



## Ultrahigh-Speed Switching Applications

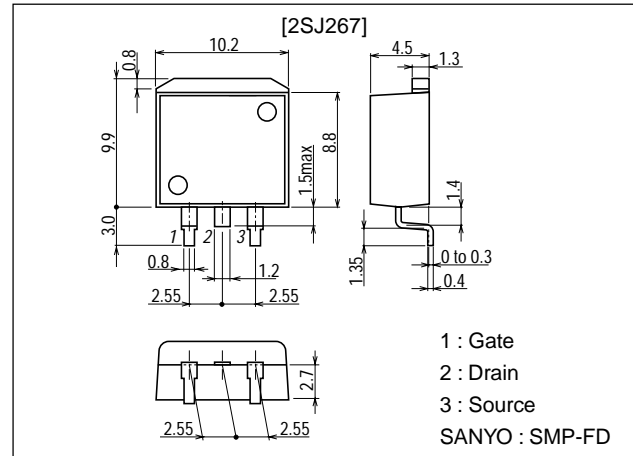
### Features

- Low ON resistance.
- Ultrahigh-speed switching.
- Low-voltage drive.
- Surface mount type device making the following possible.
  - Reduction in the assembling time for 2SJ267-applied equipment.
  - High-density surface mount applications.
  - Small size of 2SJ267-applied equipment.

### Package Dimensions

unit:mm

2090A



### 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      | $V_{GSS}$ |   | $\pm 20$    | V          |
| Drain Current (DC)          | $I_D$     |   | -10         | A          |
| Drain Current (Pulse)       | $I_{DP}$  | $PW \leq 10\mu s$ , duty cycle $\leq 1\%$ | -40         | A          |
| Allowable Power Dissipation | $P_D$     |   | 1.65        | W          |
|                             |           | $T_c = 25^\circ C$                        | 60          | W          |
| Channel Temperature         | $T_{ch}$  |   | 150         | $^\circ C$ |
| Storage Temperature         | $T_{stg}$ |   | -55 to +150 | $^\circ C$ |

#### 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        |
| Gate-to-Source Breakdown Voltage           | $V_{(BR)GSS}$ | $I_G = \pm 100\mu A$ , $V_{DS} = 0$ | $\pm 20$ |      |          | V        |
| Zero-Gate Voltage Drain Current            | $I_{DSS}$     | $V_{DS} = -60V$ , $V_{GS} = 0$      |          |      | -100     | $\mu A$  |
| Gate-to-Source Leakage Current             | $I_{GSS}$     | $V_{GS} = \pm 16V$ , $V_{DS} = 0$   |          |      | $\pm 10$ | $\mu A$  |
| Cutoff Voltage                             | $V_{GS(off)}$ | $V_{DS} = -10V$ , $I_D = -1mA$      | -1.0     |      | -2.0     | V        |
| Forward Transfer Admittance                | $ y_{fs} $    | $V_{DS} = -10V$ , $I_D = -5A$       | 4        | 7.5  |          | S        |
| Static Drain-to-Source ON-State Resistance | $R_{DS(on)}$  | $I_D = -5A$ , $V_{GS} = -10V$       |          | 0.11 | 0.15     | $\Omega$ |
|  | $R_{DS(on)}$  | $I_D = -5A$ , $V_{GS} = -4V$        |          | 0.15 | 0.2      | $\Omega$ |

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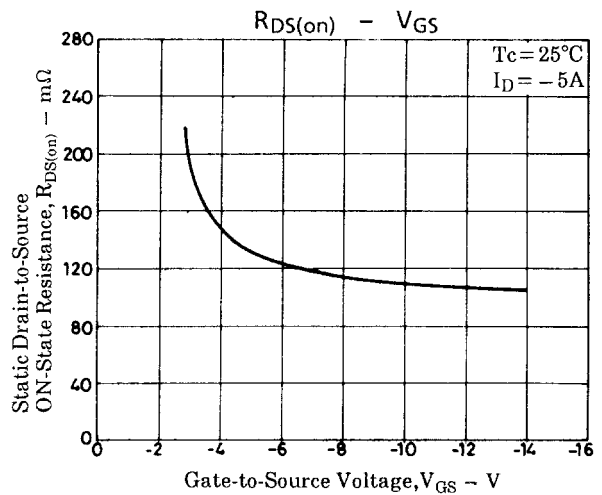
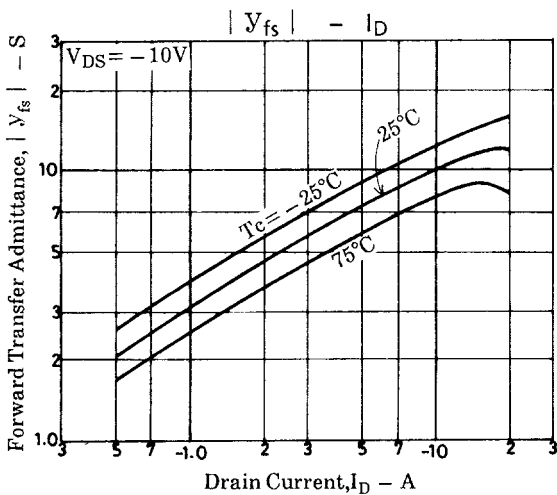
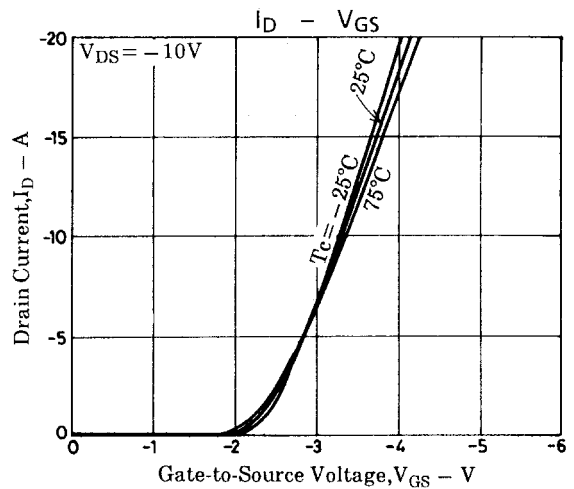
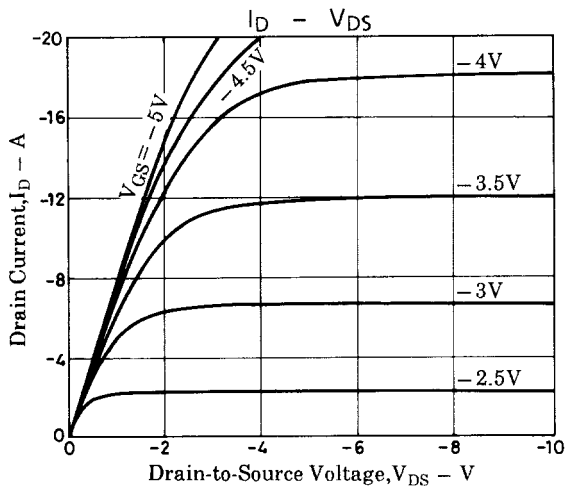
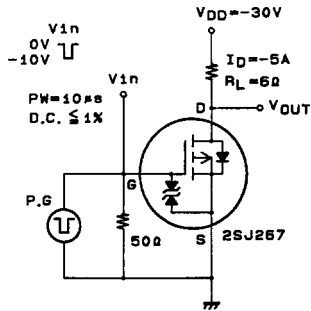
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# 2SJ267

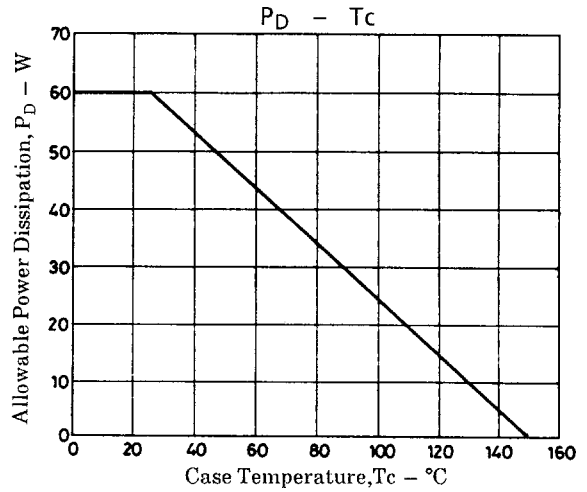
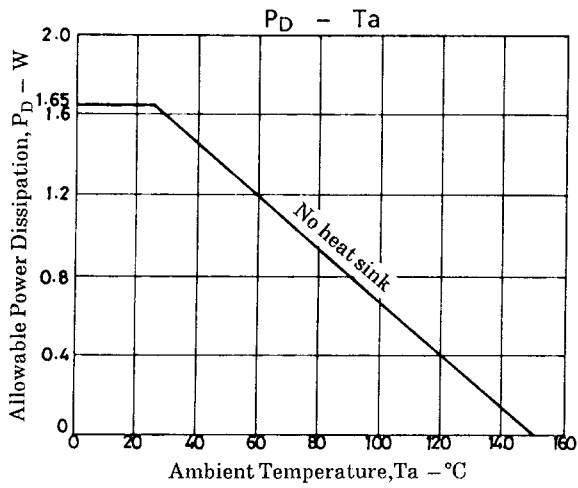
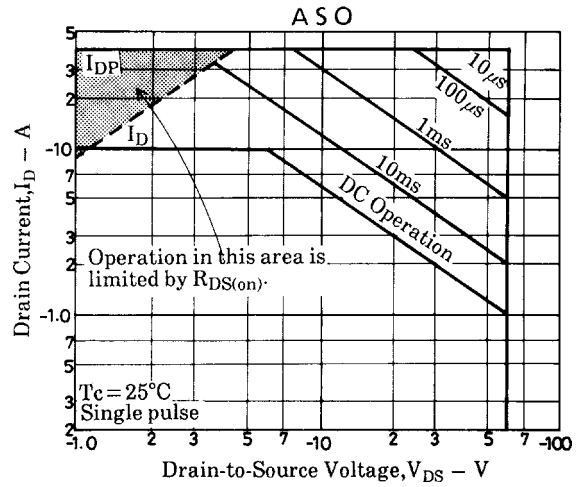
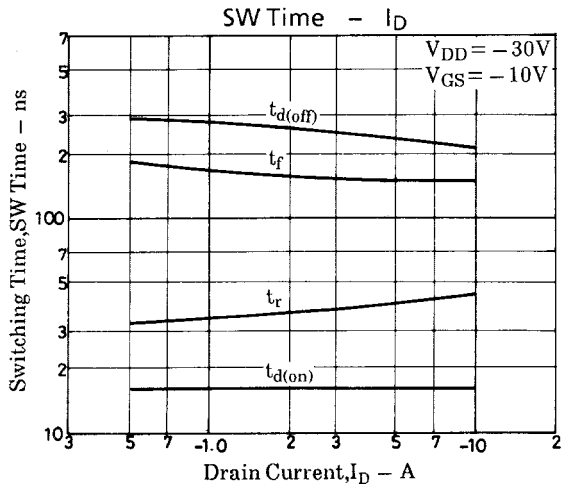
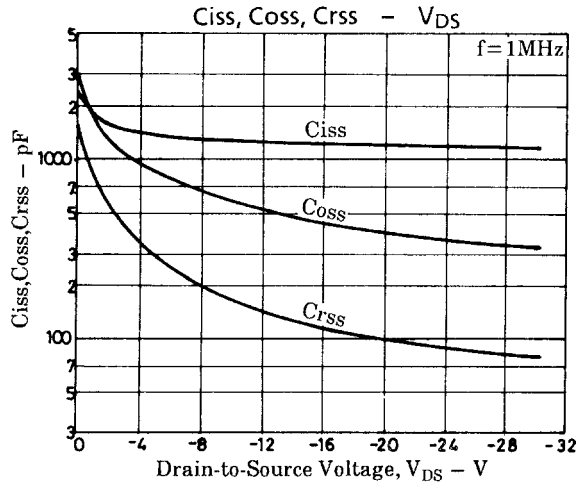
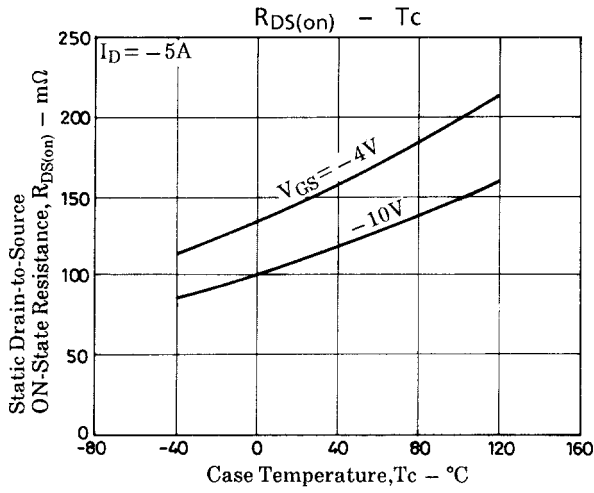
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| Parameter                    | Symbol       | Conditions                 | Ratings |      |      | Unit |
|------------------------------|--------------|----------------------------|---------|------|------|------|
|                              |              |                            | min     | typ  | max  |      |
| Input Capacitance            | $C_{iss}$    | $V_{DS} = -20V, f = 1MHz$  |         | 1230 |      | pF   |
| Output Capacitance           | $C_{oss}$    | $V_{DS} = -20V, f = 1MHz$  |         | 390  |      | pF   |
| Reverse Transfer Capacitance | $C_{rss}$    | $V_{DS} = -20V, f = 1MHz$  |         | 100  |      | pF   |
| Turn-ON Delay Time           | $t_{d(on)}$  | See specified Test Circuit |         | 16   |      | ns   |
| Rise Time                    | $t_r$        | See specified Test Circuit |         | 40   |      | ns   |
| Turn-OFF Delay Time          | $t_{d(off)}$ | See specified Test Circuit |         | 230  |      | ns   |
| Fall Time                    | $t_f$        | See specified Test Circuit |         | 150  |      | ns   |
| Diode Forward Voltage        | $V_{SD}$     | $I_S = -10A, V_{GS} = 0$   |         | -1.0 | -1.5 | V    |

## Switching Time Test Circuit



# 2SJ267



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