



SANYO Semiconductors

DATA SHEET

2SK2618ALS

N-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- Low Qg.
- Ultrahigh-speed switching.
- Micaless package facilitating mounting.

Specifications

Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------------|-----------------------|--|-------------|------|
| Drain-to-Source Voltage | V _{DSS} | | 500 | V |
| Gate-to-Source Voltage | V _{GSS} | | ±30 | V |
| Drain Current (DC) | I _{Dc} *1 | Limited only by maximum temperature | 6.5 | A |
| | I _{Dpack} *2 | Tc=25°C (SANYO's ideal heat dissipation condition)*3 | 5.6 | A |
| Drain Current (Pulse) | I _{DP} | PW≤10μs, duty cycle≤1% | 20 | A |
| Allowable Power Dissipation | P _D | | 2.0 | W |
| | | Tc=25°C (SANYO's ideal heat dissipation condition)*3 | 30 | W |
| Channel Temperature | T _{ch} | | 150 | °C |
| Storage Temperature | T _{stg} | | -55 to +150 | °C |
| Avalanche Energy (Single Pulse) *4 | E _{AS} | | 138 | mJ |
| Avalanche Current *5 | I _{AV} | | 5 | A |

*1 Shows chip capability

*2 Package limited

*3 SANYO's condition is radiation from backside.

The method is applying silicone grease to the backside of the device and attaching the device to water-cooled radiator made of aluminium.

*4 V_{DD}=50V, L=10mH, I_{AV}=5A

*5 L≤10mH, single pulse

Marking : K2618

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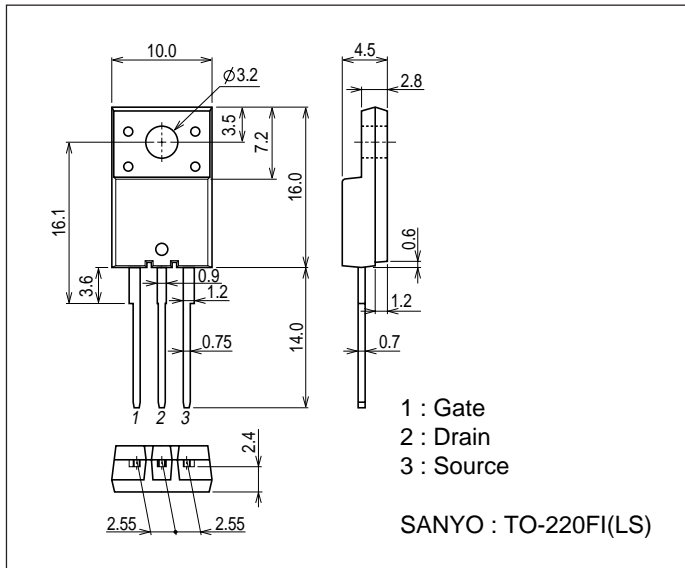
2SK2618ALS

Electrical Characteristics at Ta=25°C

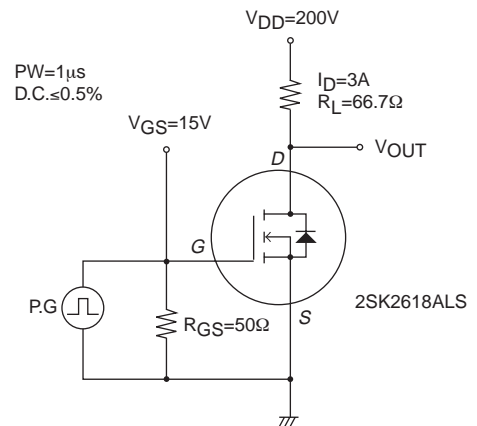
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|---------------|-----------------------------------|---------|------|-----------|----------|
| | | | min | typ | max | |
| Drain-to-Source Breakdown Voltage | $V_{(BR)DSS}$ | $I_D=1mA, V_{GS}=0V$ | 500 | | | V |
| Zero-Gate Voltage Drain Current | I_{DSS} | $V_{DS}=500V, V_{GS}=0V$ | | | 1.0 | mA |
| Gate-to-Source Leakage Current | I_{GSS} | $V_{GS}=\pm 30V, V_{DS}=0V$ | | | ± 100 | nA |
| Cutoff Voltage | $V_{GS(off)}$ | $V_{DS}=10V, I_D=1mA$ | 3.5 | | 5.5 | V |
| Forward Transfer Admittance | $ y_{fs} $ | $V_{DS}=10V, I_D=3A$ | 1.5 | 3.0 | | S |
| Static Drain-to-Source On-State Resistance | $R_{DS(on)}$ | $I_D=3A, V_{GS}=15V$ | | 0.95 | 1.25 | Ω |
| Input Capacitance | C_{iss} | $V_{DS}=20V, f=1MHz$ | | 700 | | pF |
| Output Capacitance | C_{oss} | $V_{DS}=20V, f=1MHz$ | | 250 | | pF |
| Reverse Transfer Capacitance | C_{rss} | $V_{DS}=20V, f=1MHz$ | | 120 | | pF |
| Total Gate Charge | Q_g | $V_{DS}=200V, V_{GS}=10V, I_D=5A$ | | 20 | | nC |
| Turn-ON Delay Time | $t_d(on)$ | See specified Test Circuit. | | 20 | | ns |
| Rise Time | t_r | See specified Test Circuit. | | 20 | | ns |
| Turn-OFF Delay Time | $t_d(off)$ | See specified Test Circuit. | | 50 | | ns |
| Fall Time | t_f | See specified Test Circuit. | | 25 | | ns |
| Diode Forward Voltage | V_{SD} | $I_S=5A, V_{GS}=0V$ | | | 1.2 | V |

Package Dimensions

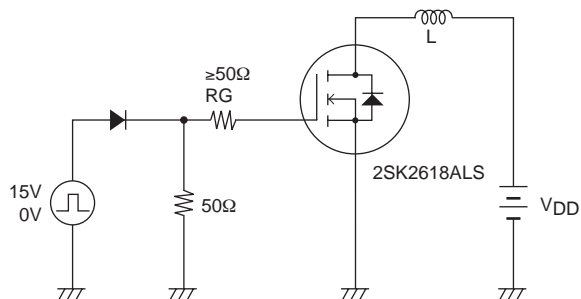
unit : mm (typ)
7509-002



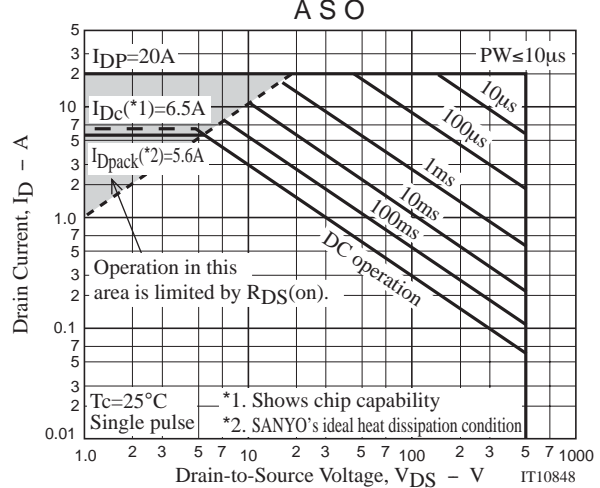
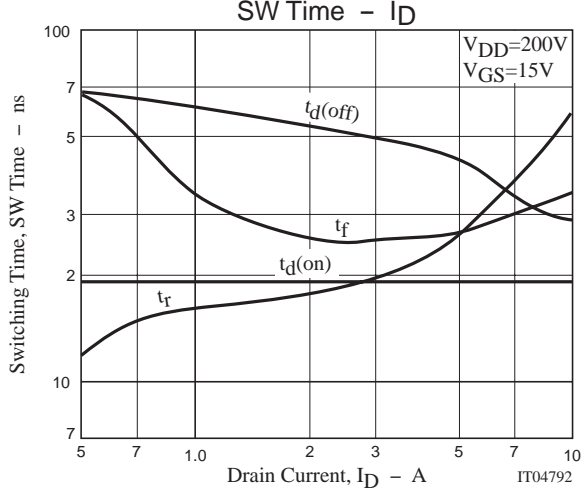
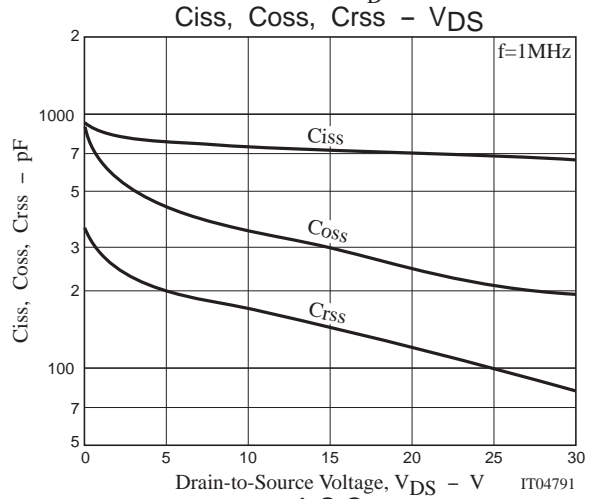
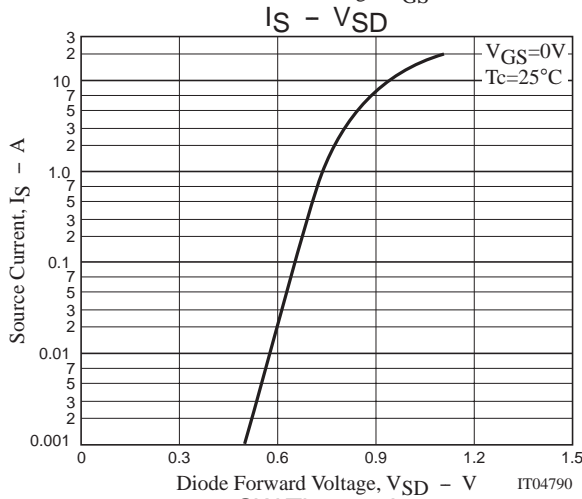
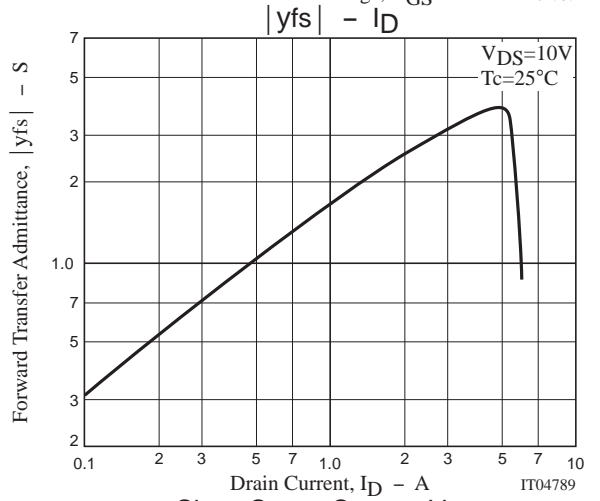
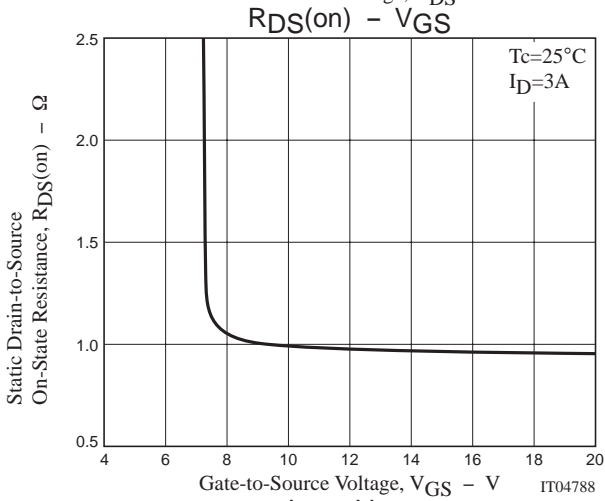
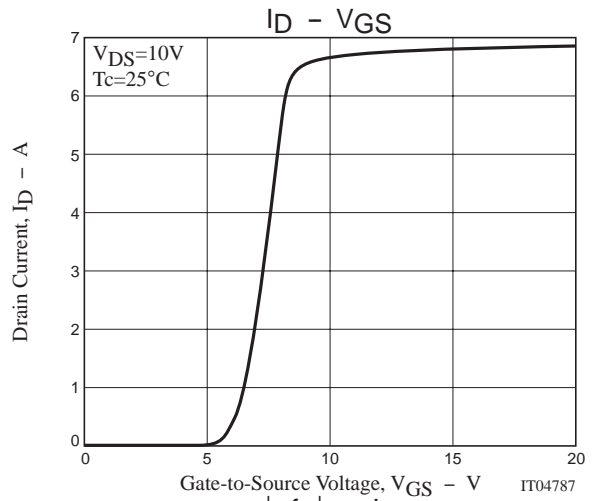
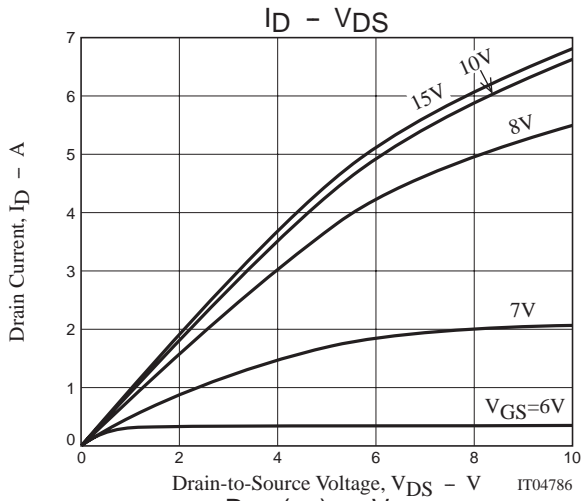
Switching Time Test Circuit



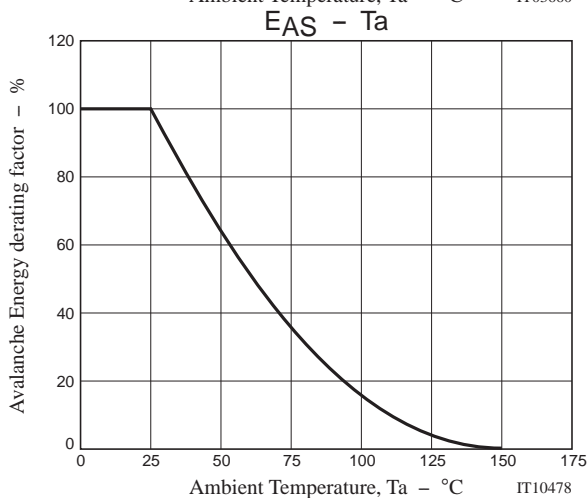
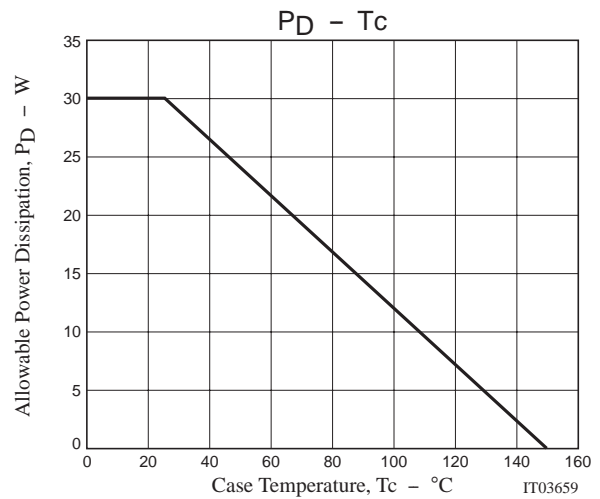
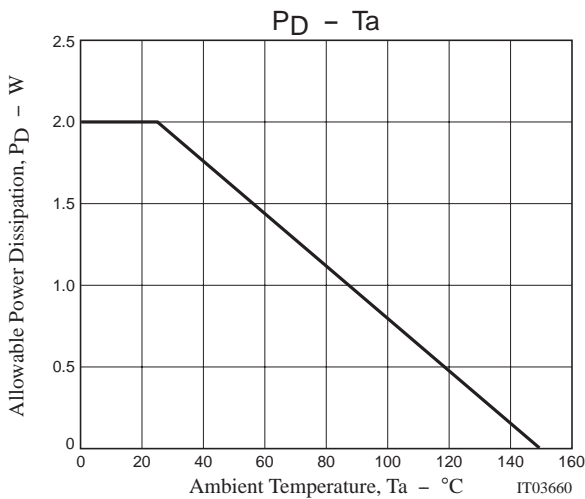
Avalanche Resistance Test Circuit



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Note on usage : Since the 2SK2618ALS is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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