

2SK806

Silicon N-channel Power F-MOS FET

■ Features

- Low ON resistance $R_{DS(on)}$: $R_{DS(on)} = 1.8\Omega$ (typ.)
- High switching rate : $t_f = 40\text{ns}$ (typ.)
- No secondary breakdown
- High breakdown voltage

■ Application

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

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

Item	Symbol	Value	Unit
Drain-source voltage	V_{DS}	600	V
Gate-source voltage	V_{GS}	± 20	V
Drain current	DC	I_D	3
	Peak-to-peak value	I_{DP}	6
Power dissipation	$T_c = 25^\circ\text{C}$	P_D	50
	$T_a = 25^\circ\text{C}$		2.0
Channel temperature	T_{ch}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	$-55 \sim +150$	$^\circ\text{C}$

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

Item	Symbol	Condition	min.	typ.	max.	Unit	
Drain current	I_{DSS}	$V_{DS} = 480\text{V}, V_{GS} = 0$			0.1	mA	
Gate-source current	I_{GSS}	$V_{GS} = \pm 20\text{V}, V_{DS} = 0$			± 1	μA	
Drain-source voltage	V_{DSS}	$I_D = 1\text{mA}, V_{GS} = 0$	600			V	
Gate threshold voltage	V_{th}	$V_{DS} = 25\text{V}, I_D = 1\text{mA}$	1		5	V	
Drain-source ON resistance	$R_{DS(on)}$	$V_{GS} = 10\text{V}, I_D = 2\text{A}$		1.8	2.7	Ω	
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = 25\text{V}, I_D = 2\text{A}$	1.5	2.5		S	
Input capacitance	C_{iss}	$V_{DS} = 20\text{V}, V_{GS} = 0, f = 1\text{MHz}$		600		pF	
Output capacitance	C_{oss}				110		pF
Reverse transfer capacitance	C_{rss}				45		pF
Turn-on time	t_{on}	$V_{GS} = 10\text{V}, I_D = 2\text{A}$ $V_{DS} = 150\text{V}, R_L = 75\Omega$		35		ns	
Fall time	t_f				40		ns
Delay time	$t_d(\text{off})$				120		ns

■ Package Dimensions

