

**2SJ288**

## Ultrahigh-Speed Switching Applications

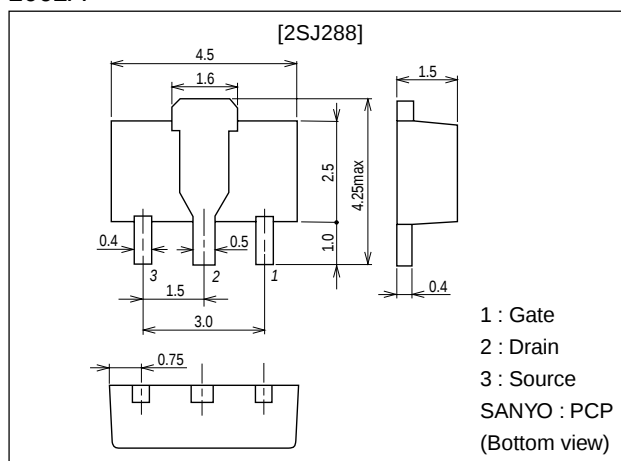
### Features

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

### Package Dimensions

unit:mm

2062A



### 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      | $V_{GSS}$ |                                                       | ±15         | V    |
| Drain Current (DC)          | $I_D$     |                                                       | -500        | mA   |
| Drain Current (Pulse)       | $I_{DP}$  | $PW \leq 10\mu s$ , duty cycle $\leq 1\%$             | -2          | A    |
| Allowable Power Dissipation | $P_D$     | $T_c = 25^\circ C$                                    | 3.5         | W    |
|                             |           | Mounted on ceramic board (250mm <sup>2</sup> × 0.8mm) | 1.3         | 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  |      |
| Drain-to-Source Breakdown Voltage          | $V_{(BR)DSS}$ | $I_D = -1mA$ , $V_{GS} = 0$       | -60     |     |      | V    |
| Zero-Gate Voltage Drain Current            | $I_{DSS}$     | $V_{DS} = -60V$ , $V_{GS} = 0$    |         |     | -100 | μA   |
| Gate-to-Source Leakage Current             | $I_{GSS}$     | $V_{GS} = \pm 12V$ , $V_{DS} = 0$ |         |     | ±10  | μA   |
| Cutoff Voltage                             | $V_{GS(off)}$ | $V_{DS} = -10V$ , $I_D = -1mA$    | -1.0    |     | -2.0 | V    |
| Forward Transfer Admittance                | $ y_{fs} $    | $V_{DS} = -10V$ , $I_D = -250mA$  | 240     | 400 |      | mS   |
| Static Drain-to-Source ON-State Resistance | $R_{DS(on)}$  | $I_D = -250mA$ , $V_{GS} = -10V$  |         | 2.2 | 3.0  | Ω    |
|                                            | $R_{DS(on)}$  | $I_D = -250mA$ , $V_{GS} = -4V$   |         | 3.0 | 4.0  | Ω    |

Marking : JE

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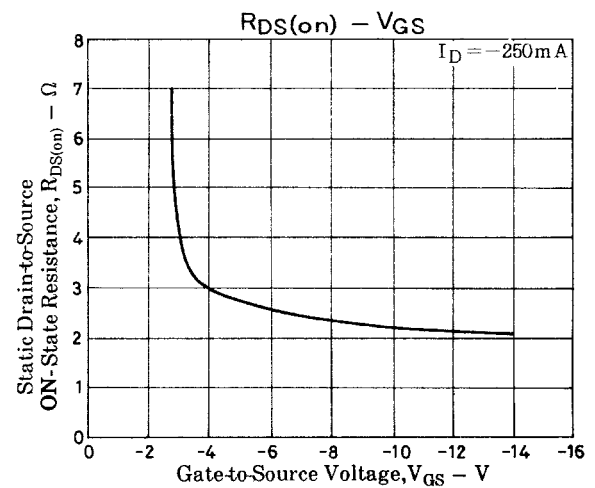
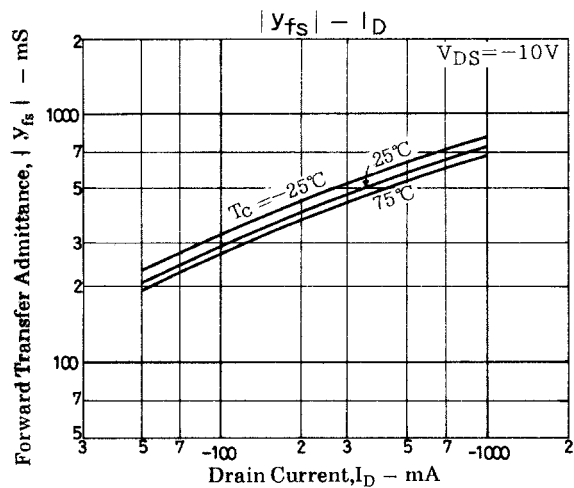
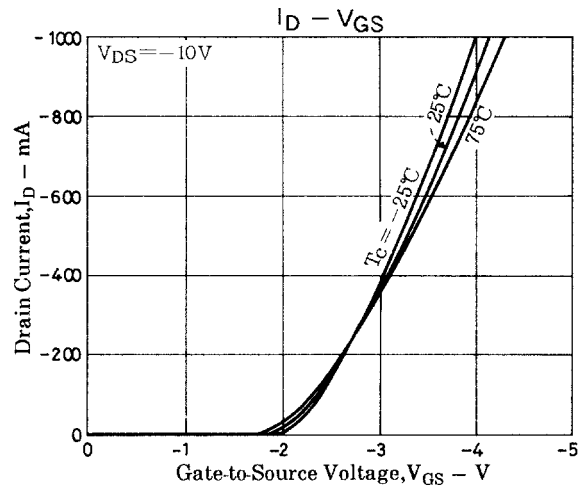
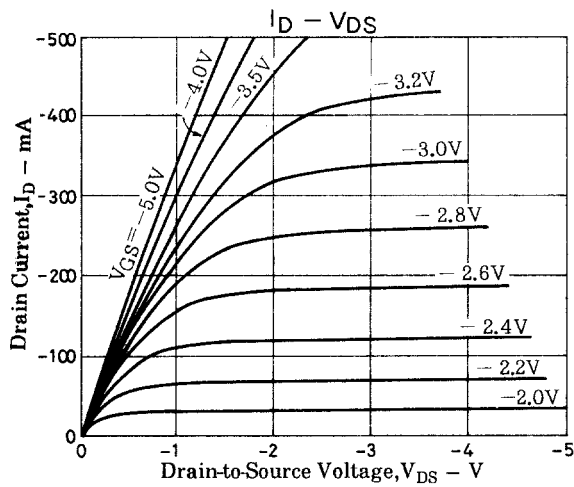
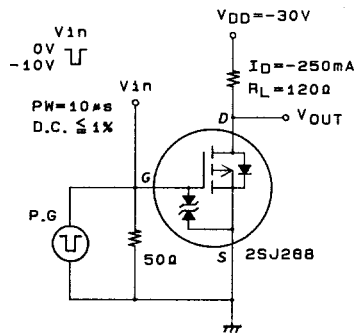
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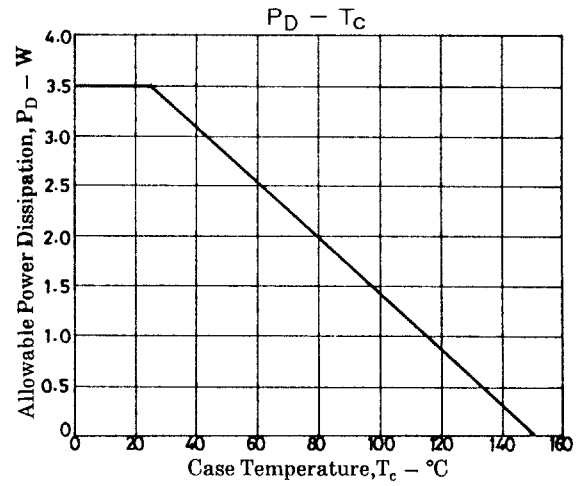
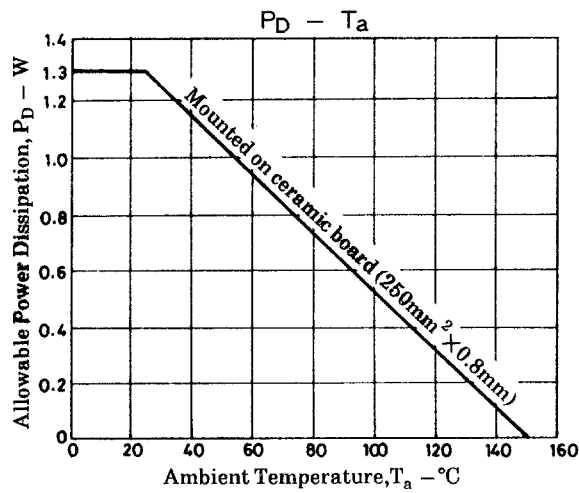
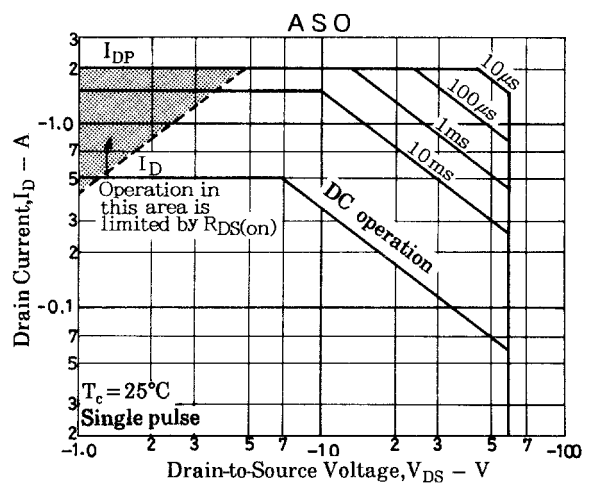
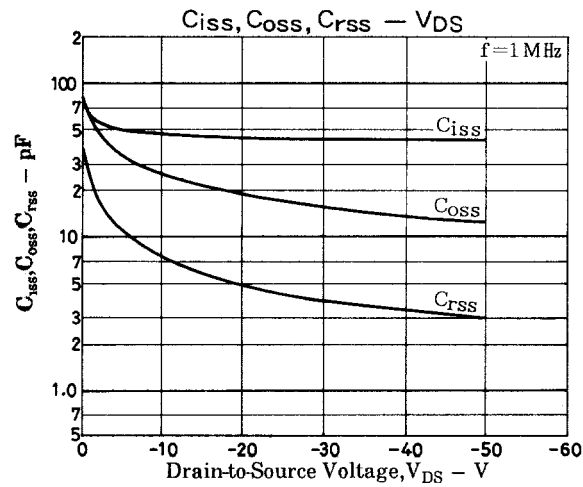
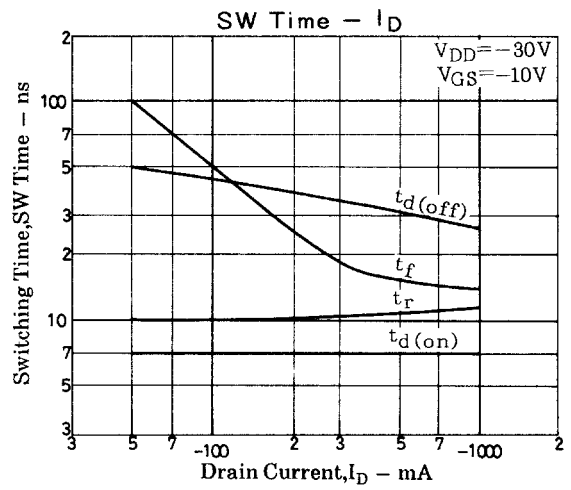
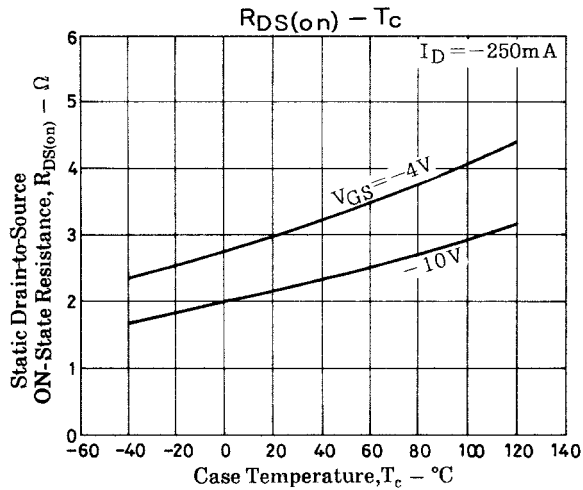
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| Parameter                    | Symbol       | Conditions                 | Ratings |     |     | Unit |
|------------------------------|--------------|----------------------------|---------|-----|-----|------|
|                              |              |                            | min     | typ | max |      |
| Input Capacitance            | $C_{iss}$    | $V_{DS} = -20V, f = 1MHz$  |         | 45  |     | pF   |
| Output Capacitance           | $C_{oss}$    | $V_{DS} = -20V, f = 1MHz$  |         | 20  |     | pF   |
| Reverse Transfer Capacitance | $C_{rss}$    | $V_{DS} = -20V, f = 1MHz$  |         | 5   |     | pF   |
| Turn-ON Delay Time           | $t_{d(on)}$  | See specified Test Circuit |         | 7   |     | ns   |
| Rise Time                    | $t_r$        | See specified Test Circuit |         | 10  |     | ns   |
| Turn-OFF Delay Time          | $t_{d(off)}$ | See specified Test Circuit |         | 35  |     | ns   |
| Fall Time                    | $t_f$        | See specified Test Circuit |         | 20  |     | ns   |
| Diode Forward Voltage        | $V_{SD}$     | $I_S = -500mA, V_{GS} = 0$ |         | -1  |     | V    |

## Switching Time Test Circuit





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