

**FX203**

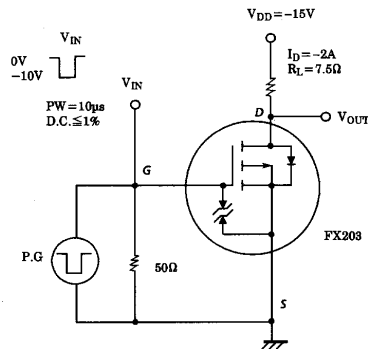
P-Channel Silicon MOSFET

## Ultrahigh-Speed Switching Applications

### Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- Low-voltage drive.

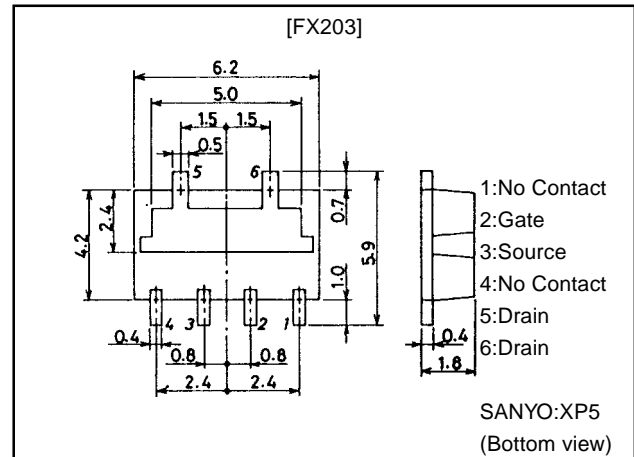
### Switching Time Test Circuit



### Package Dimensions

unit:mm

2121



### Specifications

#### Absolute Maximum Ratings at Ta = 25°C

| Parameter                   | Symbol    | Conditions  | Ratings     | Unit |
|-----------------------------|-----------|---|-------------|------|
| Drain-to-Source Voltage     | $V_{DS}$  |   | -30         | V    |
| Gate-to-Source Voltage      | $V_{GS}$  |   | ±20         | V    |
| Drain Current (DC)          | $I_D$     |   | -4          | A    |
| Drain Current (Pulse)       | $I_{DP}$  | $PW \leq 10\mu s$ , duty cycle $\leq 1\%$             | -16         | A    |
| Allowable Power Dissipation | $P_D$     | $T_c = 25^\circ C$                                    | 8           | W    |
|                             | $P_D$     | Mounted on ceramic board (750mm <sup>2</sup> × 0.8mm) | 2           | W    |
| Channel Temperature         | $T_{ch}$  |   | 150         | °C   |
| Storage Temperature         | $T_{stg}$ |   | -55 to +150 | °C   |

#### Electrical Characteristics at Ta = 25°C

| Parameter                                  | Symbol        | Conditions                        | Ratings |      |      | Unit |
|--|---------------|-----------------------------------|---------|------|------|------|
|  |               |                                   | min     | typ  | max  |      |
| D-S Breakdown Voltage                      | $V_{(BR)DSS}$ | $I_D = -1mA$ , $V_{GS} = 0$       | -30     |      |      | V    |
| Zero-Gate Voltage Drain Current            | $I_{DSS}$     | $V_{DS} = -30V$ , $V_{GS} = 0$    |         |      | -100 | μA   |
| Gate-to-Source Leakage Current             | $I_{GSS}$     | $V_{GS} = \pm 16V$ , $V_{DS} = 0$ |         |      | ±10  | μA   |
| Cutoff Voltage                             | $V_{GS(off)}$ | $V_{DS} = -10V$ , $I_D = -1mA$    | -1.0    |      | -2.5 | V    |
| Forward Transfer Admittance                | $ Y_{fs} $    | $V_{DS} = -10V$ , $I_D = -2A$     | 1.5     | 3    |      | S    |
| Static Drain-to-Source ON-State Resistance | $R_{DS(on)}$  | $I_D = -2A$ , $V_{GS} = -10V$     |         | 120  | 160  | mΩ   |
|  | $R_{DS(on)}$  | $I_D = -2A$ , $V_{GS} = -4V$      |         | 210  | 290  | mΩ   |
| Input Capacitance                          | $C_{iss}$     | $V_{DS} = -10V$ , $f = 1MHz$      |         | 370  |      | pF   |
| Output Capacitance                         | $C_{oss}$     | $V_{DS} = -10V$ , $f = 1MHz$      |         | 230  |      | pF   |
| Reverse Transfer Capacitance               | $C_{rss}$     | $V_{DS} = -10V$ , $f = 1MHz$      |         | 70   |      | pF   |
| Turn-ON Delay Time                         | $t_{d(on)}$   | See specified Test Circuit        |         | 10   |      | ns   |
| Rise Time                                  | $t_r$         | See specified Test Circuit        |         | 50   |      | ns   |
| Turn-OFF Delay Time                        | $t_{d(off)}$  | See specified Test Circuit        |         | 135  |      | ns   |
| Fall Time                                  | $t_f$         | See specified Test Circuit        |         | 125  |      | ns   |
| Diode Forward Voltage                      | $V_{SD}$      | $I_S = -4A$ , $V_{GS} = 0$        |         | -1.0 | -1.2 | V    |

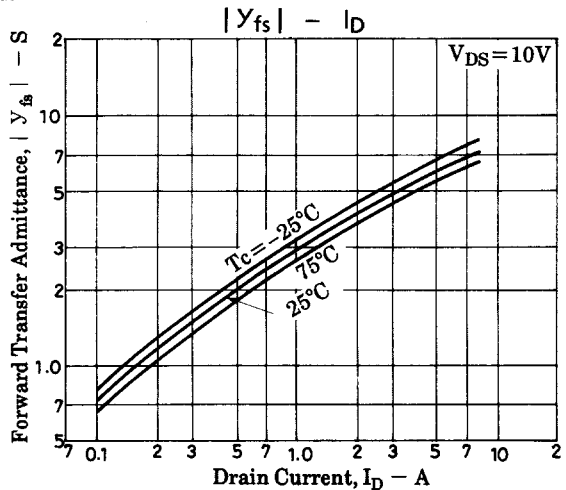
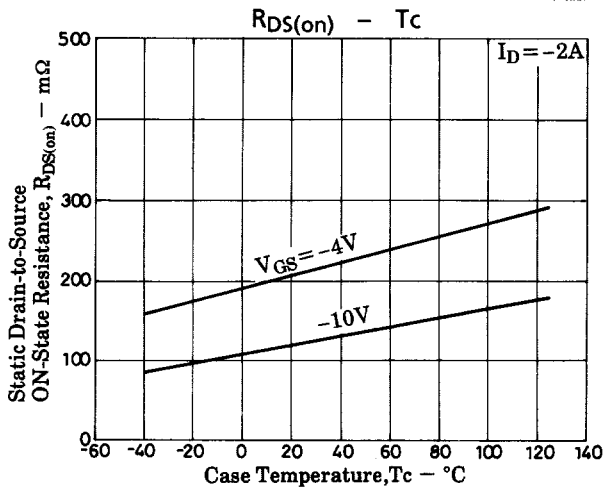
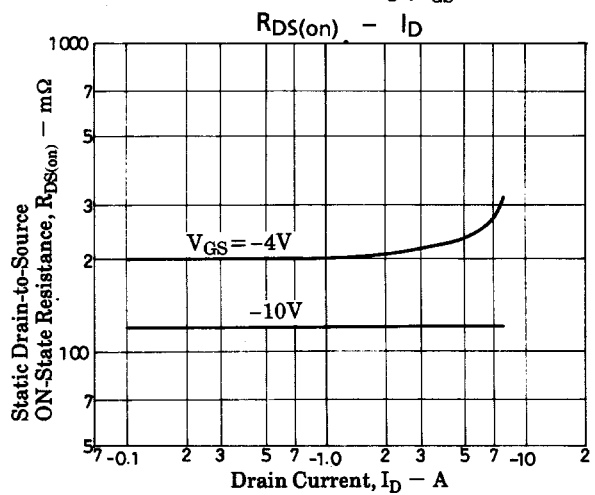
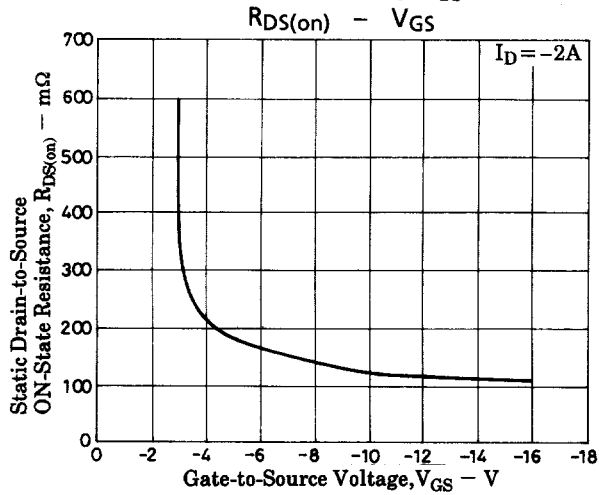
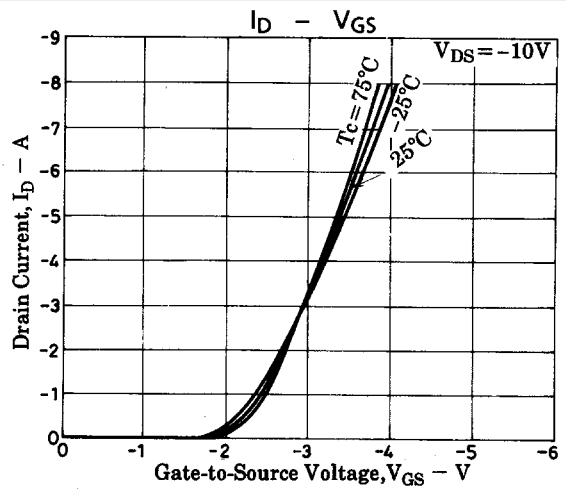
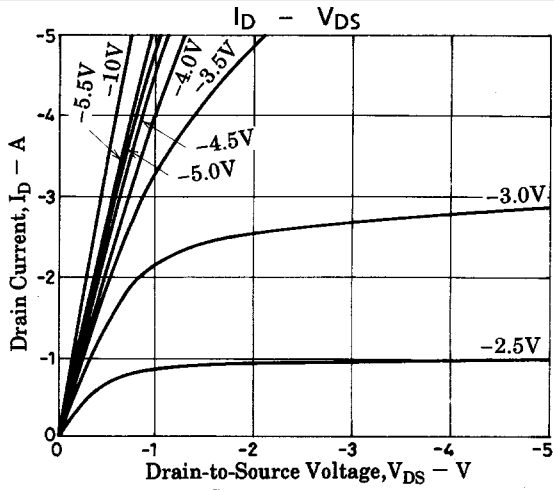
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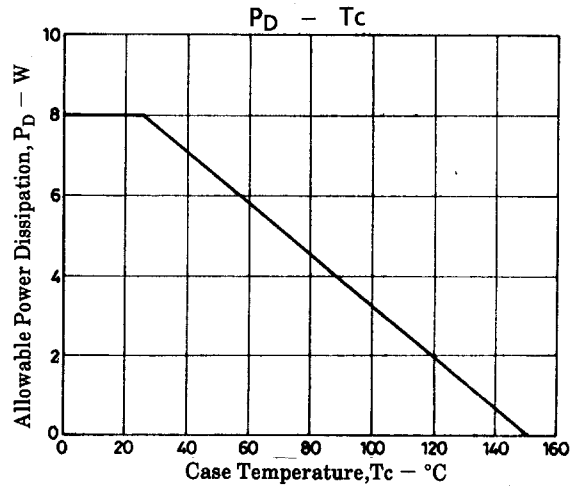
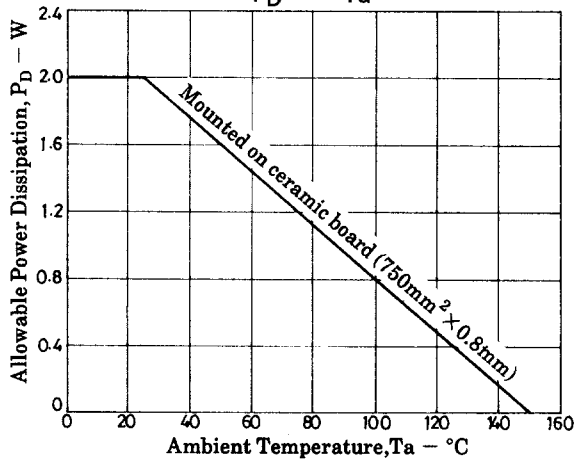
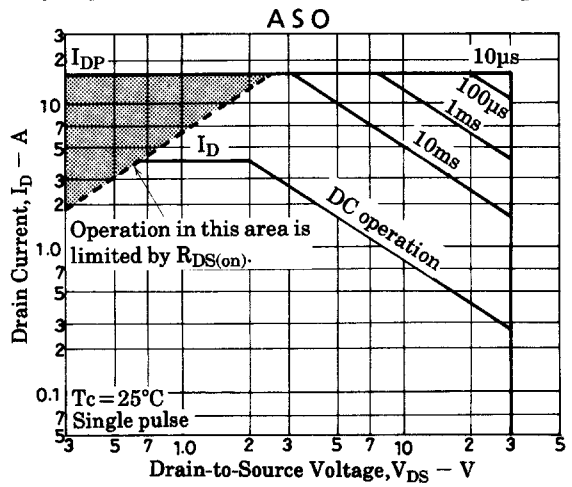
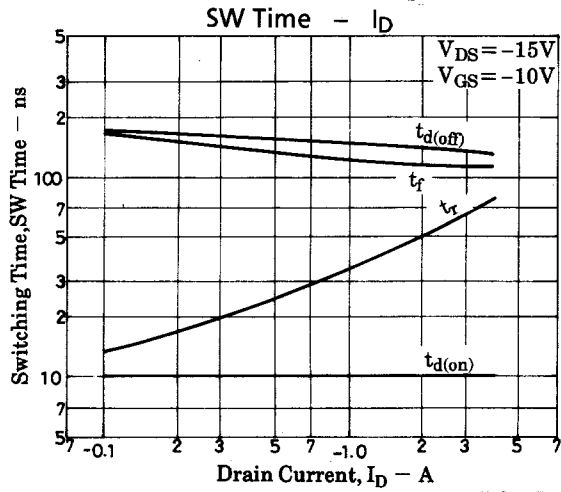
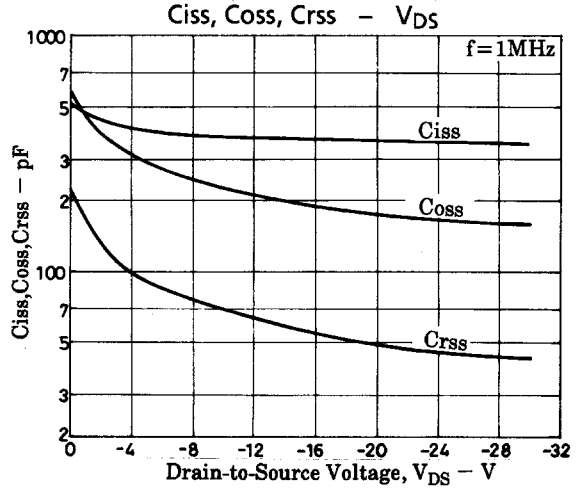
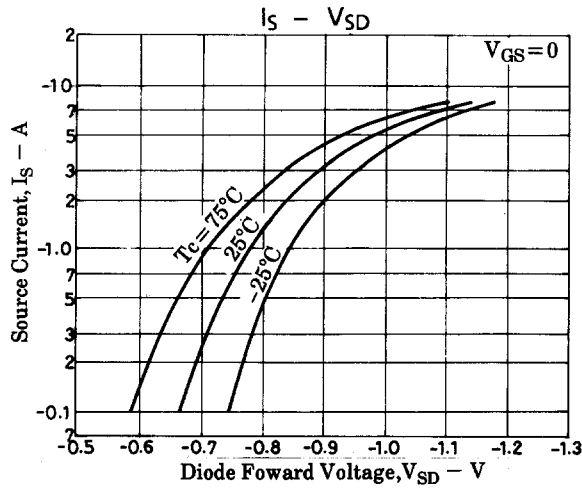
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