

## 2SK3532-01MR (900V/2.5Ω/6A)

1) Package TO-220F

## 2) Absolute Maximum Ratings (Tc=25 unless otherwise specified)

| Items   | Symbols              | Ratings    | Units    |
|---|----------------------|------------|----------|
| Drain-Source Voltage                                    | $V_{DS}$             | 900        | V        |
| Continuous Drain Current                                | $I_D$                | ±6         | A        |
| Pulsed Drain Current                                    | $I_{D(pulse)}$       | ±24        | A        |
| Gate-Source Voltage                                     | $V_{GS}$             | ±30        | V        |
| Repetitive and Non-Repetitive Maximum Avalanche Current | $I_{AR}$             | 6          | A        |
| Non-Repetitive Maximum Avalanche Energy                 | $E_{AS}$             | 244.0      | mJ *1    |
| Maximum Drain-Source dV/dt                              | dV <sub>DS</sub> /dt | 20         | kV/us    |
| Peak Diode recovery dV/dt                               | dV/dt                | 5          | kV/us *2 |
| Maximum Power Dissipation                               | $P_D @ T_c=25$       | 70         | W        |
|   | $P_D @ T_a=25$       | 2.16       | W        |
| Operating and Storage Temperature range                 | $T_{ch}$             | 150        |          |
|   | $T_{stg}$            | -55 ~ +150 |          |

## 3) Electrical Characteristics (Tch=25 unless otherwise specified)

| Items                            | Symbols      | Test Conditions                        | min. | typ. | max. | Units |
|----------------------------------|--------------|--|------|------|------|-------|
| Drain-Source Breakdown Voltage   | $BV_{DSS}$   | $I_D=250\mu A$ $V_{GS}=0V$             | 900  | ---  | ---  | V     |
| Gate Threshold Voltage           | $V_{GS(th)}$ | $I_D=250\mu A$ $V_{DS}=V_{GS}$         | 3.0  | ---  | 5.0  | V     |
| Zero Gate Voltage Drain Current  | $I_{DSS}$    | $V_{DS}=900V$ $V_{GS}=0V$ $T_{ch}=25$  | ---  | ---  | 50   | μA    |
|                                  |              | $V_{DS}=900V$ $V_{GS}=0V$ $T_{ch}=125$ | ---  | ---  | 500  | μA    |
| Gate-Source Leakage Current      | $I_{GSS}$    | $V_{GS}=\pm 30V$ $V_{DS}=0V$           | ---  | ---  | 100  | nA    |
| Drain-Source On-State Resistance | $R_{DS(on)}$ | $I_D=3A$ $V_{GS}=10V$                  | ---  | ---  | 2.5  |       |
| Input Capacitance                | $C_{iss}$    | $V_{DS}=25V$                           | ---  | 830  | ---  | pF    |
| Output Capacitance               | $C_{oss}$    | $V_{GS}=0V$                            | ---  | 100  | ---  |       |
| Reverse Transfer Capacitance     | $C_{rss}$    | $f=1MHz$                               | ---  | 5    | ---  |       |
| Total Gate Charge                | $Q_g$        | $V_{CC}=450V$                          | ---  | 25   | ---  | nC    |
| Gate to Source Charge            | $Q_{gs}$     | $I_D=6A$                               | ---  | 7.5  | ---  |       |
| Gate to Drain (Miller) Charge    | $Q_{gd}$     | $V_{GS}=10V$                           | ---  | 7    | ---  |       |
| Avalanche Capability             | $I_{AV}$     | $L=12.4mH$ $T_{ch}=25$                 | 6    | ---  | ---  | A     |
| Diode Forward On-Voltage         | $V_{SD}$     | $I_F=6A, V_{GS}=0V, T_{ch}=25$         | ---  | 1.0  | 1.5  | V     |

## 4) Thermal Characteristics

| Items              | Symbols        | Test Conditions | min. | typ. | max. | Units |
|--------------------|----------------|-----------------|------|------|------|-------|
| Channel to Case    | $R_{th(ch-c)}$ |                 |      |      | 1.79 | /W    |
| Channel to Ambient | $R_{th(ch-a)}$ |                 |      |      | 58.0 | /W    |

\*1 L=12.4mH, Vcc=90V

\*2  $I_F \leq -I_D$ ,  $-di/dt=50A/\mu s$ ,  $V_{CC} \leq BV_{DSS}$ ,  $T_{ch} \leq 150^\circ C$ 

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| DATE                  | NAME        | APPROVED | Fuji Electric Co., Ltd. |               |
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