
2SK2937

Silicon N Channel MOS FET
High Speed Power Switching

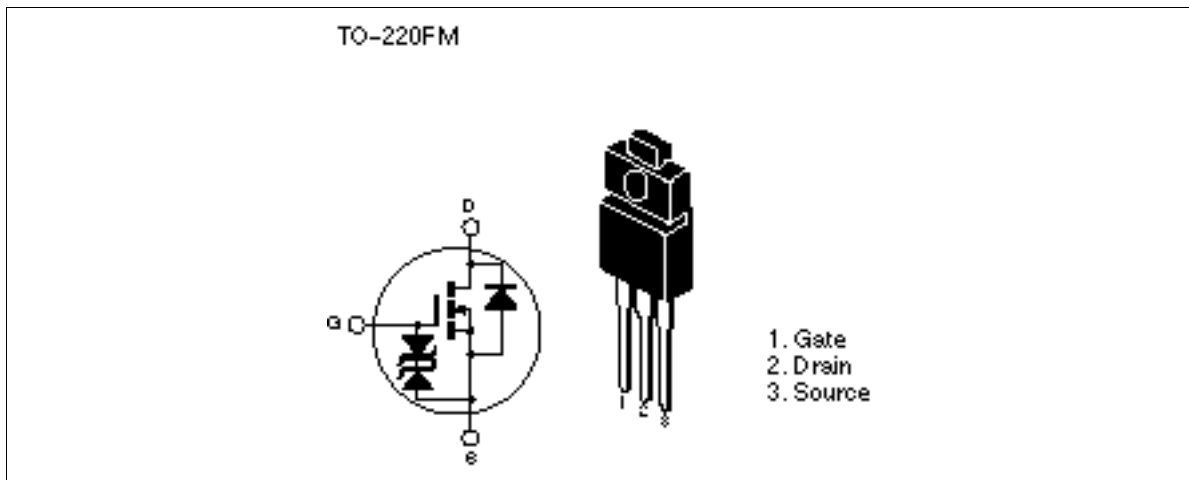
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ADE-208-560
Target Specification 1st. Edition

Features

- Low on-resistance
 $R_{DS} = 0.026 \Omega$ typ.
- High speed switching
- 4V gate drive device can be driven from 5V source

Outline



2SK2937

Absolute Maximum Ratings (Ta = 25°C)

| Item | Symbol | Ratings | Unit |
|---|--------------------------------------|-------------|------|
| Drain to source voltage | V _{DSS} | 60 | V |
| Gate to source voltage | V _{GSS} | ±20 | V |
| Drain current | I _D | 25 | A |
| Drain peak current | I _{D(pulse)} * ¹ | 100 | A |
| Body to drain diode reverse drain current | I _{DR} | 25 | A |
| Avalanche current | I _{AP} * ³ | 20 | A |
| Avalanche energy | E _{AR} * ³ | 34 | mJ |
| Channel dissipation | P _{ch} * ² | 25 | W |
| Channel temperature | T _{ch} | 150 | °C |
| Storage temperature | T _{stg} | -55 to +150 | °C |

Notes: 1. PW ≤ 10μs, duty cycle ≤ 1 %

2. Value at T_c = 25°C

3. Value at T_{ch} = 25°C, R_g = 50Ω, L=100μH

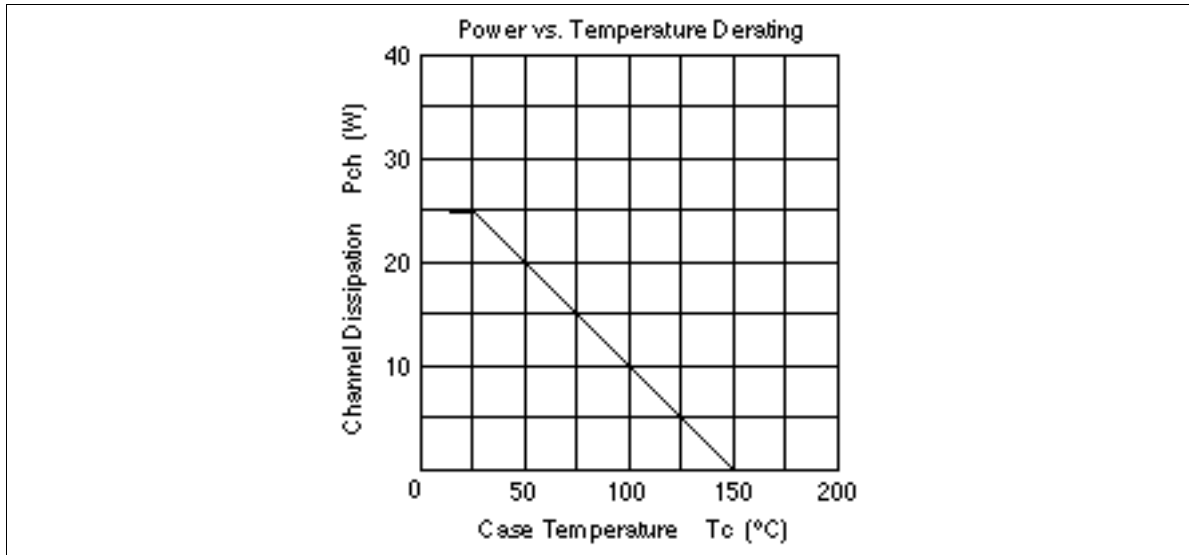
Electrical Characteristics (Ta = 25°C)

| Item | Symbol | Min | Typ | Max | Unit | Test Conditions |
|--|---------------|----------|-------|----------|---------------|---|
| Drain to source breakdown voltage | $V_{(BR)DSS}$ | 60 | — | — | V | $I_D = 10\text{mA}$, $V_{GS} = 0$ |
| Gate to source breakdown voltage | $V_{(BR)GSS}$ | ± 20 | — | — | V | $I_G = \pm 100\mu\text{A}$, $V_{DS} = 0$ |
| Gate to source leak current | I_{GSS} | — | — | ± 10 | μA | $V_{GS} = \pm 16\text{V}$, $V_{DS} = 0$ |
| Zero gate voltage drain current | I_{DSS} | — | — | 10 | μA | $V_{DS} = 60\text{V}$, $V_{GS} = 0$ |
| Gate to source cutoff voltage | $V_{GS(off)}$ | 1.5 | — | 2.5 | V | $I_D = 1\text{mA}$, $V_{DS} = 10\text{V}$ |
| Static drain to source on state resistance | $R_{DS(on)}$ | — | 0.026 | 0.034 | Ω | $I_D = 15\text{A}$, $V_{GS} = 10\text{V}^{*1}$ |
| | $R_{DS(on)}$ | — | 0.045 | 0.070 | Ω | $I_D = 15\text{A}$, $V_{GS} = 4\text{V}^{*1}$ |
| Forward transfer admittance | $ y_{fs} $ | 11 | 17 | — | S | $I_D = 15\text{A}$, $V_{DS} = 10\text{V}^{*1}$ |
| Input capacitance | C_{iss} | — | 740 | — | pF | $V_{DS} = 10\text{V}$ |
| Output capacitance | C_{oss} | — | 380 | — | pF | $V_{GS} = 0$ |
| Reverse transfer capacitance | C_{rss} | — | 140 | — | pF | $f = 1\text{MHz}$ |
| Turn-on delay time | $t_{d(on)}$ | — | 10 | — | ns | $I_D = 15\text{A}$, $V_{GS} = 10\text{V}$ |
| Rise time | t_r | — | 160 | — | ns | $R_L = 2\Omega$ |
| Turn-off delay time | $t_{d(off)}$ | — | 100 | — | ns | |
| Fall time | t_f | — | 150 | — | ns | |
| Body to drain diode forward voltage | V_{DF} | — | 0.95 | — | V | $I_F = 25\text{A}$, $V_{GS} = 0$ |
| Body to drain diode reverse recovery time | t_{rr} | — | 40 | — | ns | $I_F = 25\text{A}$, $V_{GS} = 0$ $di_F/dt = 50\text{A}/\mu\text{s}$ |

Note: 1. Pulse test

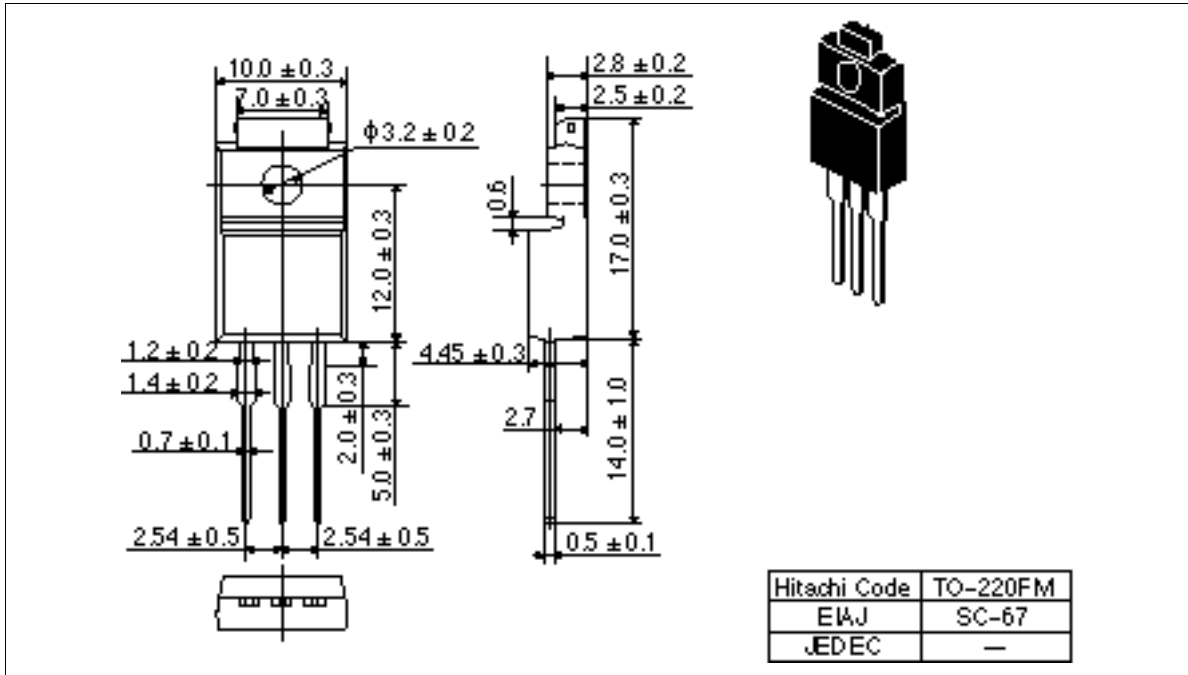
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Main Characteristics



Package Dimentions

Unit: mm



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