

2SK764, 2SK764A

Silicon N-channel Power F-MOS FET

■ Features

- Low ON resistance $R_{DS(on)}$: $R_{DS(on)} = 0.5\Omega$ (typ.)
- High switching rate : $t_f = 90\text{ns}$ (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 ($T_c = 25^\circ\text{C}$)

| Item | Symbol | Value | Unit | |
|----------------------|--------------------------|-----------------|------------------|---|
| Drain-source voltage | V_{DSS} | 2SK764 | 400 | V |
| | | 2SK764A | 450 | |
| Gate-source voltage | V_{GSS} | ± 20 | V | |
| Drain current | DC | I_D | 10 | A |
| | Pulse-to-pulse rate | I_{DP} | 20 | |
| Power dissipation | $T_c = 25^\circ\text{C}$ | P_D | 100 | W |
| | $T_a = 25^\circ\text{C}$ | | 2.5 | |
| 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} | $V_{DS} = 320\text{V}$, $V_{GS} = 0$ | | | 0.1 | mA |
| Gate-source current | I_{GSS} | $V_{GS} = \pm 20\text{V}$, $V_{DS} = 0$ | | | ± 1 | μA |
| Drain-source voltage | V_{DSS} | $I_D = 1\text{mA}$, $V_{GS} = 0$ | 2SK764 | 400 | | V |
| | | | 2SK764A | 450 | | |
| Gate threshold voltage | V_{th} | $V_{DS} = 25\text{V}$, $I_D = 1\text{mA}$ | 1 | | 5 | V |
| Drain-source ON resistance | $R_{DS(on)}$ | $V_{GS} = 10\text{V}$, $I_D = 5\text{A}$ | | 0.5 | 0.75 | Ω |
| Forward transfer admittance | $ Y_{fs} $ | $V_{DS} = 25\text{V}$, $I_D = 5\text{A}$ | 3.5 | 5.5 | | S |
| Input capacitance | C_{iss} | $V_{DS} = 20\text{V}$, $V_{GS} = 0$, $f = 1\text{MHz}$ | | 1100 | | pF |
| Output capacitance | C_{oss} | | | | 215 | pF |
| Reverse transfer capacitance | C_{rss} | | | | 100 | pF |
| Turn-on time | t_{on} | $V_{GS} = 10\text{V}$, $I_D = 5\text{A}$ $V_{DD} = 150\text{V}$, $R_L = 30\Omega$ | | 70 | | ns |
| Fall time | t_f | | | | 90 | ns |
| Delay time | $t_d(\text{off})$ | | | | 230 | ns |

■ Package Dimensions

