

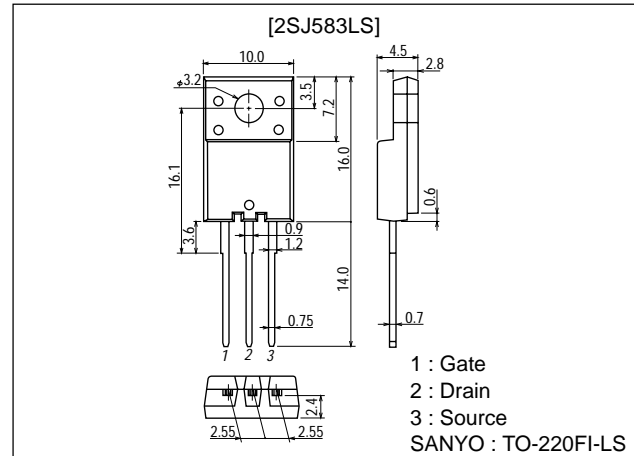
**2SJ583LS****Ultrahigh-Speed Switching Applications****Features**

- Low ON-resistance.
- Ultrahigh-speed switching.
- Micaless package facilitating mounting.

Package Dimensions

unit:mm

2078B

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

| Parameter | Symbol | Conditions | Ratings | Unit |
|-----------------------------|-----------|---|-------------|------------------|
| Drain-to-Source Voltage | V_{DSS} | | -250 | V |
| Gate-to-Source Voltage | V_{GSS} | | ± 30 | V |
| Drain Current (DC) | I_D | | -3.5 | A |
| Drain Current (Pulse) | I_{DP} | $PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$ | -14 | A |
| Allowable Power Dissipation | P_D | | 2.0 | 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 | $V_{(BR)DSS}$ | $I_D = -1\text{mA}$, $V_{GS} = 0$ | -250 | | | V |
| Gate-to-Source Breakdown Voltage | $V_{(BR)GSS}$ | $I_G = \pm 100\mu\text{A}$, $V_{DS} = 0$ | ± 30 | | | V |
| Zero-Gate Voltage Drain Current | I_{DSS} | $V_{DS} = -250\text{V}$, $V_{GS} = 0$ | | | -100 | μA |
| Gate-to-Source Leakage Current | I_{GSS} | $V_{GS} = \pm 25\text{V}$, $V_{DS} = 0$ | | | ± 10 | μA |
| Cutoff Voltage | $V_{GS(off)}$ | $V_{DS} = -10\text{V}$, $I_D = -1\text{mA}$ | -3.5 | | -5.0 | V |
| Forward Transfer Admittance | $ y_{fs} $ | $V_{DS} = -10\text{V}$, $I_D = -2\text{A}$ | 1.2 | 2.0 | | S |
| Static Drain-to-Source On-State Resistance | $R_{DS(on)}$ | $I_D = -2\text{A}$, $V_{GS} = -10\text{V}$ | | 1.2 | 1.5 | Ω |

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80300TS (KOTO) TA-2754 No.6409-1/4

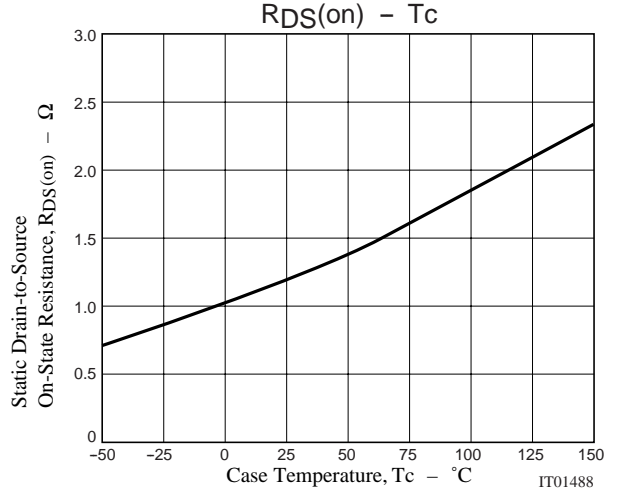
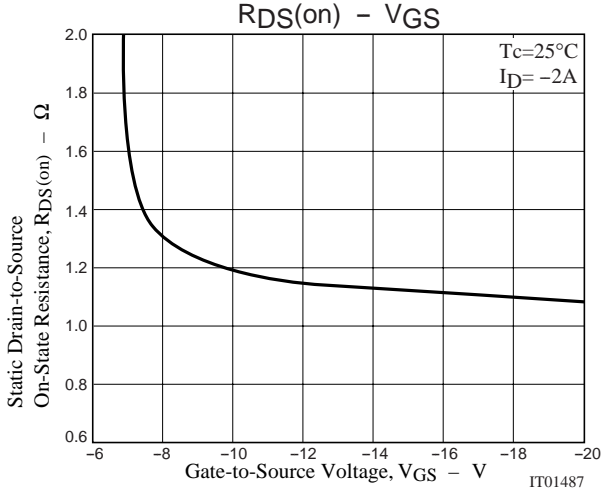
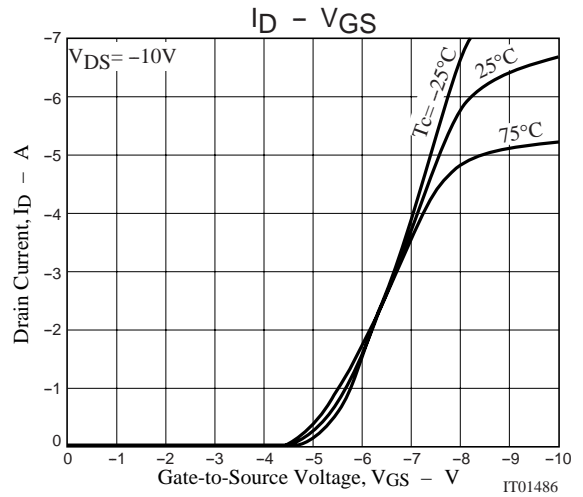
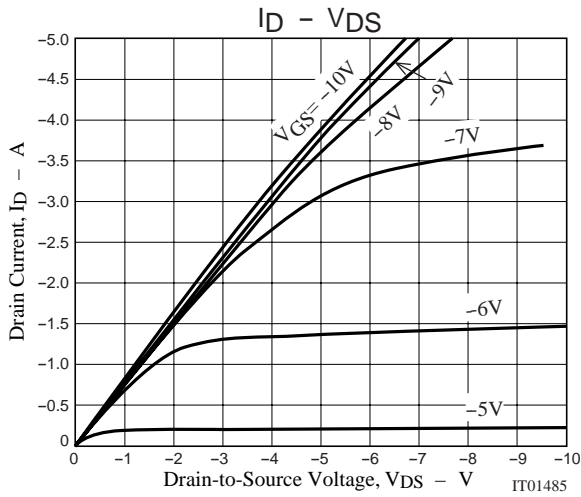
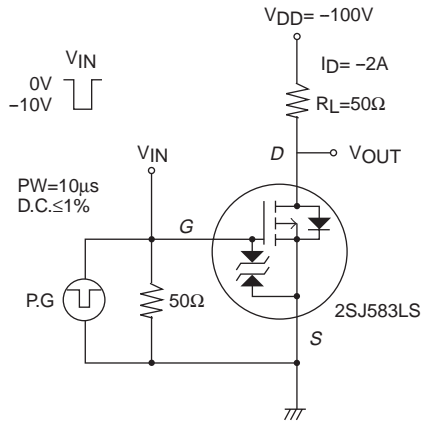
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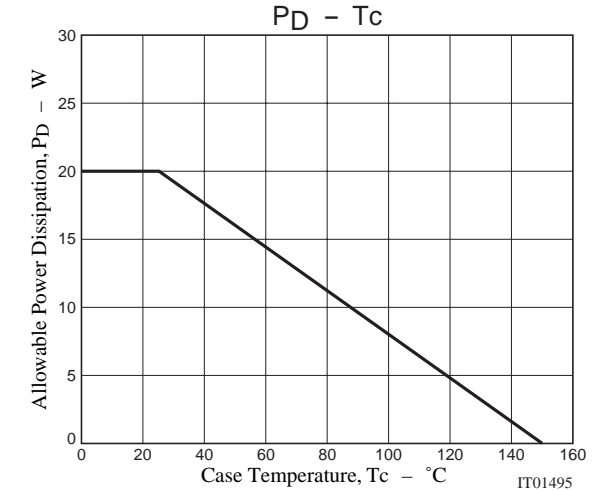
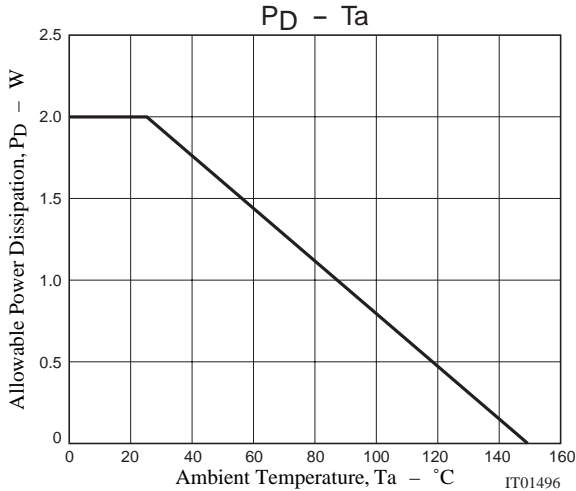
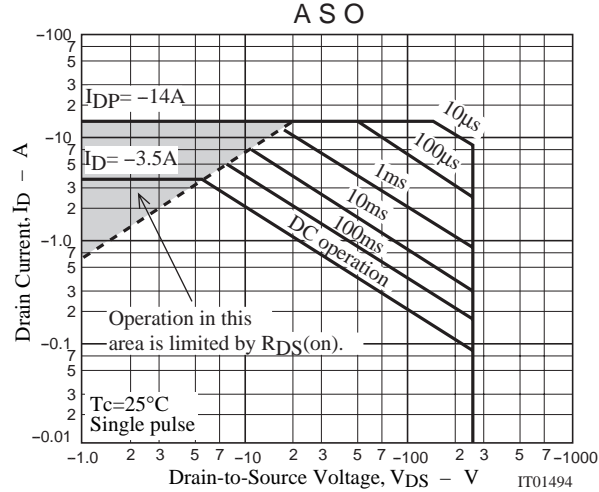
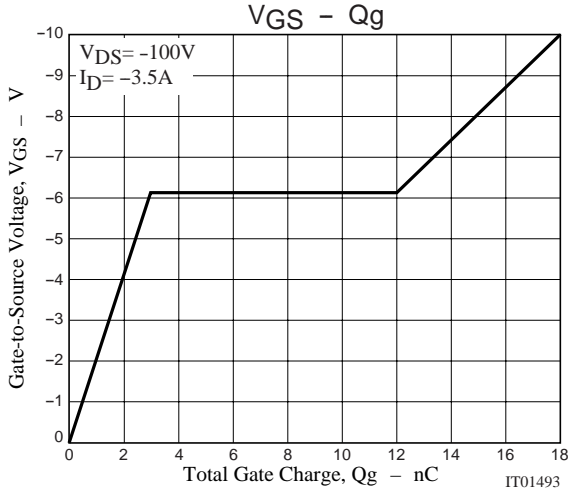
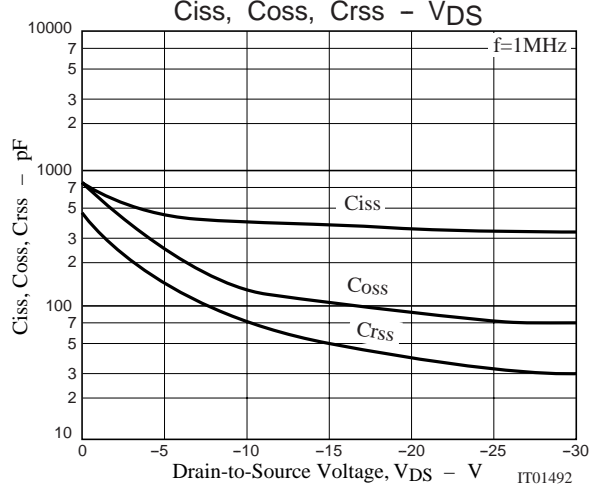
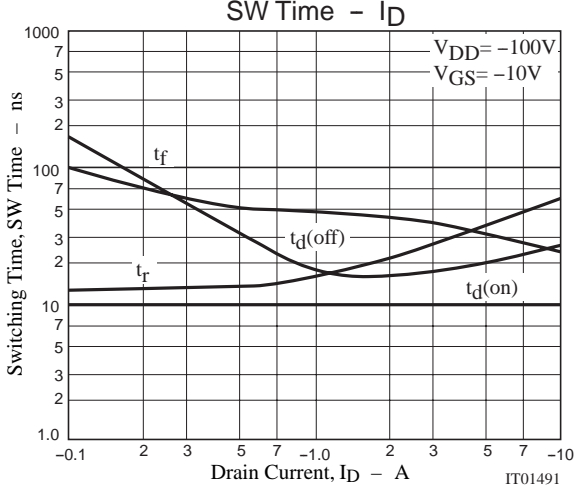
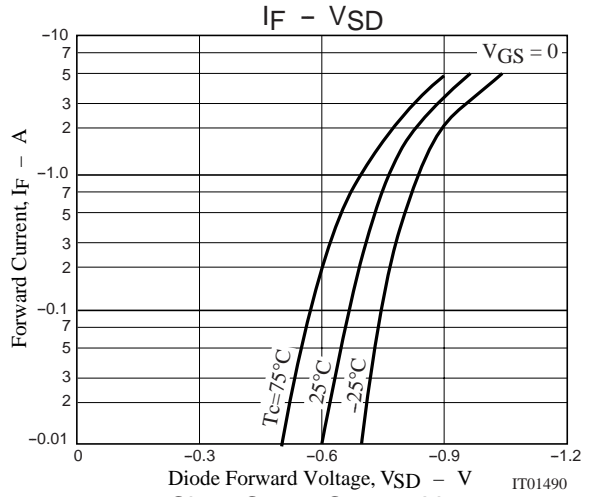
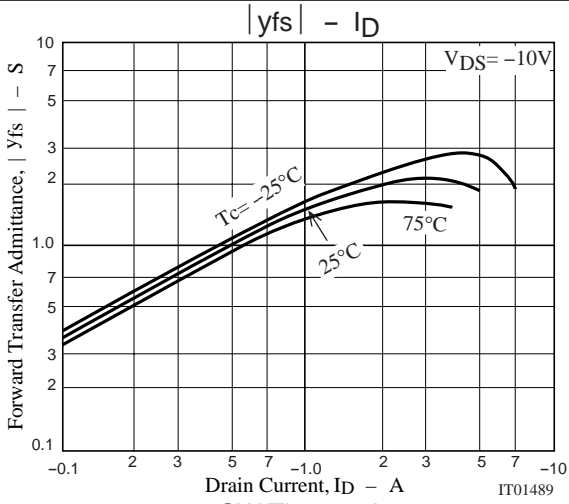
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|-------------------------------|--------------|--|---------|------|------|------|
| | | | min | typ | max | |
| Input Capacitance | C_{iss} | $V_{DS}=-20V, f=1MHz$ | | 360 | | pF |
| Output Capacitance | C_{oss} | $V_{DS}=-20V, f=1MHz$ | | 95 | | pF |
| Reverse Transfer Capacitance | C_{rss} | $V_{DS}=-20V, f=1MHz$ | | 40 | | pF |
| Turn-ON Delay Time | $t_{d(on)}$ | See specified Test Circuit | | 10 | | ns |
| Rise Time | t_r | See specified Test Circuit | | 21 | | ns |
| Turn-OFF Delay Time | $t_{d(off)}$ | See specified Test Circuit | | 45 | | ns |
| Fall Time | t_f | See specified Test Circuit | | 16.5 | | ns |
| Total Gate Charge | Q_g | $V_{DS}=-100V, V_{GS}=-10V, I_D=-3.5A$ | | 18 | | nC |
| Gate-to-Source Charge | Q_{gs} | $V_{DS}=-100V, V_{GS}=-10V, I_D=-3.5A$ | | 3 | | nC |
| Gate-to-Drain "Miller" Charge | Q_{gd} | $V_{DS}=-100V, V_{GS}=-10V, I_D=-3.5A$ | | 9 | | nC |
| Diode Forward Voltage | V_{SD} | $I_S=-3.5A, V_{GS}=0$ | | -0.9 | -1.5 | V |

Marking : J583

Switching Time Test Circuit



2SJ583LS



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