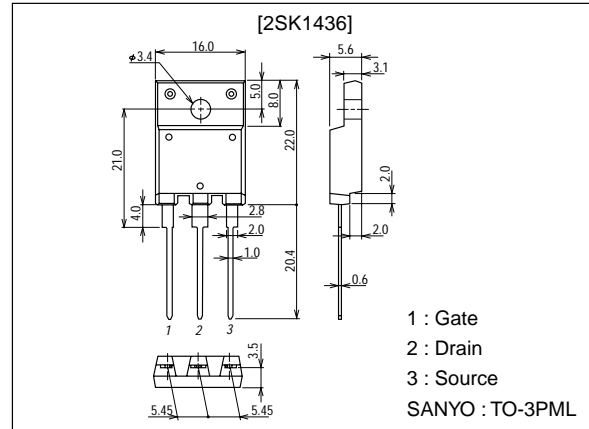


**2SK1436****Ultrahigh-Speed Switching Applications****Features**

- Low ON-state resistance.
- Ultrahigh-speed switching.
- Converters.
- Micaless package facilitating easy mounting.

Package Dimensions

unit:mm
2076B

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

| Parameter | Symbol | Conditions | Ratings | Unit |
|-----------------------------|-----------|---|-------------|------------|
| Drain-to-Source Voltage | V_{DSS} | | 100 | V |
| Gate-to-Source Voltage | V_{GSS} | | ± 20 | V |
| Drain Current (DC) | I_D | | 50 | A |
| Drain Current (Pulse) | I_{DP} | $PW \leq 10\mu s$, duty cycle $\leq 1\%$ | 200 | A |
| Allowable Power Dissipation | P_D | $T_c = 25^\circ C$ | 80 | W |
| | | | 3.0 | 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 | $V_{(BR)DSS}$ | $I_D = 1mA$, $V_{GS} = 0$ | 100 | | | V |
| Zero-Gate Voltage Drain Current | I_{DSS} | $V_{DS} = 100V$, $V_{GS} = 0$ | | | 100 | μA |
| Gate-to-Source Leakage Current | I_{GSS} | $V_{GS} = \pm 20V$, $V_{DS} = 0$ | | | ± 100 | nA |
| Cutoff Voltage | $V_{GS(off)}$ | $V_{DS} = 10V$, $I_D = 1mA$ | 1.5 | | 2.5 | V |
| Forward Transfer Admittance | $ y_{fs} $ | $V_{DS} = 10V$, $I_D = 40A$ | 27 | 45 | | S |
| Static Drain-to-Source ON-State Resistance | $R_{DS(on)}$ | $I_D = 40A$, $V_{GS} = 10V$ | | 0.023 | 0.035 | Ω |

(Note) Be careful in handling the 2SK1436 because it has no protection diode between gate and source.

Continued on next page.

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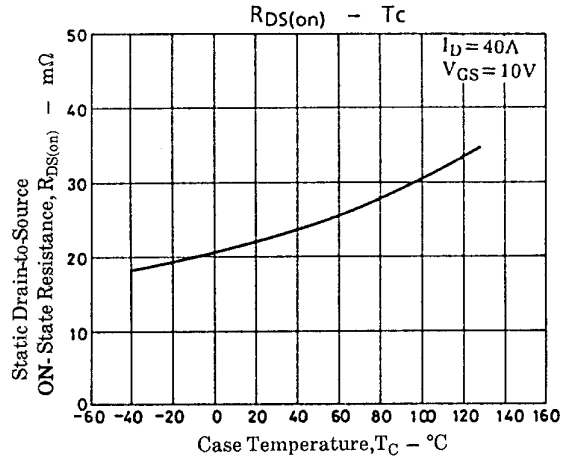
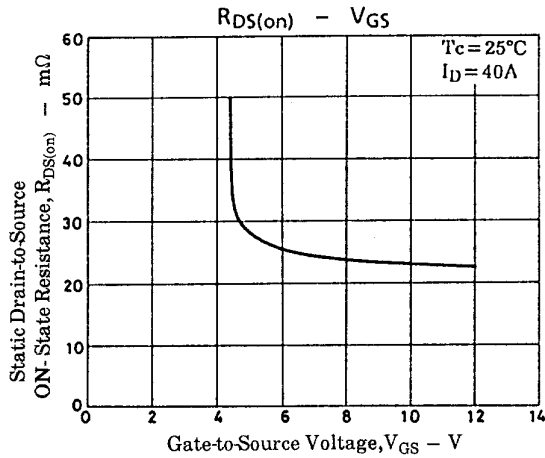
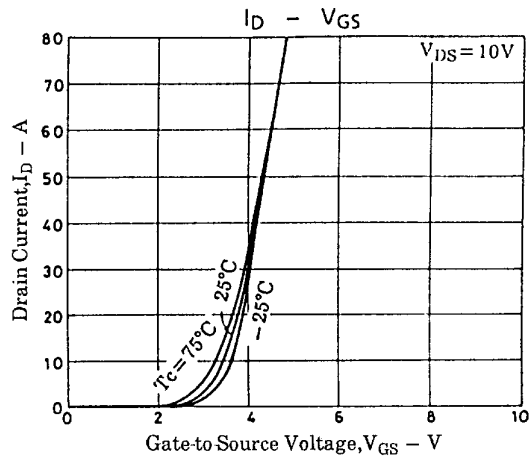
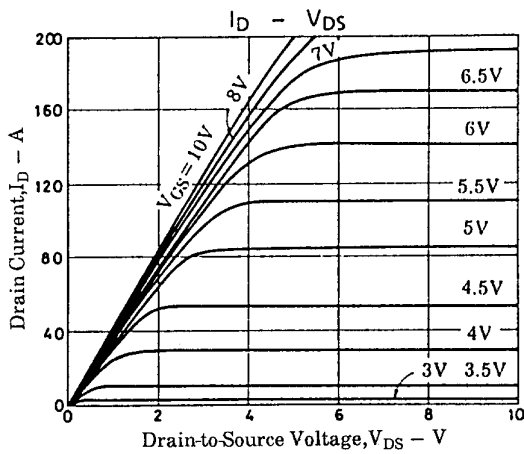
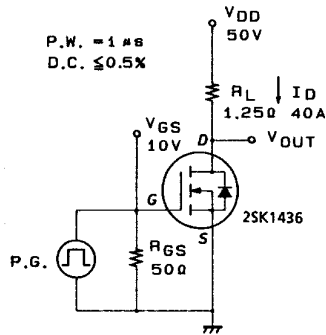
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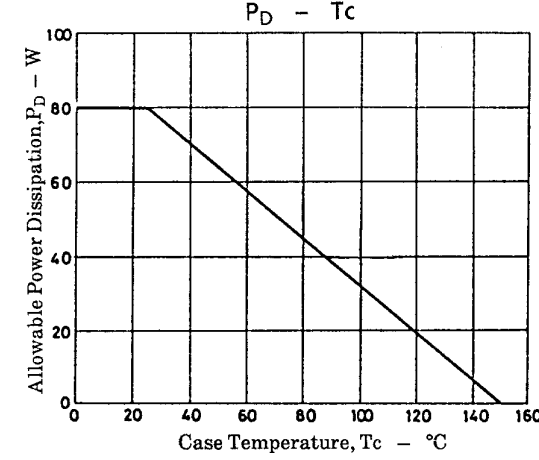
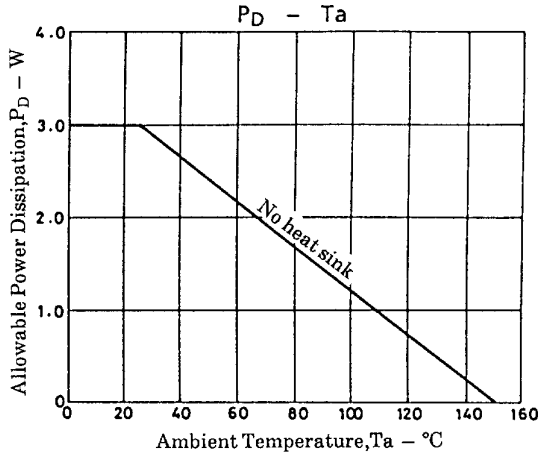
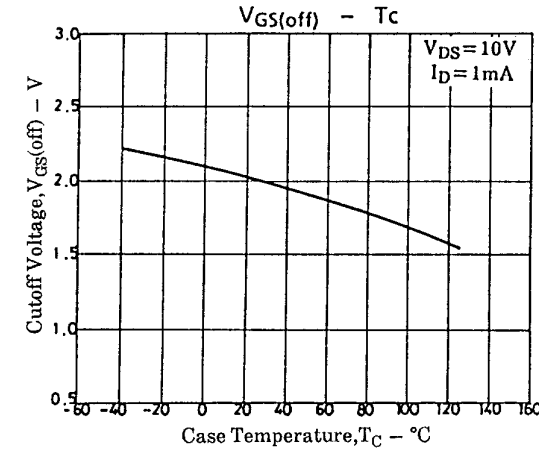
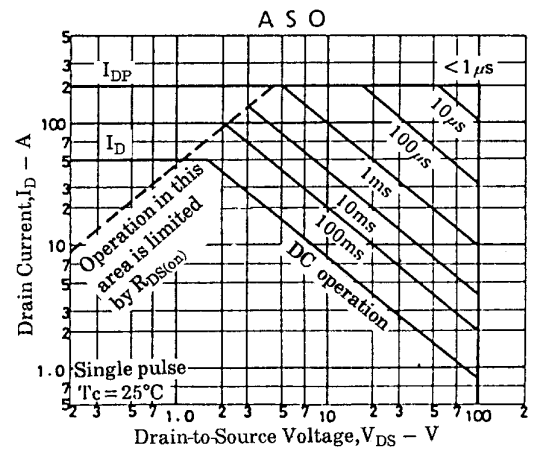
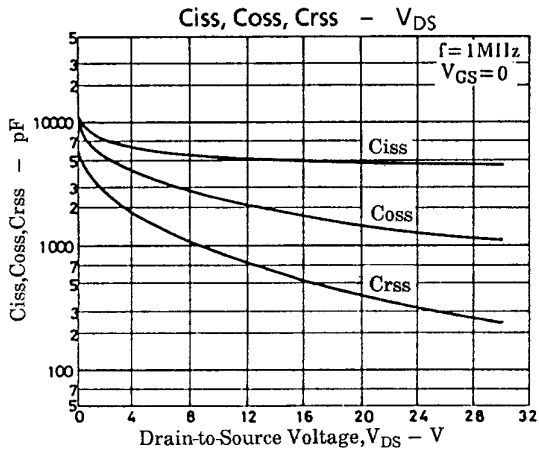
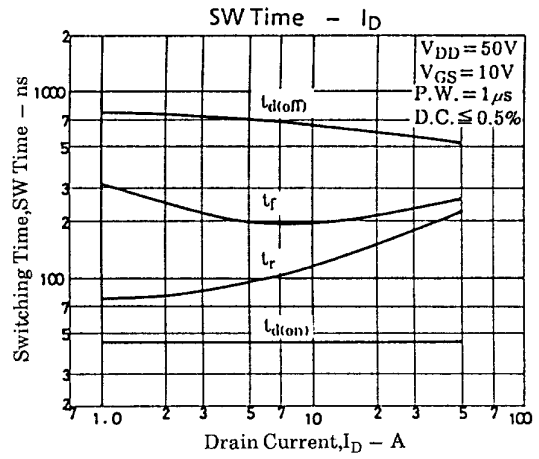
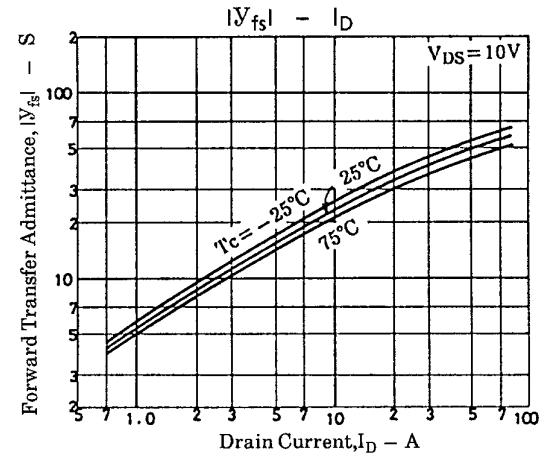
Continued from preceding page.

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|------------------------------|--------------|--|---------|------|-----|------|
| | | | min | typ | max | |
| Input Capacitance | C_{iss} | $V_{DS}=20V, f=1MHz$ | | 4800 | | pF |
| Output Capacitance | C_{oss} | $V_{DS}=20V, f=1MHz$ | | 1400 | | pF |
| Reverse Transfer Capacitance | C_{rss} | $V_{DS}=20V, f=1MHz$ | | 400 | | pF |
| Turn-ON Delay Time | $t_{d(on)}$ | $I_D=40A, V_{GS}=10V, V_{DD}=50V, R_{GS}=50\Omega$ | | 45 | | ns |
| Rise Time | t_r | $I_D=40A, V_{GS}=10V, V_{DD}=50V, R_{GS}=50\Omega$ | | 195 | | ns |
| Turn-OFF Delay Time | $t_{d(off)}$ | $I_D=40A, V_{GS}=10V, V_{DD}=50V, R_{GS}=50\Omega$ | | 560 | | ns |
| Fall Time | t_f | $I_D=40A, V_{GS}=10V, V_{DD}=50V, R_{GS}=50\Omega$ | | 240 | | ns |
| Diode Forward Voltage | V_{SD} | $I_S=50A, V_{GS}=0$ | | | 1.8 | V |

Switching Time Test Circuit



2SK1436



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