



# 2SK2628ALS — N-Channel Silicon MOSFET

## General-Purpose Switching Device Applications

### Features

- Low ON-resistance.
- Low Qg.
- Ultrahigh-speed switching.

### Specifications

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

| Parameter                          | Symbol                | Conditions  | Ratings     | Unit |
|------------------------------------|-----------------------|---|-------------|------|
| Drain-to-Source Voltage            | V <sub>DSS</sub>      |   | 600         | V    |
| Gate-to-Source Voltage             | V <sub>GSS</sub>      |   | ±30         | V    |
| Drain Current (DC)                 | I <sub>DC</sub> *1    | Limited only by maximum temperature                             | 7           | A    |
|                                    | I <sub>Dpack</sub> *2 | SANYO's ideal heat dissipation condition                        | 6.2         | A    |
| Drain Current (Pulse)              | I <sub>DP</sub>       | PW≤10μs, duty cycle≤1%  | 24          | A    |
| Allowable Power Dissipation        | P <sub>D</sub>        |   | 2.0         | W    |
|                                    |                       | T <sub>c</sub> =25°C (SANYO's ideal heat dissipation condition) | 35          | W    |
| Channel Temperature                | T <sub>ch</sub>       |   | 150         | °C   |
| Storage Temperature                | T <sub>stg</sub>      |   | -55 to +150 | °C   |
| Avalanche Energy (Single Pulse) *3 | E <sub>AS</sub>       |   | 98          | mJ   |
| Avalanche Current *4               | I <sub>AV</sub>       |   | 6           | A    |

\*1 Shows chip capability

\*2 Package limited

\*3 V<sub>DD</sub>=50V, L=5mH, I<sub>AV</sub>=6A

\*4 L≤5mH, single pulse

Marking : K2628

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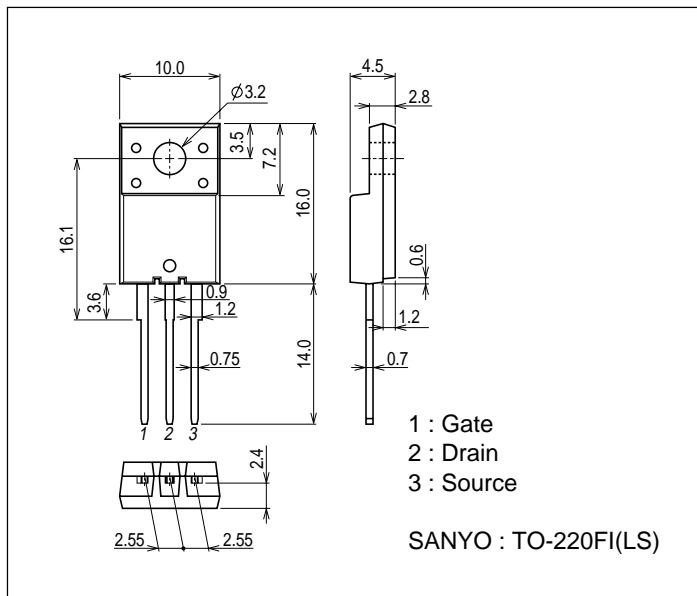
# 2SK2628ALS

## Electrical Characteristics at Ta=25°C

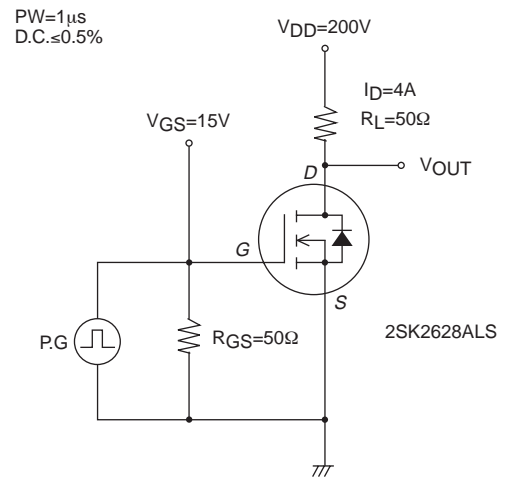
| Parameter                                  | Symbol        | Conditions                        | Ratings |      |           | Unit     |
|--|---------------|-----------------------------------|---------|------|-----------|----------|
|  |               |                                   | min     | typ  | max       |          |
| Drain-to-Source Breakdown Voltage          | $V_{(BR)DSS}$ | $I_D=1mA, V_{GS}=0V$              | 600     |      |           | V        |
| Zero-Gate Voltage Drain Current            | $I_{DSS}$     | $V_{DS}=600V, V_{GS}=0V$          |         |      | 1.0       | mA       |
| Gate-to-Source Leakage Current             | $I_{GSS}$     | $V_{GS}=\pm 30V, V_{DS}=0V$       |         |      | $\pm 100$ | nA       |
| Cutoff Voltage                             | $V_{GS(off)}$ | $V_{DS}=10V, I_D=1mA$             | 3.5     |      | 5.5       | V        |
| Forward Transfer Admittance                | $ y_{fs} $    | $V_{DS}=10V, I_D=4A$              | 2.0     | 4.0  |           | S        |
| Static Drain-to-Source On-State Resistance | $R_{DS(on)}$  | $I_D=2A, V_{GS}=15V$              |         | 0.9  | 1.1       | $\Omega$ |
| Input Capacitance                          | $C_{iss}$     | $V_{DS}=20V, f=1MHz$              |         | 1050 |           | pF       |
| Output Capacitance                         | $C_{oss}$     | $V_{DS}=20V, f=1MHz$              |         | 320  |           | pF       |
| Reverse Transfer Capacitance               | $C_{rss}$     | $V_{DS}=20V, f=1MHz$              |         | 180  |           | pF       |
| Total Gate Charge                          | $Q_g$         | $V_{DS}=200V, V_{GS}=10V, I_D=6A$ |         | 30   |           | nC       |
| Turn-ON Delay Time                         | $t_d(on)$     | See specified Test Circuit.       |         | 23   |           | ns       |
| Rise Time                                  | $t_r$         | See specified Test Circuit.       |         | 35   |           | ns       |
| Turn-OFF Delay Time                        | $t_d(off)$    | See specified Test Circuit.       |         | 90   |           | ns       |
| Fall Time                                  | $t_f$         | See specified Test Circuit.       |         | 35   |           | ns       |
| Diode Forward Voltage                      | $V_{SD}$      | $I_S=6A, V_{GS}=0V$               |         | 0.85 | 1.2       | V        |

## Package Dimensions

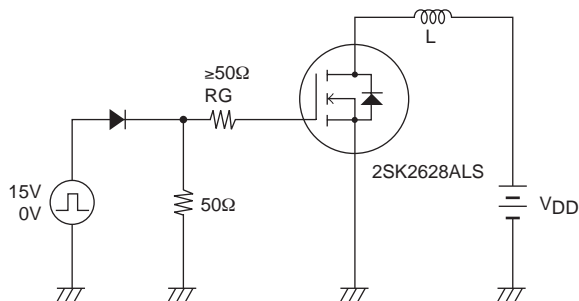
unit : mm (typ)  
7509-002



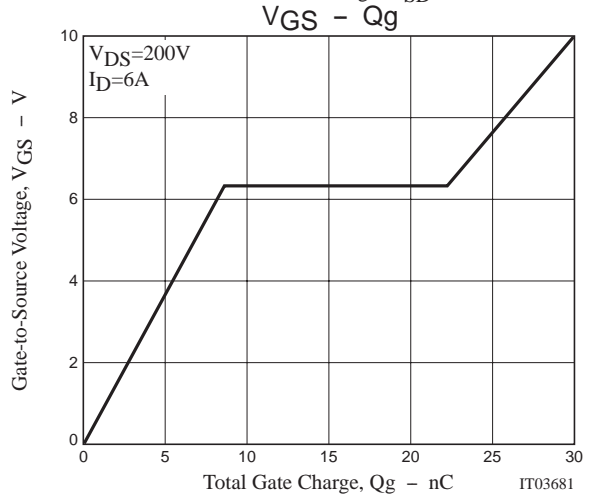
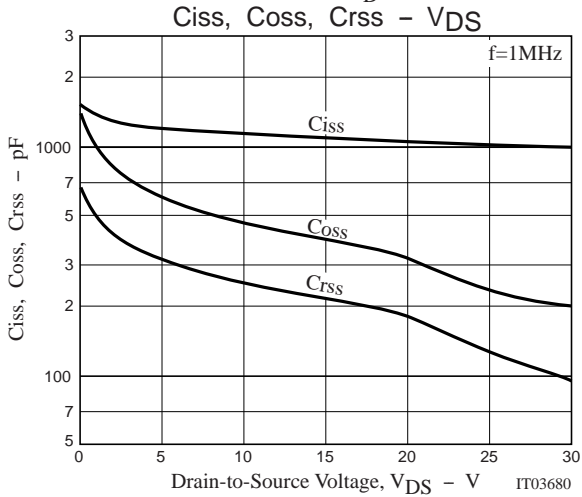
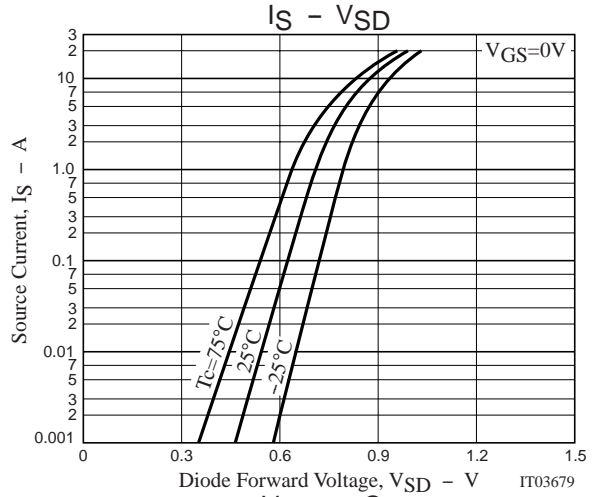
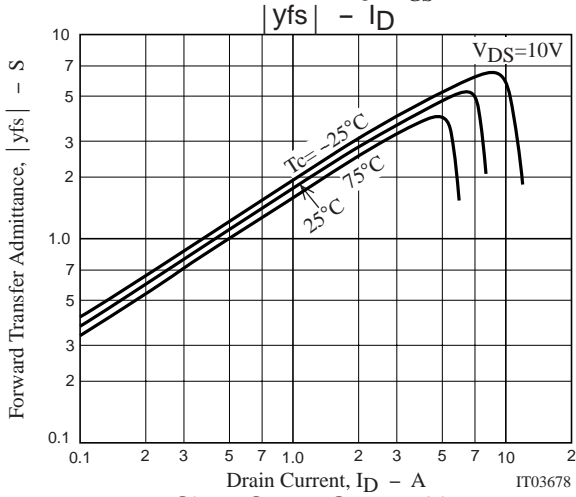
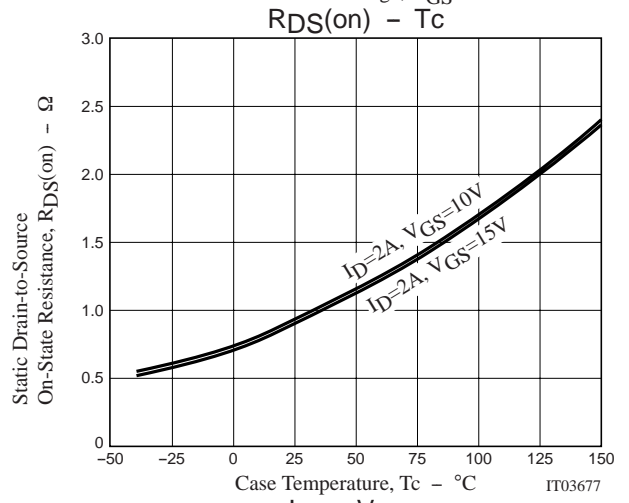
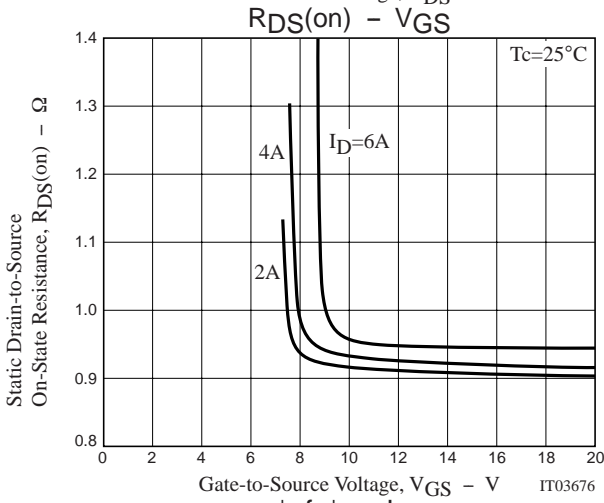
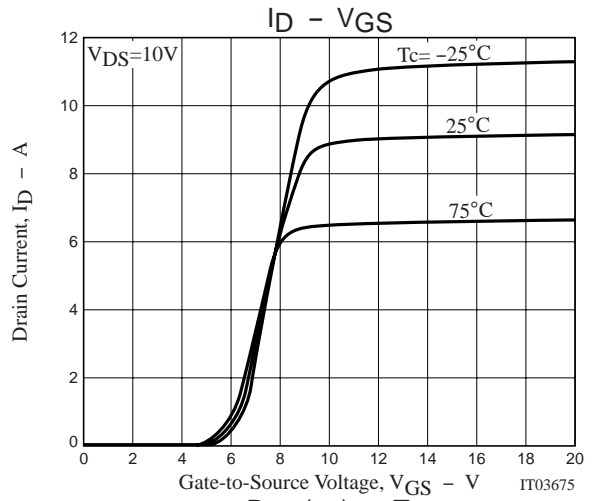
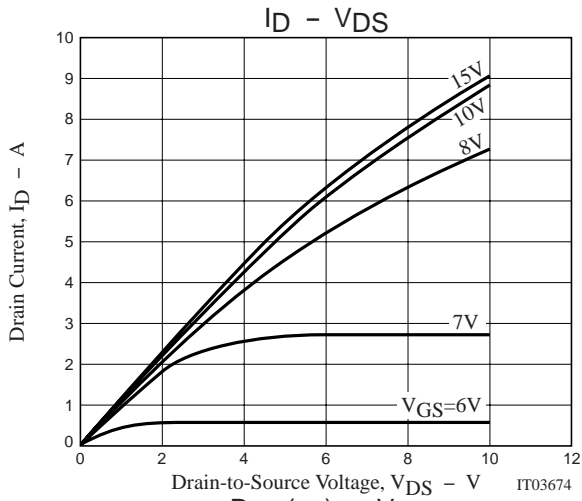
## Switching Time Test Circuit



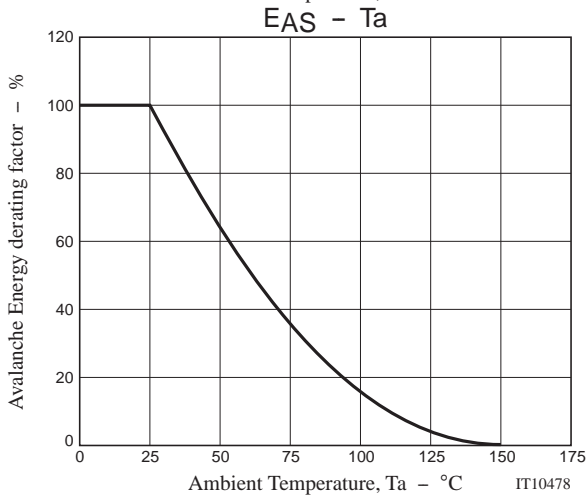
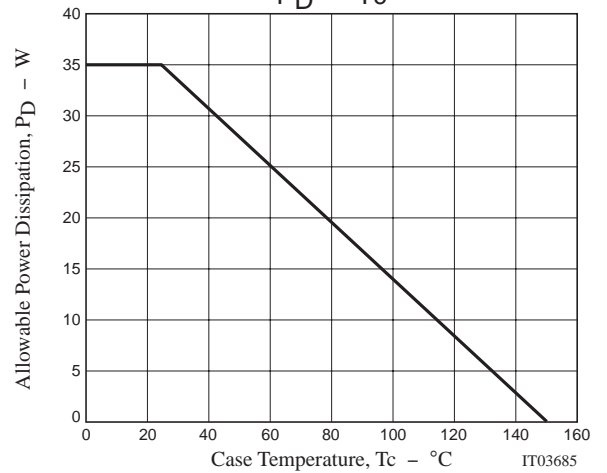
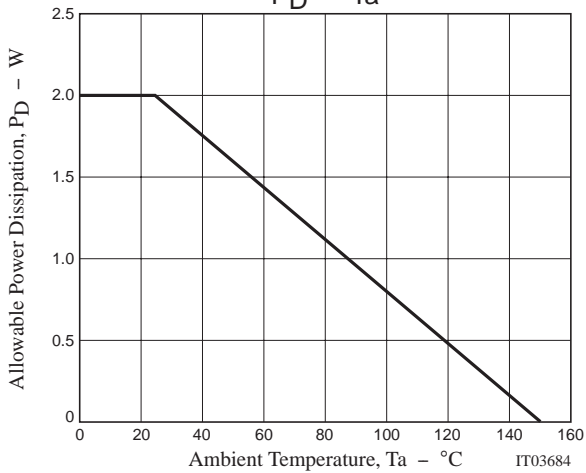
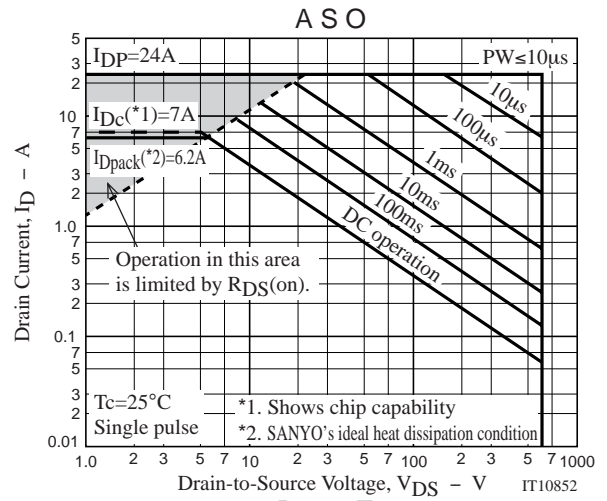
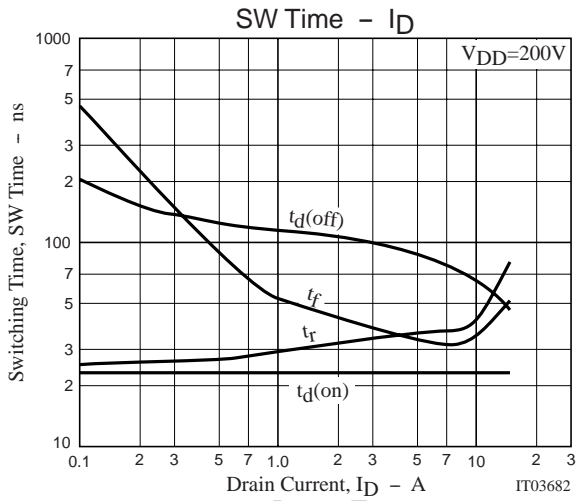
## Avalanche Resistance Test Circuit



# 2SK2628ALS



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Note on usage : Since the 2SK2628ALS is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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