

勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-54151736  
 勝特力电子(深圳) 86-755-83298787  
 Http://www.100y.com.tw



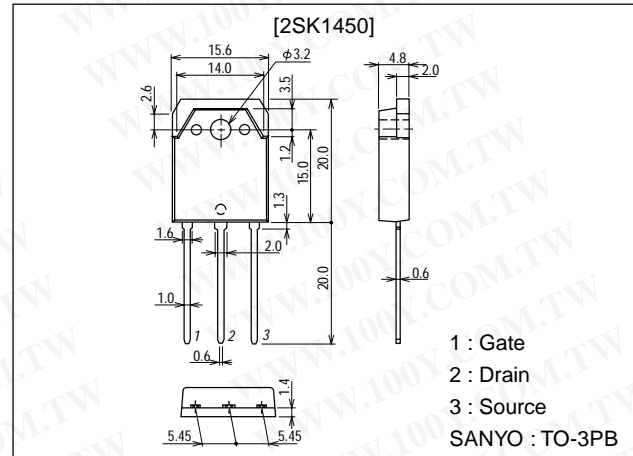
## Ultrahigh-Speed Switching Applications

### Features

- Low ON-state resistance.
- Ultrahigh-speed switching, converters.

### Package Dimensions

unit:mm  
 2056A



### Specifications

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

| Parameter                   | Symbol    | Conditions                                | Ratings     | Unit       |
|-----------------------------|-----------|---|-------------|------------|
| Drain-to-Source Voltage     | $V_{DSS}$ |   | 450         | V          |
| Gate-to-Source Voltage      | $V_{GSS}$ |   | $\pm 30$    | V          |
| Drain Current (DC)          | $I_D$     |   | 20          | A          |
| Drain Current (Pulse)       | $I_{DP}$  | $PW \leq 10\mu s$ , duty cycle $\leq 1\%$ | 80          | A          |
| Allowable Power Dissipation | $P_D$     | $T_c = 25^\circ C$                        | 150         | W          |
|                             |           |   | 2.5         | 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          | $V_{(BR)DSS}$ | $I_D = 1mA$ , $V_{GS} = 0$        | 450     |      |           | V        |
| Zero-Gate Voltage Drain Current            | $I_{DSS}$     | $V_{DS} = 450V$ , $V_{GS} = 0$    |         |      | 1.0       | mA       |
| Gate-to-Source Leakage Current             | $I_{GSS}$     | $V_{GS} = \pm 30V$ , $V_{DS} = 0$ |         |      | $\pm 100$ | nA       |
| Cutoff Voltage                             | $V_{GS(off)}$ | $V_{DS} = 10V$ , $I_D = 1mA$      | 2.0     |      | 3.0       | V        |
| Forward Transfer Admittance                | $ y_{fs} $    | $V_{DS} = 10V$ , $I_D = 10A$      | 7.5     | 15   |           | S        |
| Static Drain-to-Source ON-State Resistance | $R_{DS(on)}$  | $I_D = 10A$ , $V_{GS} = 10V$      |         | 0.24 | 0.3       | $\Omega$ |

(Note) Be careful in handling the 2SK1450 because it has no protection diode between gate and source.

Continued on next page.

- Any and all SANYO products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your SANYO representative nearest you before using any SANYO products described or contained herein in such applications.
- SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

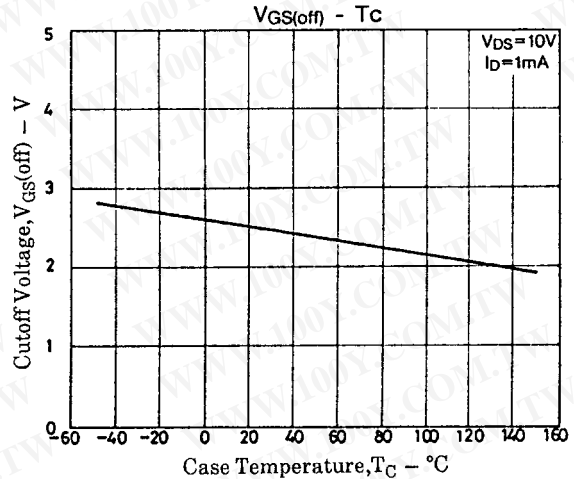
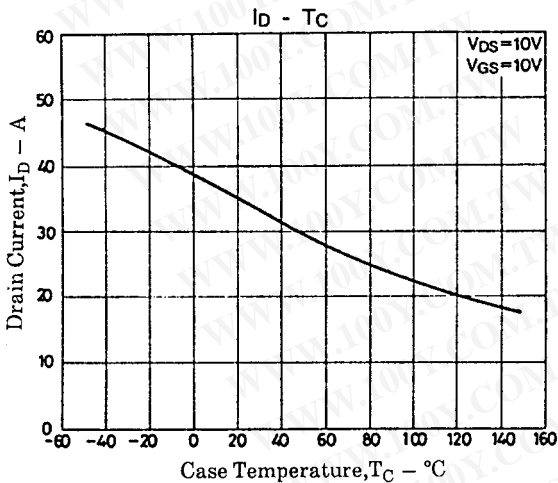
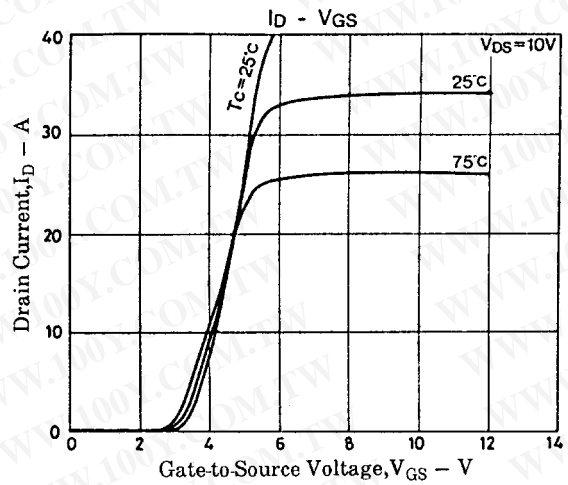
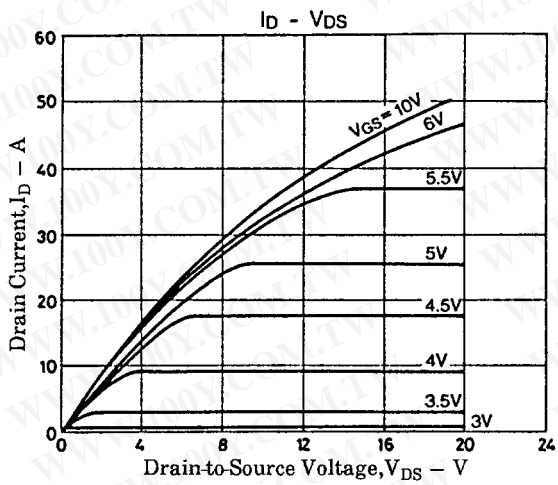
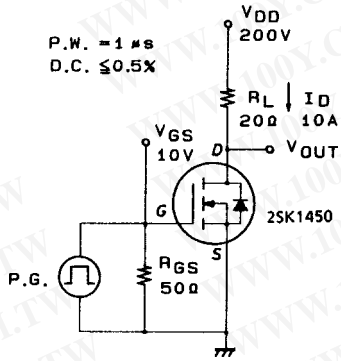
# 2SK1450

勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-54151736  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

Continued from preceding page.

| Parameter                    | Symbol       | Conditions  | Ratings |      |     | Unit |
|------------------------------|--------------|---|---------|------|-----|------|
|                              |              |   | min     | typ  | max |      |
| Input Capacitance            | Ciss         | $V_{DS}=20V, f=1MHz$                                |         | 3200 |     | pF   |
| Output Capacitance           | Coss         | $V_{DS}=20V, f=1MHz$                                |         | 440  |     | pF   |
| Reverse Transfer Capacitance | Crss         | $V_{DS}=20V, f=1MHz$                                |         | 160  |     | pF   |
| Turn-ON Delay Time           | $t_{d(on)}$  | $I_D=10A, V_{GS}=10V, V_{DD}=200V, R_{GS}=50\Omega$ |         | 40   |     | ns   |
| Rise Time                    | $t_r$        | $I_D=10A, V_{GS}=10V, V_{DD}=200V, R_{GS}=50\Omega$ |         | 100  |     | ns   |
| Turn-OFF Delay Time          | $t_{d(off)}$ | $I_D=10A, V_{GS}=10V, V_{DD}=200V, R_{GS}=50\Omega$ |         | 450  |     | ns   |
| Fall Time                    | $t_f$        | $I_D=10A, V_{GS}=10V, V_{DD}=200V, R_{GS}=50\Omega$ |         | 150  |     | ns   |
| Diode Forward Voltage        | $V_{SD}$     | $I_S=20A, V_{GS}=0$                                 |         |      | 1.8 | V    |

## Switching Time Test Circuit



## 2SK1450

