10V$, $I_D = 5A$		25		ns
Rise time	t_r			50		ns
Turn-off time (delay time)	$t_{d(off)}$			170		ns
Fall time	t_f	$V_{DD} = 100V$, $R_L = 20\Omega$		55		ns



