FUJI ELECTRIC

# 2SK2767-01

**FAP-IIS Series**

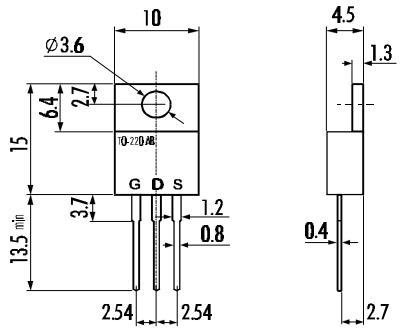
| N-channel MOS-FET | | | |
|---|---|---|---|
| 900V | 5,5Ω | 3,5A | 80W |

## > Features

- High Speed Switching
- Low On-Resistance
- No Secondary Breakdown
- Low Driving Power
- High Voltage
- VGS = ± 30V Guarantee
- Repetitive Avalanche Rated

## > Outline Drawing

TO-220 AB




## > Applications

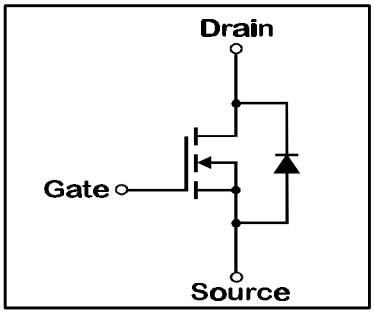
- Switching Regulators
- UPS
- DC-DC converters
- General Purpose Power Amplifier

## > Maximum Ratings and Characteristics

- Absolute Maximum Ratings ($T_C$=25°C), unless otherwise specified

| Item | Symbol | Rating | Unit |
|---|---|---|---|
| Drain-Source-Voltage | $V_{DS}$ | 900 | V |
| Continous Drain Current | $I_D$ | 3,5 | A |
| Pulsed Drain Current | $I_{D(puls)}$ | 14 | A |
| Gate-Source-Voltage | $V_{GS}$ | ±30 | V |
| Repetitive or Non-Repetitive ($T_{ch} \leq 150°C$) | $I_{AR}$ | 3,5 | A |
| Avalanche Energy | $E_{AS}$ | 258 | mJ |
| Max. Power Dissipation | $P_D$ | 80 | W |
| Operating and Storage Temperature Range | $T_{ch}$ | 150 | °C |
| | $T_{stg}$ | -55 ~ +150 | °C |

## > Equivalent Circuit




- Electrical Characteristics ($T_C$=25°C), unless otherwise specified

| Item | Symbol | Test conditions | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Drain-Source Breakdown-Voltage | $V_{(BR)DSS}$ | $I_D$=1mA $V_{GS}$=0V | 900 | | | V |
| Gate Threshhold Voltage | $V_{GS(th)}$ | $I_D$=1mA $V_{DS}$=$V_{GS}$ | 3,5 | 4,0 | 4,5 | V |
| Zero Gate Voltage Drain Current | $I_{DSS}$ | $V_{DS}$=900V $T_{ch}$=25°C | | 10 | 500 | µA |
| | | $V_{GS}$=0V $T_{ch}$=125°C | | 0,2 | 1,0 | mA |
| Gate Source Leakage Current | $I_{GSS}$ | $V_{GS}$=±30V $V_{DS}$=0V | | 10 | 100 | nA |
| Drain Source On-State Resistance | $R_{DS(on)}$ | $I_D$=2A $V_{GS}$=10V | | 4,0 | 5,5 | Ω |
| Forward Transconductance | $g_{fs}$ | $I_D$=2A $V_{DS}$=25V | | 2 | | S |
| Input Capacitance | $C_{iss}$ | $V_{DS}$=25V | | 450 | | pF |
| Output Capacitance | $C_{oss}$ | $V_{GS}$=0V | | 75 | | pF |
| Reverse Transfer Capacitance | $C_{rss}$ | f=1MHz | | 40 | | pF |
| Turn-On-Time $t_{on}$ ($t_{on}$=$t_{d(on)}$+$t_r$) | $t_{d(on)}$ | $V_{CC}$=600V | | 20 | | ns |
| | $t_r$ | $I_D$=7A | | 40 | | ns |
| Turn-Off-Time $t_{off}$ ($t_{on}$=$t_{d(off)}$+$t_f$) | $t_{d(off)}$ | $V_{GS}$=10V | | 50 | | ns |
| | $t_f$ | $R_{GS}$=10 Ω | | 25 | | ns |
| Avalanche Capability | $I_{AV}$ | L = 100µH $T_{ch}$=25°C | 3,5 | | | A |
| Diode Forward On-Voltage | $V_{SD}$ | $I_F$=2x$I_{DR}$ $V_{GS}$=0V $T_{ch}$=25°C | | 1 | | V |
| Reverse Recovery Time | $t_{rr}$ | $I_F$=$I_{DR}$ $V_{GS}$=0V | | 500 | | ns |
| Reverse Recovery Charge | $Q_{rr}$ | -$dI_F$/dt=100A/µs $T_{ch}$=25°C | | 3 | | µC |

- Thermal Characteristics

| Item | Symbol | Test conditions | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Thermal Resistance | $R_{th(ch-a)}$ | channel to air | | | 75 | °C/W |
| | $R_{th(ch-c)}$ | channel to case | | | 1,56 | °C/W |