

2SK809, 2SK809A

Silicon N-channel Power F-MOS FET

■ Features

- Low ON resistance $R_{DS(on)}$: $R_{DS(on)} = 1.5\Omega$ (typ.)
- High switching rate : $t_f = 85ns$ (typ.)
- No secondary breakdown
- High breakdown voltage, large power

■ Application

- No contact relay
- Solenoid drive
- Motor drive
- Control equipment
- Switching power source

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

Item	Symbol	Value	Unit
Drain-source voltage	V_{DS}	800	V
		900	
Gate-source voltage	V_{GS}	± 20	V
Drain current	DC	I_D	A
	Pulse	I_{DP}	
Power dissipation	$T_c = 25^\circ C$	P_D	W
	$T_a = 25^\circ C$		
Channel temperature	T_{ch}	150	$^\circ C$
Storage temperature	T_{stg}	$-55 \sim +150$	$^\circ C$

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

Item	Symbol	Condition	min.	typ.	max.	Unit
Drain current	I_{DSS}	$V_{DS} = 640V, V_{GS} = 0$			0.1	mA
Gate-source current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0$			± 1	μA
Drain-source voltage	V_{DSS}	$I_D = 1mA, V_{GS} = 0$	800			V
			900			
Gate threshold voltage	V_{th}	$V_{DS} = 25V, I_D = 1mA$	1		5	V
Drain-source ON resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 3A$		1.5	3.0	Ω
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = 25V, I_D = 3A$	1.5	2.8		S
Input capacitance	C_{iss}	$V_{DS} = 20V, V_{GS} = 0, f = 1MHz$		1270		pF
Output capacitance	C_{oss}			220		pF
Reverse transfer capacitance	C_{rss}			80		pF
Turn-on time	t_{on}	$V_{GS} = 10V, I_D = 3A$ $V_{DD} = 200V, R_L = 66\Omega$		60		ns
Fall time	t_f			85		ns
Delay time	$t_d(off)$			280		ns

■ Package Dimensions

