

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 (Tc=25°C)

| Item | Symbol | Value | Unit |
|----------------------|------------------|------------|------|
| Drain-source voltage | V_{DS} | 600 | V |
| Gate-source voltage | V_{GS} | ± 20 | V |
| Drain current | DC | 3 | A |
| | Pulse peak value | 6 | |
| Power dissipation | Tc = 25°C | 50 | W |
| | Ta = 25°C | 2.0 | |
| Channel temperature | Tch | 150 | °C |
| Storage temperature | Tstg | -55 ~ +150 | °C |

■ Electrical Characteristics (Tc=25°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} | $V_{GS} = 10\text{V}$, $I_D = 2\text{A}$ $V_{DD} = 150\text{V}$, $R_L = 75\Omega$ | | 35 | | ns | |
| Fall time | t_f | | | | 40 | | ns |
| Delay time | $t_d(\text{off})$ | | | | 120 | | ns |

■ Package Dimensions

