



2SK3283

N-Channel Silicon MOSFET

Load Switching Applications

Features

- Low ON-resistance.
- 4V drive.

Specifications

Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

| Parameter | Symbol | Conditions | Ratings | Unit |
|-----------------------------|-----------|---|-------------|------------------|
| Drain-to-Source Voltage | V_{DSS} | | 30 | V |
| Gate-to-Source Voltage | V_{GSS} | | ± 20 | V |
| Drain Current (DC) | I_D | | 15 | A |
| Drain Current (Pulse) | I_{DP} | $PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$ | 45 | A |
| Allowable Power Dissipation | P_D | | 1 | W |
| | | $T_c=25^\circ\text{C}$ | 20 | W |
| Channel Temperature | T_{ch} | | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | | -55 to +150 | $^\circ\text{C}$ |

Electrical Characteristics at $T_a=25^\circ\text{C}$

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|---------------|--|---------|------|----------|------------------|
| | | | min | typ | max | |
| Drain-to-Source Breakdown Voltage | $V_{(BR)DSS}$ | $I_D=1\text{mA}$, $V_{GS}=0$ | 30 | | | V |
| Zero-Gate Voltage Drain Current | I_{DSS} | $V_{DS}=30\text{V}$, $V_{GS}=0$ | | | 1 | μA |
| Gate-to-Source Leakage Current | I_{GSS} | $V_{GS}=\pm 16\text{V}$, $V_{DS}=0$ | | | ± 10 | μA |
| Cutoff Voltage | $V_{GS(off)}$ | $V_{DS}=10\text{V}$, $I_D=1\text{mA}$ | 1.0 | | 2.4 | V |
| Forward Transfer Admittance | $ y_{fs} $ | $V_{DS}=10\text{V}$, $I_D=10\text{A}$ | 11.2 | 16 | | S |
| Static Drain-to-Source On-State Resistance | $R_{DS(on)1}$ | $I_D=10\text{A}$, $V_{GS}=10\text{V}$ | | 17 | 23 | $\text{m}\Omega$ |
| | $R_{DS(on)2}$ | $I_D=4\text{A}$, $V_{GS}=4\text{V}$ | | 25 | 35 | $\text{m}\Omega$ |
| Input Capacitance | C_{iss} | $V_{DS}=10\text{V}$, $f=1\text{MHz}$ | | 1550 | | pF |
| Output Capacitance | C_{oss} | $V_{DS}=10\text{V}$, $f=1\text{MHz}$ | | 350 | | pF |
| Reverse Transfer Capacitance | C_{rss} | $V_{DS}=10\text{V}$, $f=1\text{MHz}$ | | 220 | | pF |

Marking : K3283

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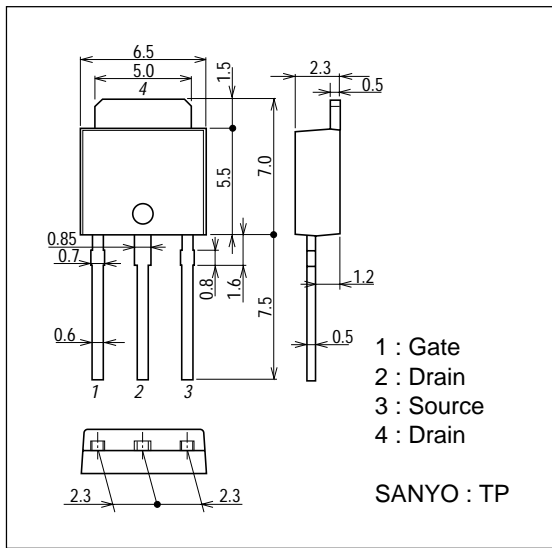
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|-------------------------------|-------------------|-----------------------------------|---------|------|-----|------|
| | | | min | typ | max | |
| Turn-ON Delay Time | $t_d(\text{on})$ | See specified Test Circuit. | | 12 | | ns |
| Rise Time | t_r | See specified Test Circuit. | | 300 | | ns |
| Turn-OFF Delay Time | $t_d(\text{off})$ | See specified Test Circuit. | | 105 | | ns |
| Fall Time | t_f | See specified Test Circuit. | | 100 | | ns |
| Total Gate Charge | Q_g | $V_{DS}=10V, V_{GS}=10V, I_D=15A$ | | 40 | | nC |
| Gate-to-Source Charge | Q_{gs} | $V_{DS}=10V, V_{GS}=10V, I_D=15A$ | | 5 | | nC |
| Gate-to-Drain "Miller" Charge | Q_{gd} | $V_{DS}=10V, V_{GS}=10V, I_D=15A$ | | 7 | | nC |
| Diode Forward Voltage | V_{SD} | $I_S=15A, V_{GS}=0$ | | 0.92 | 1.2 | V |

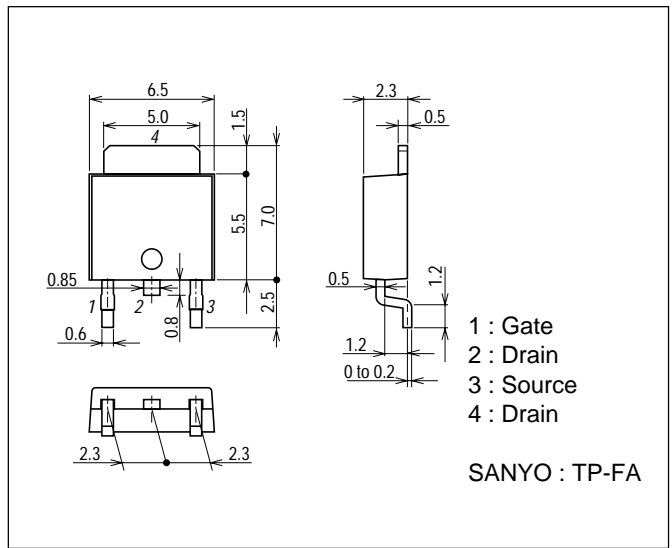
Package Dimensions

unit : mm
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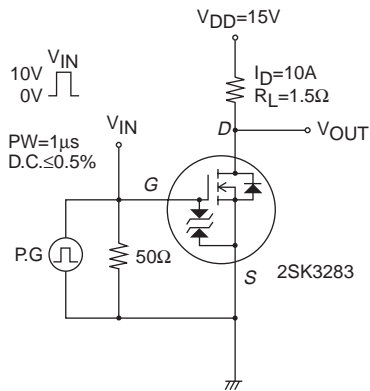


Package Dimensions

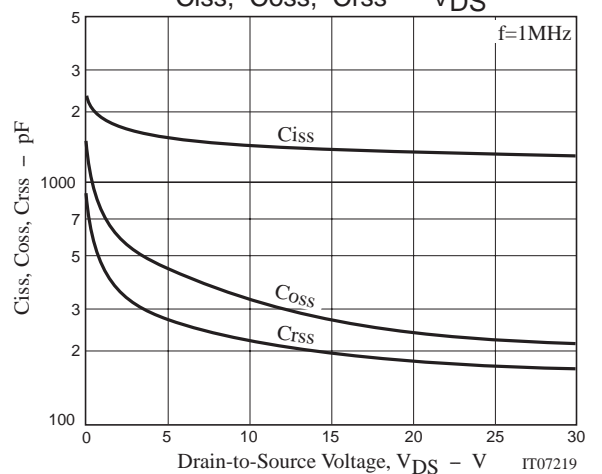
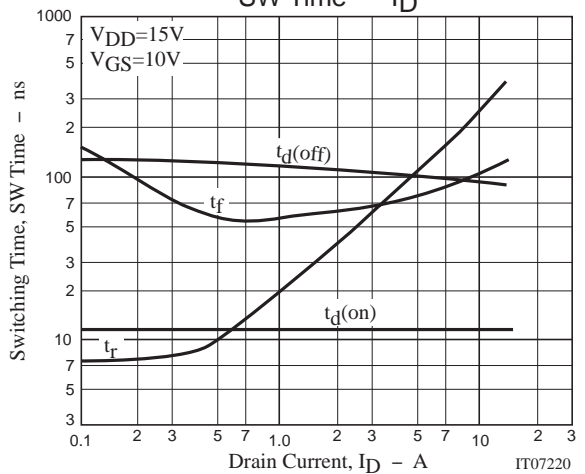
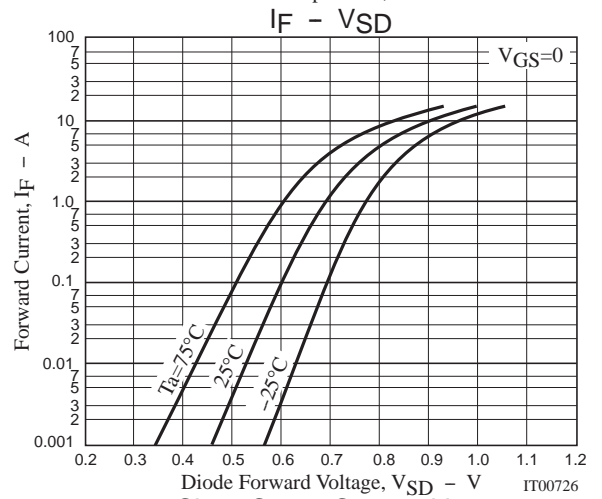
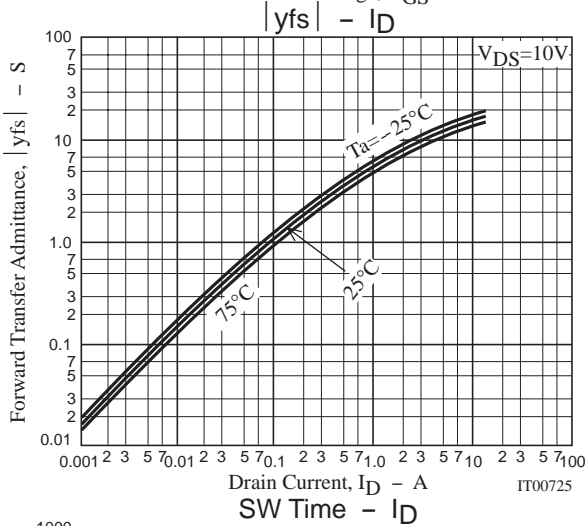
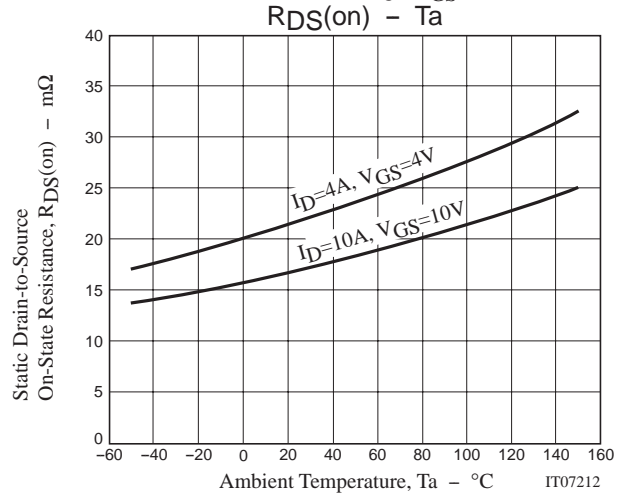
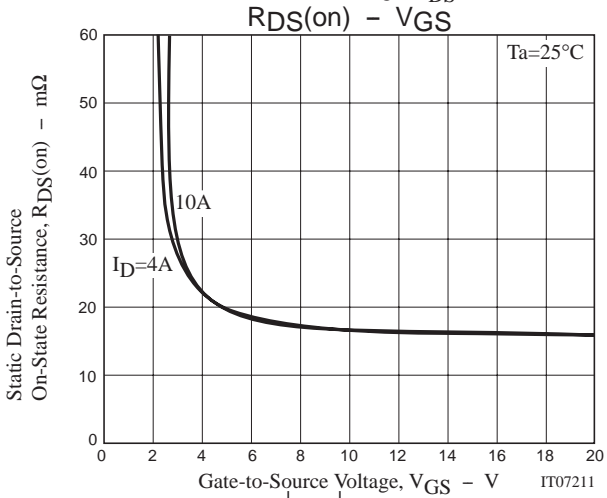
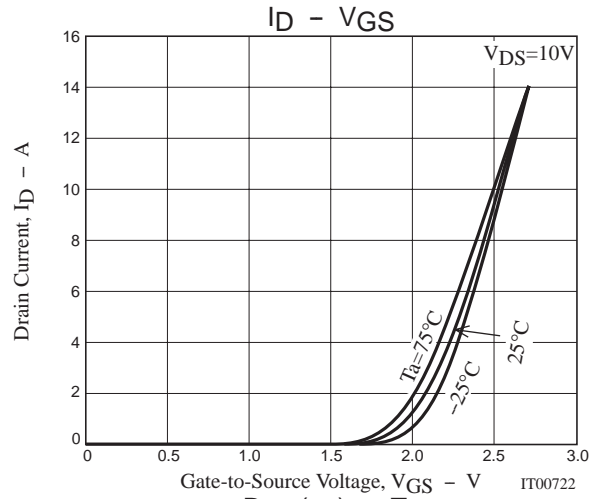
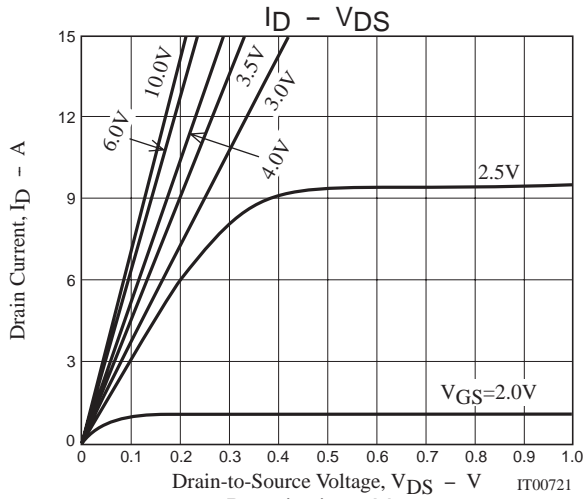
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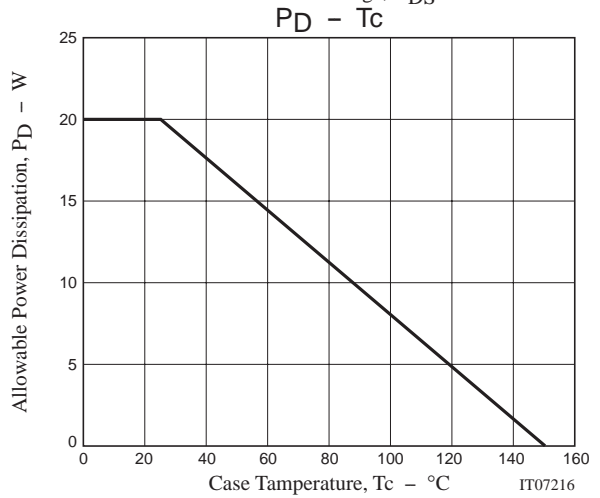
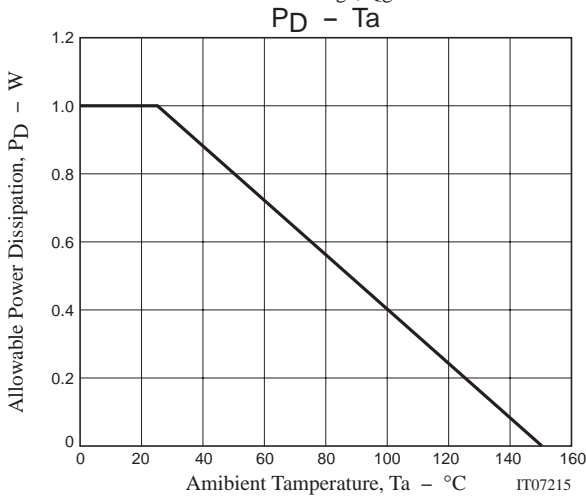
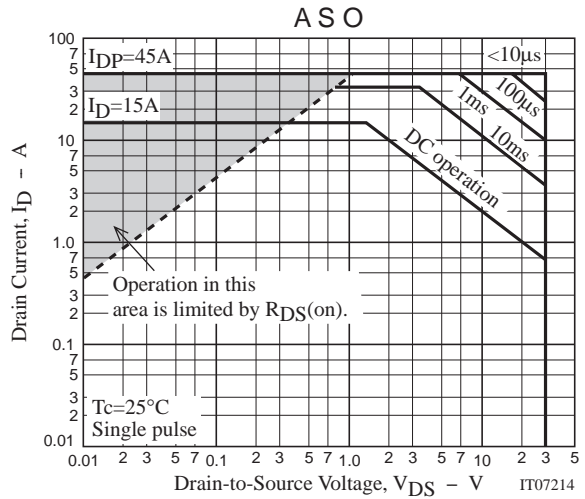
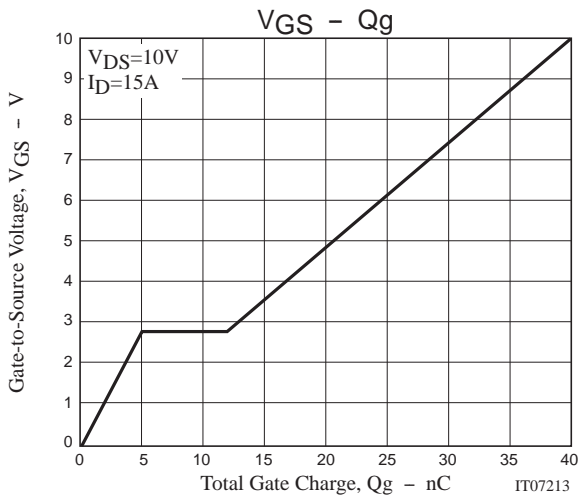


Switching Time Test Circuit



2SK3283





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