

# 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	$V_{GS}$	$\pm 20$	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	$I_{GSS}$	$V_{GS} = \pm 20\text{V}, V_{DS} = 0$			$\pm 1$	$\mu\text{A}$	
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	$\Omega$	
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

