Ordering number : ENN7421

P-Channel Silicon MOSFET

# 2SJ633

## DC / DC Converter Applications

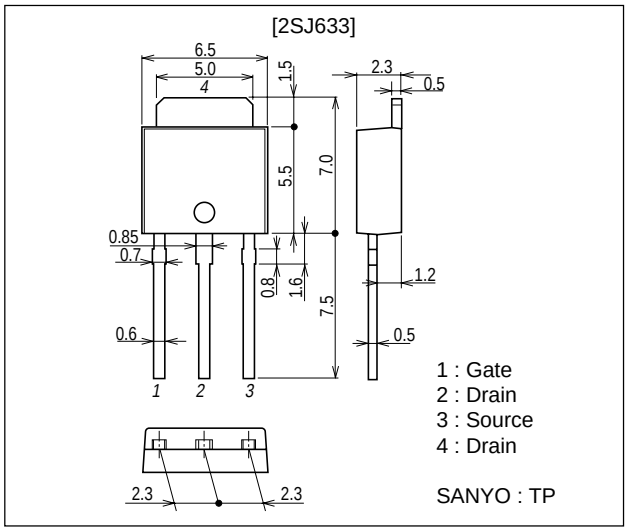
### Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 4V drive.

### Package Dimensions

unit : mm

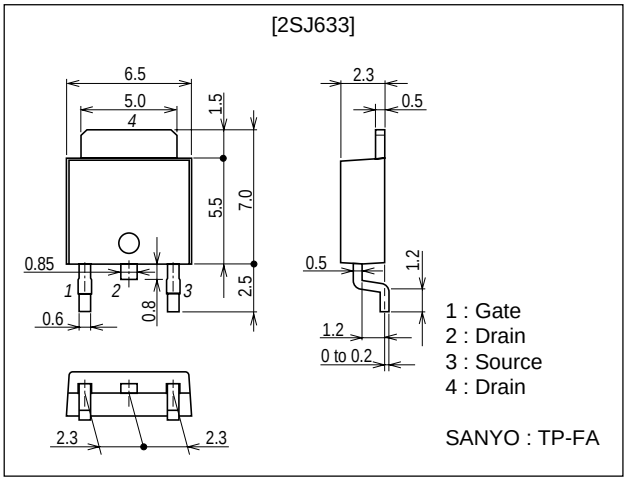
2083B




### Package Dimensions

unit : mm

2092B







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# Specifications

## Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|---|---|---|---|---|
| Drain-to-Source Voltage | $V_{DSS}$ | | −60 | V |
| Gate-to-Source Voltage | $V_{GSS}$ | | ±20 | V |
| Drain Current (DC) | $I_D$ | | −4 | A |
| Drain Current (Pulse) | $I_{DP}$ | PW≤10μs, duty cycle≤1% | −16 | A |
| Allowable Power Dissipation | $P_D$ | | 1 | W |
| | | Tc=25°C | 15 | W |
| Channel Temperature | Tch | | 150 | °C |
| Storage Temperature | Tstg | | −55 to +150 | °C |

## Electrical Characteristics at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---|---|---|---|---|---|
| | | | min | typ | max | |
| Drain-to-Source Breakdown Voltage | $V_{(BR)DSS}$ | $I_D$=−1mA, $V_{GS}$=0 | −60 | | | V |
| Zero-Gate Voltage Drain Current | $I_{DSS}$ | $V_{DS}$=−60V, $V_{GS}$=0 | | | −1 | μA |
| Gate-to-Source Leakage Current | $I_{GSS}$ | $V_{GS}$=±16V, $V_{DS}$=0 | | | ±10 | μA |
| Cutoff Voltage | $V_{GS}(off)$ | $V_{DS}$=−10V, $I_D$=−1mA | −1.2 | | −2.6 | V |
| Forward Transfer Admittance | $\|yfs\|$ | $V_{DS}$=−10V, $I_D$=−2A | 1.5 | 3 | | S |
| Static Drain-to-Source On-State Resistance | $R_{DS}(on)1$ | $I_D$=−2A, $V_{GS}$=−10V | | 280 | 365 | mΩ |
| | $R_{DS}(on)2$ | $I_D$=−2A, $V_{GS}$=−4V | | 405 | 565 | mΩ |
| Input Capacitance | Ciss | $V_{DS}$=−20V, f=1MHz | | 365 | | pF |
| Output Capacitance | Coss | $V_{DS}$=−20V, f=1MHz | | 39 | | pF |
| Reverse Transfer Capacitance | Crss | $V_{DS}$=−20V, f=1MHz | | 30 | | pF |
| Turn-ON Delay Time | $t_d(on)$ | See specified Test Circuit. | | 9 | | ns |
| Rise Time | $t_r$ | See specified Test Circuit. | | 45 | | ns |
| Turn-OFF Delay Time | $t_d(off)$ | See specified Test Circuit. | | 33 | | ns |
| Fall Time | $t_f$ | See specified Test Circuit. | | 41 | | ns |
| Total Gate Charge | Qg | $V_{DS}$=−30V, $V_{GS}$=−10V, $I_D$=−4A | | 9 | | nC |
| Gate-to-Source Charge | Qgs | $V_{DS}$=−30V, $V_{GS}$=−10V, $I_D$=−4A | | 1.7 | | nC |
| Gate-to-Drain “Miller” Charge | Qgd | $V_{DS}$=−30V, $V_{GS}$=−10V, $I_D$=−4A | | 1.7 | | nC |
| Diode Forward Voltage | $V_{SD}$ | $I_S$=−4A, $V_{GS}$=0 | | −0.9 | −1.2 | V |

## Switching Time Test Circuit