

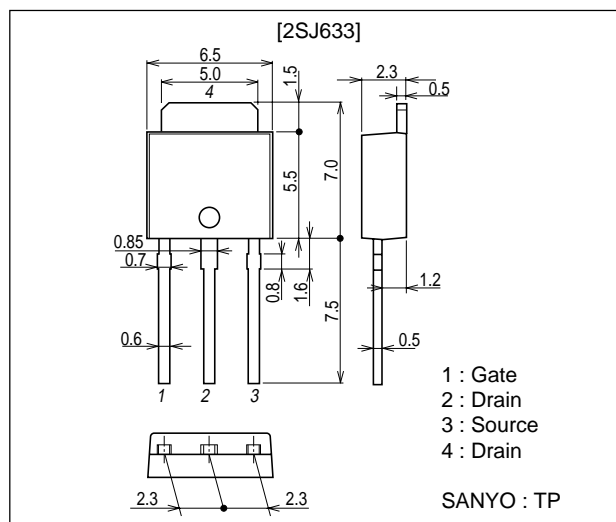
**2SJ633****DC / DC Converter Applications****Features**

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

Package Dimensions

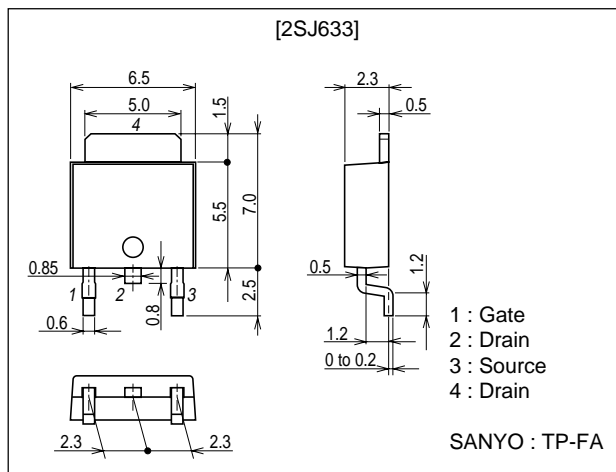
unit : mm

2083B

**Package Dimensions**

unit : mm

2092B



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O1003 TS IM TA-3882 No.7421-1/4

Specifications

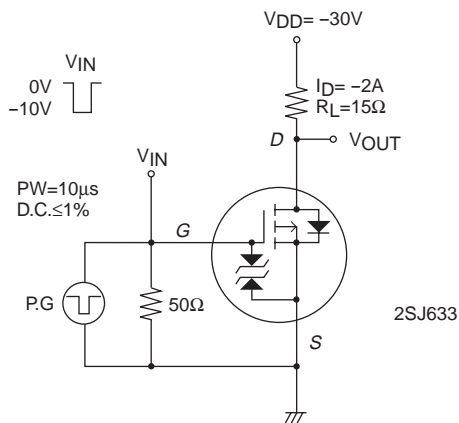
Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

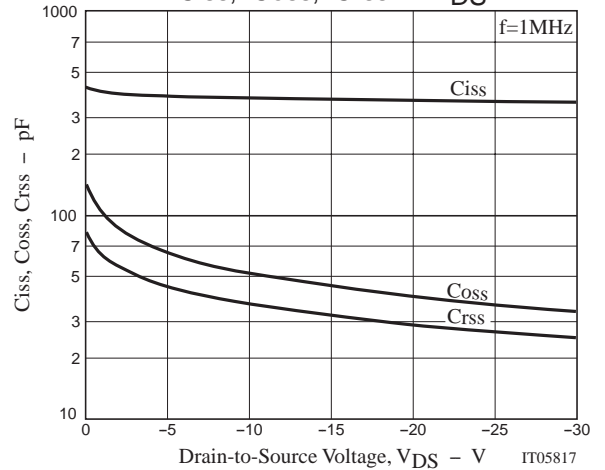
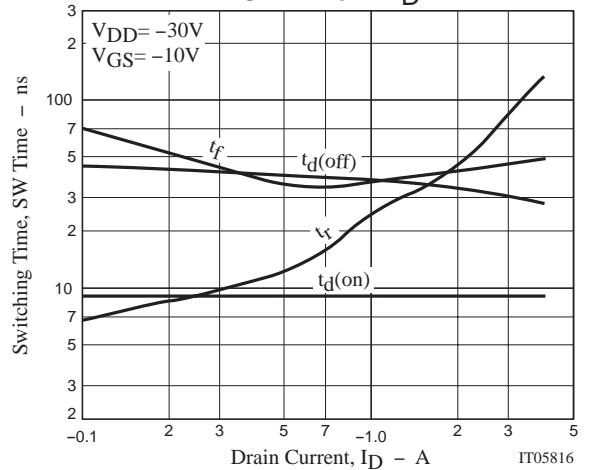
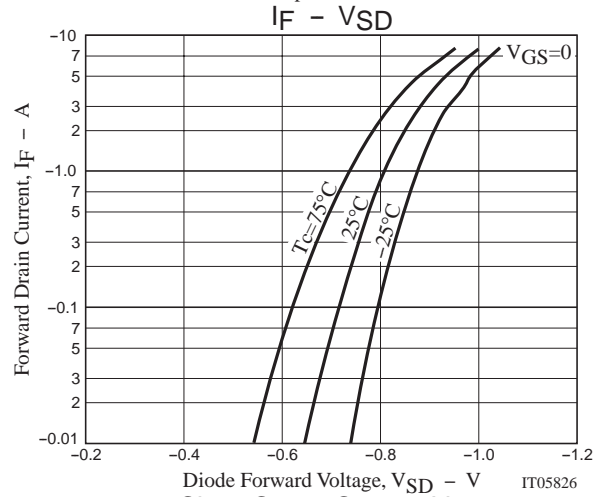
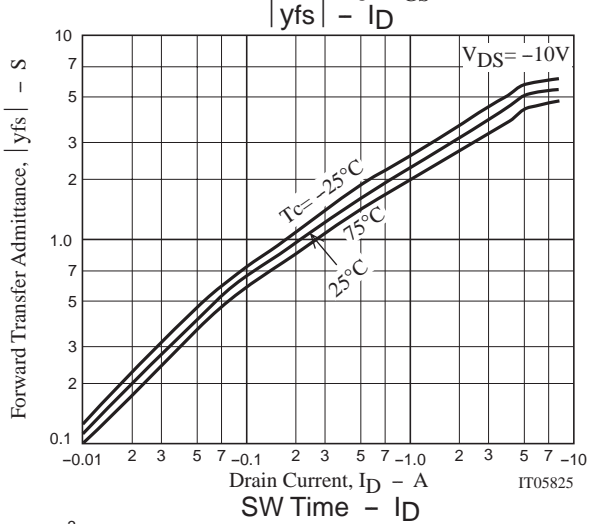
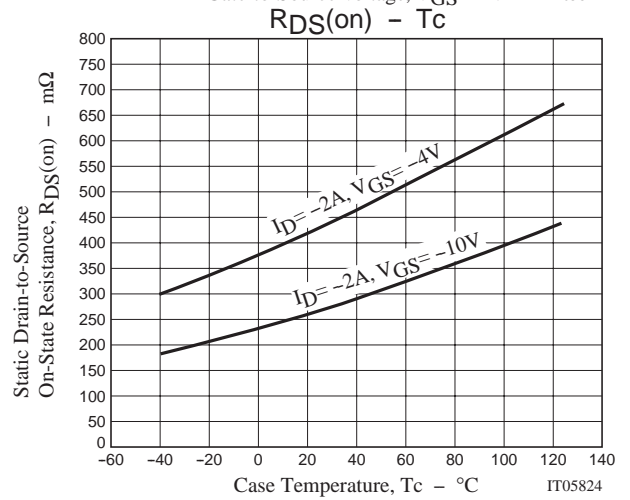
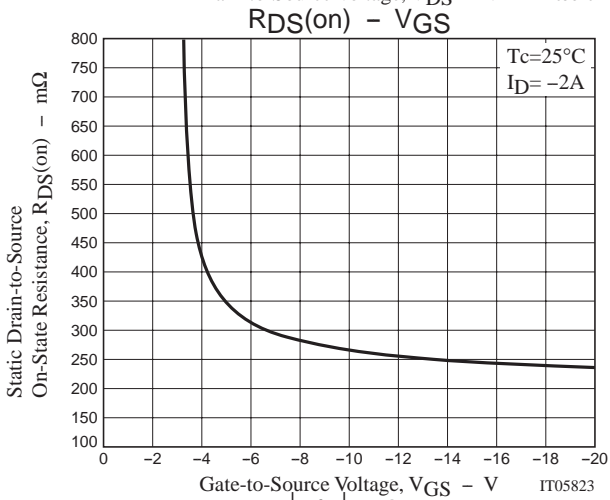
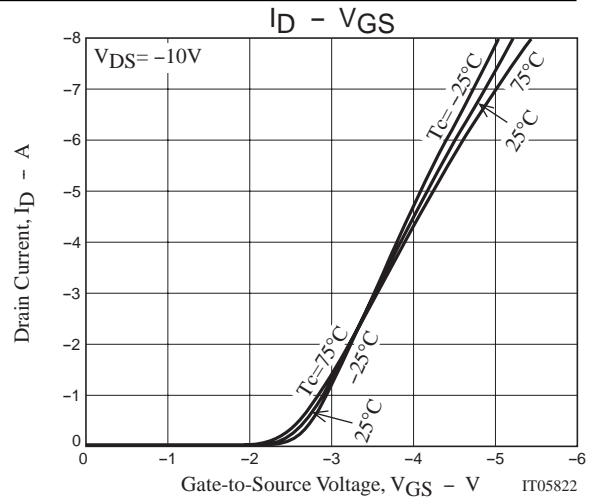
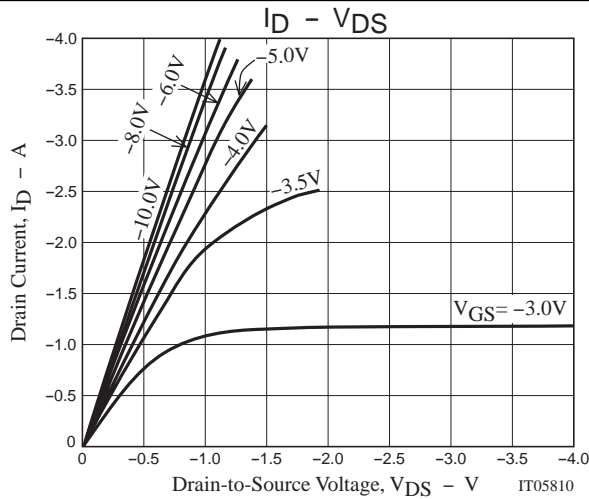
| Parameter | Symbol | Conditions | Ratings | Unit |
|-----------------------------|-----------|---|-------------|------------------|
| Drain-to-Source Voltage | V_{DSS} | | -60 | V |
| Gate-to-Source Voltage | V_{GSS} | | ± 20 | V |
| Drain Current (DC) | I_D | | -4 | A |
| Drain Current (Pulse) | I_{DP} | $PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$ | -16 | A |
| Allowable Power Dissipation | P_D | | 1 | W |
| | | $T_c=25^\circ\text{C}$ | 15 | W |
| Channel Temperature | T_{ch} | | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | | -55 to +150 | $^\circ\text{C}$ |

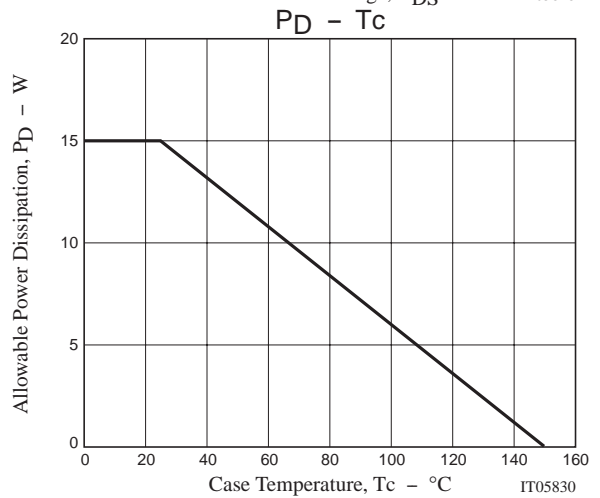
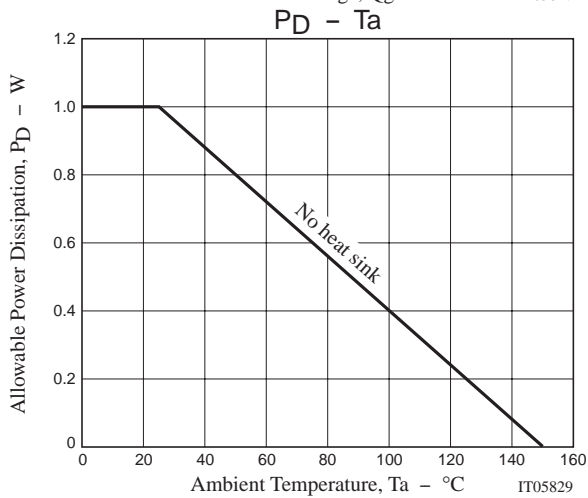
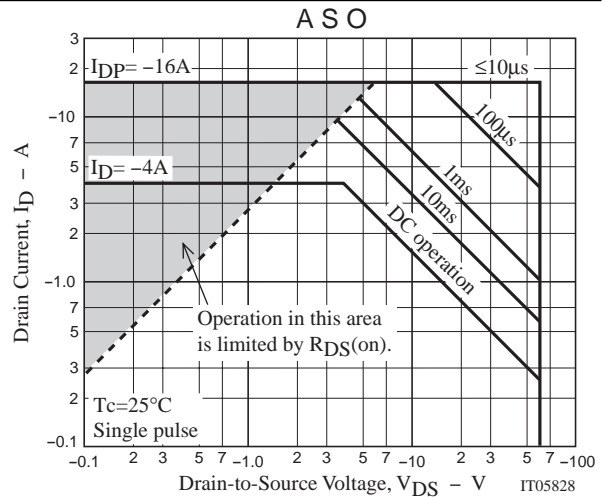
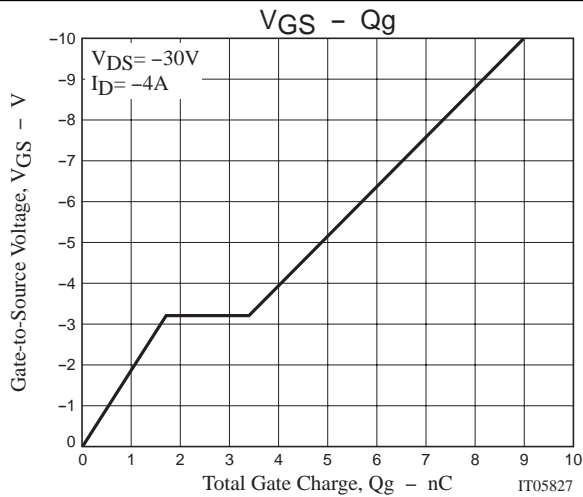
Electrical Characteristics at $T_a=25^\circ\text{C}$

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|---------------|--|---------|------|----------|------------------|
| | | | min | typ | max | |
| Drain-to-Source Breakdown Voltage | $V_{(BR)DSS}$ | $I_D=-1\text{mA}$, $V_{GS}=0$ | -60 | | | V |
| Zero-Gate Voltage Drain Current | I_{DSS} | $V_{DS}=-60\text{V}$, $V_{GS}=0$ | | | -1 | μA |
| Gate-to-Source Leakage Current | I_{GSS} | $V_{GS}=\pm 16\text{V}$, $V_{DS}=0$ | | | ± 10 | μA |
| Cutoff Voltage | $V_{GS(off)}$ | $V_{DS}=-10\text{V}$, $I_D=-1\text{mA}$ | -1.2 | | -2.6 | V |
| Forward Transfer Admittance | $ y_{fs} $ | $V_{DS}=-10\text{V}$, $I_D=-2\text{A}$ | 1.5 | 3 | | S |
| Static Drain-to-Source On-State Resistance | $R_{DS(on)1}$ | $I_D=-2\text{A}$, $V_{GS}=-10\text{V}$ | | 280 | 365 | $\text{m}\Omega$ |
| | $R_{DS(on)2}$ | $I_D=-2\text{A}$, $V_{GS}=-4\text{V}$ | | 405 | 565 | $\text{m}\Omega$ |
| Input Capacitance | C_{iss} | $V_{DS}=-20\text{V}$, $f=1\text{MHz}$ | | 365 | | pF |
| Output Capacitance | C_{oss} | $V_{DS}=-20\text{V}$, $f=1\text{MHz}$ | | 39 | | pF |
| Reverse Transfer Capacitance | C_{rss} | $V_{DS}=-20\text{V}$, $f=1\text{MHz}$ | | 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 | Q_g | $V_{DS}=-30\text{V}$, $V_{GS}=-10\text{V}$, $I_D=-4\text{A}$ | | 9 | | nC |
| Gate-to-Source Charge | Q_{gs} | $V_{DS}=-30\text{V}$, $V_{GS}=-10\text{V}$, $I_D=-4\text{A}$ | | 1.7 | | nC |
| Gate-to-Drain "Miller" Charge | Q_{gd} | $V_{DS}=-30\text{V}$, $V_{GS}=-10\text{V}$, $I_D=-4\text{A}$ | | 1.7 | | nC |
| Diode Forward Voltage | V_{SD} | $I_S=-4\text{A}$, $V_{GS}=0$ | | -0.9 | -1.2 | V |

Switching Time Test Circuit







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