

Ordering number : ENN7625

P-Channl Silicon MOSFET



**2SJ652**

**General-Purpose Switching Device Applications**

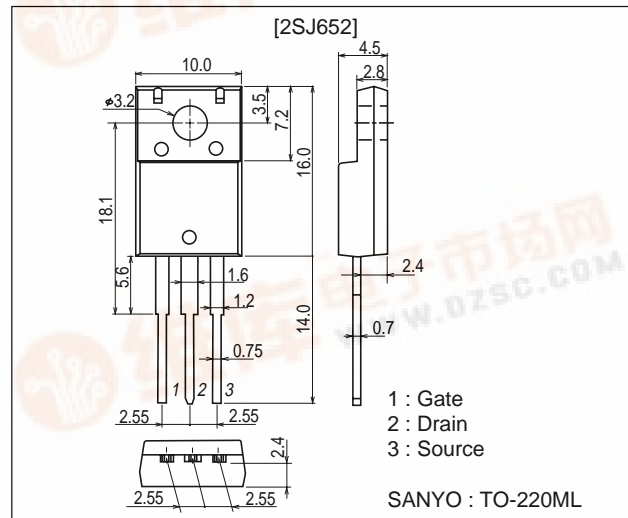
**Features**

- Low ON-resistance.
- Ultrahigh-speed switching.
- 4V drive.
- Motor drive, DC / DC converter.

**Package Dimensions**

unit : mm

2063A



**Specifications**

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

| Parameter                   | Symbol           | Conditions              | Ratings     | Unit |
|-----------------------------|------------------|-------------------------|-------------|------|
| Drain-to-Source Voltage     | V <sub>DSS</sub> |                         | -60         | V    |
| Gate-to-Source Voltage      | V <sub>GSS</sub> |                         | ±20         | V    |
| Drain Current (DC)          | I <sub>D</sub>   |                         | -28         | A    |
| Drain Current (Pulse)       | I <sub>DP</sub>  | PWS≤10μs, duty cycle≤1% | -112        | A    |
| Allowable Power Dissipation | P <sub>D</sub>   |                         | 2.0         | W    |
|                             |                  | Tc=25°C                 | 30          | W    |
| Channel Temperature         | T <sub>ch</sub>  |                         | 150         | °C   |
| Storage Temperature         | T <sub>stg</sub> |                         | -55 to +150 | °C   |

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

| Parameter                         | Symbol               | Conditions                                  | Ratings |     |      | Unit |
|-----------------------------------|----------------------|---|---------|-----|------|------|
|                                   |                      |   | min     | typ | max  |      |
| Drain-to-Source Breakdown Voltage | V <sub>(BR)DSS</sub> | I <sub>D</sub> =-1mA, V <sub>GS</sub> =0    | -60     |     |      | V    |
| Zero-Gate Voltage Drain Current   | I <sub>DSS</sub>     | V <sub>DS</sub> =-60V, V <sub>GS</sub> =0   |         |     | -1   | μA   |
| Gate-to-Source Leakage Current    | I <sub>GSS</sub>     | V <sub>GS</sub> =±16V, V <sub>DS</sub> =0   |         |     | ±10  | μA   |
| Cutoff Voltage                    | V <sub>GS(off)</sub> | V <sub>DS</sub> =-10V, I <sub>D</sub> =-1mA | -1.2    |     | -2.6 | V    |
| Forward Transfer Admittance       | y <sub>fs</sub>      | V <sub>DS</sub> =-10V, I <sub>D</sub> =-14A | 18      | 26  |      | S    |

Marking : J652

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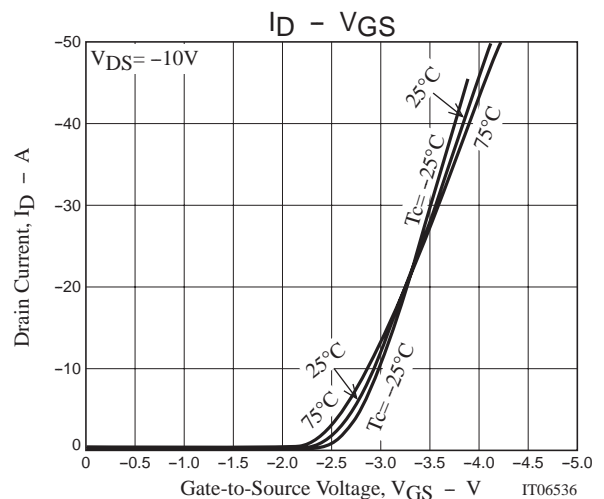
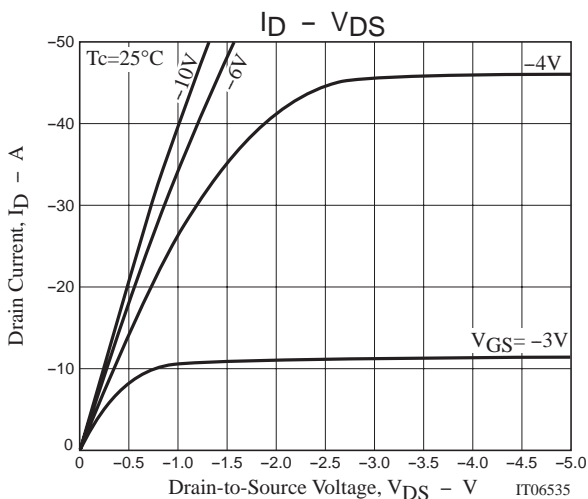
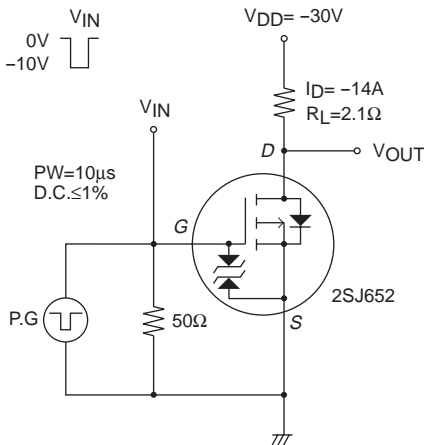


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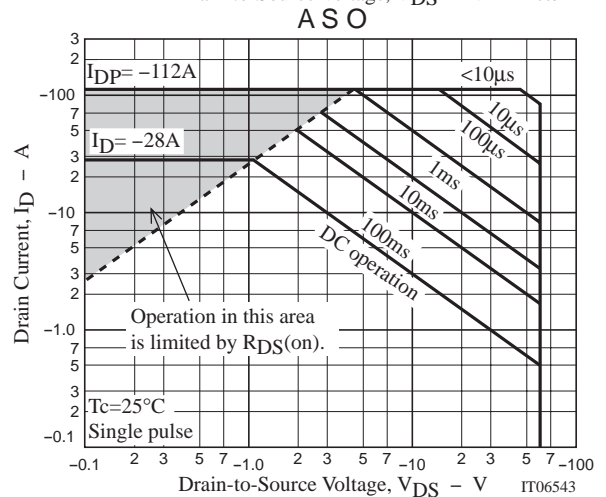
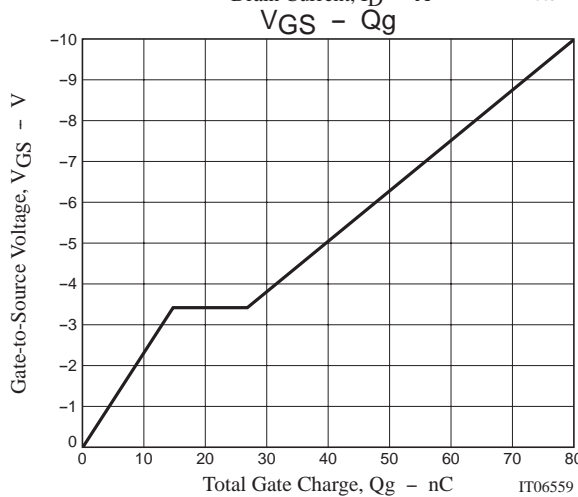
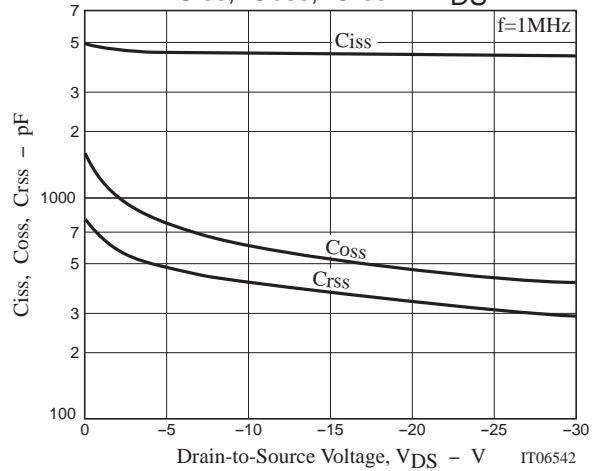
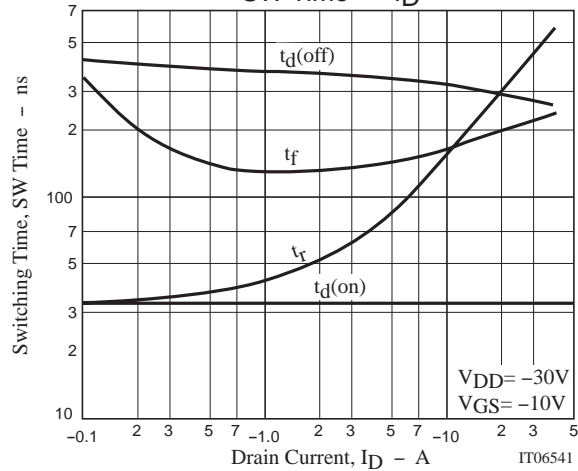
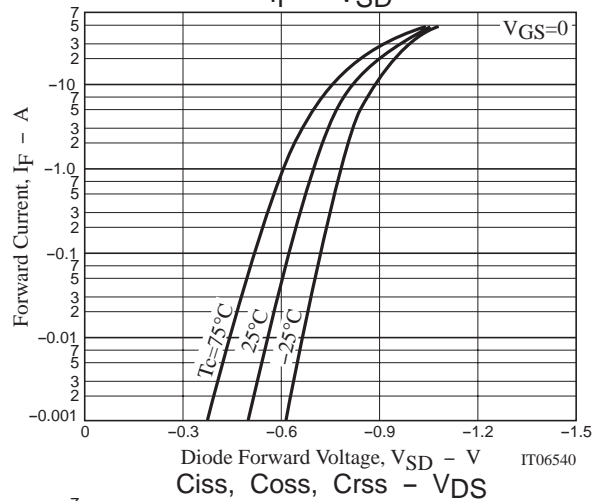
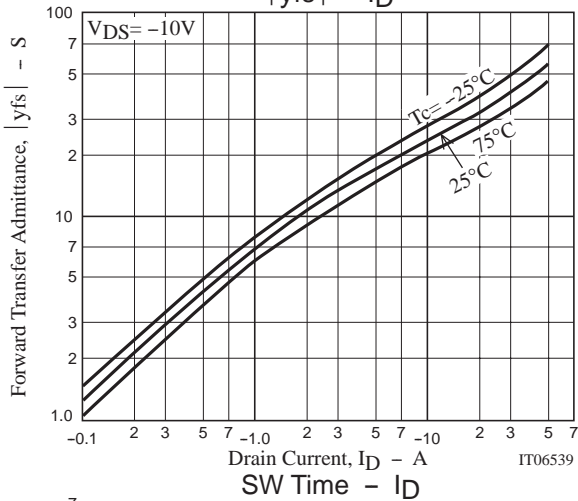
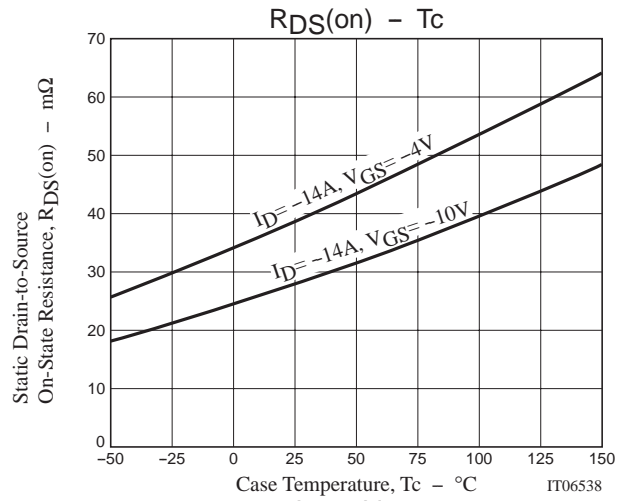
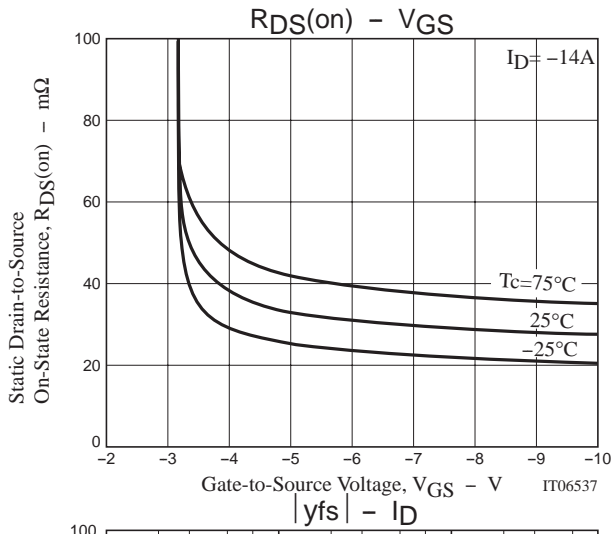
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| Parameter                                  | Symbol               | Conditions   | Ratings |      |      | Unit |
|--|----------------------|--|---------|------|------|------|
|  |                      |  | min     | typ  | max  |      |
| Static Drain-to-Source On-State Resistance | R <sub>DS(on)1</sub> | I <sub>D</sub> =-14A, V <sub>GS</sub> =-10V                        |         | 28.5 | 38   | mΩ   |
|  | R <sub>DS(on)2</sub> | I <sub>D</sub> =-14A, V <sub>GS</sub> =-4V                         |         | 39   | 55.5 | mΩ   |
| Input Capacitance                          | C <sub>iss</sub>     | V <sub>DS</sub> =-20V, f=1MHz                                      |         | 4360 |      | pF   |
| Output Capacitance                         | C <sub>oss</sub>     | V <sub>DS</sub> =-20V, f=1MHz                                      |         | 470  |      | pF   |
| Reverse Transfer Capacitance               | C <sub>rss</sub>     | V <sub>DS</sub> =-20V, f=1MHz                                      |         | 335  |      | pF   |
| Turn-ON Delay Time                         | t <sub>d(on)</sub>   | See specified Test Circuit.  |         | 33   |      | ns   |
| Rise Time                                  | t <sub>r</sub>       | See specified Test Circuit.  |         | 210  |      | ns   |
| Turn-OFF Delay Time                        | t <sub>d(off)</sub>  | See specified Test Circuit.  |         | 310  |      | ns   |
| Fall Time                                  | t <sub>f</sub>       | See specified Test Circuit.  |         | 180  |      | ns   |
| Total Gate Charge                          | Q <sub>g</sub>       | V <sub>DS</sub> =-30V, V <sub>GS</sub> =-10V, I <sub>D</sub> =-28A |         | 80   |      | nC   |
| Gate-to-Source Charge                      | Q <sub>gs</sub>      | V <sub>DS</sub> =-30V, V <sub>GS</sub> =-10V, I <sub>D</sub> =-28A |         | 15   |      | nC   |
| Gate-to-Drain "Miller" Charge              | Q <sub>gd</sub>      | V <sub>DS</sub> =-30V, V <sub>GS</sub> =-10V, I <sub>D</sub> =-28A |         | 12   |      | nC   |
| Diode Forward Voltage                      | V <sub>SD</sub>      | I <sub>S</sub> =-28A, V <sub>GS</sub> =0                           | -0.96   |      | -1.2 | V    |

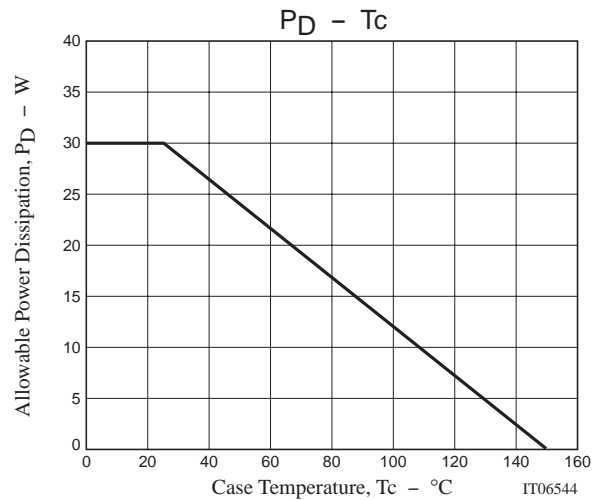
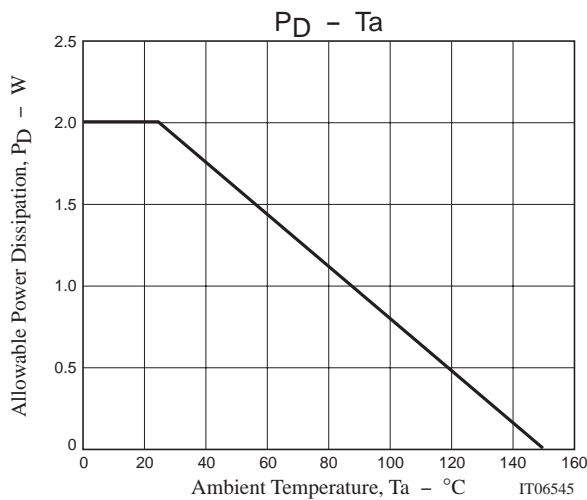
### Switching Time Test Circuit



# 2SJ652



## 2SJ652



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