

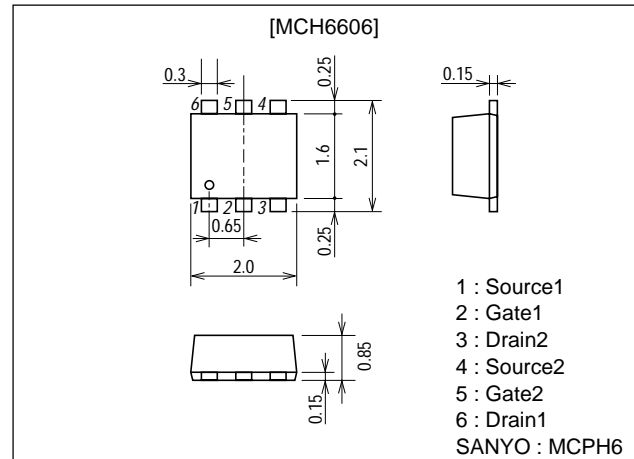
**MCH6606****Ultrahigh-Speed Switching Applications****Features**

- Low ON resistance.
- Ultrahigh-speed switching.
- 4V drive.
- Composite type with 2 MOSFETs contained in one package, facilitating high-density mounting.

Package Dimensions

unit:mm

2173

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

| Parameter | Symbol | Conditions | Ratings | Unit |
|-----------------------------|-----------|--|-------------|------|
| Drain-to-Source Voltage | V_{DSS} | | 50 | V |
| Gate-to-Source Voltage | V_{GSS} | | ±20 | V |
| Drain Current (DC) | I_D | | 0.25 | A |
| Drain Current (pulse) | I_{DP} | PW≤10μs, duty cycle≤1% | 1 | A |
| Allowable Power Dissipation | P_D | Mounted on a ceramic board (900mm ² ×0.8mm) 1unit | 0.8 | W |
| Channel Temperature | Tch | | 150 | °C |
| Storage Temperature | Tstg | | -55 to +150 | °C |

Electrical Characteristics at Ta = 25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|----------------|-------------------------|---------|-----|------|------|
| | | | min | typ | max | |
| Drain-to-Source Breakdown Voltage | $V_{(BR)DSS}$ | $I_D=1mA, V_{GS}=0$ | 50 | | | V |
| Zero-Gate Voltage Drain Current | I_{DSS} | $V_{DS}=50V, V_{GS}=0$ | | | 10 | μA |
| Gate-to-Source Leakage Current | I_{GSS} | $V_{GS}=±16V, V_{DS}=0$ | | | ±10 | μA |
| Cutoff Voltage | $V_{GSS(off)}$ | $V_{DS}=10V, I_D=100μA$ | 1 | | 2.4 | V |
| Forward Transfer Admittance | yfs | $V_{DS}=10V, I_D=50mA$ | 85 | 120 | | mS |
| Static Drain-to-Source On-State Resistance | $R_{DS(on)1}$ | $I_D=50mA, V_{GS}=10V$ | | 5.8 | 7.5 | Ω |
| | $R_{DS(on)2}$ | $I_D=30mA, V_{GS}=4V$ | | 7.5 | 10.5 | Ω |
| Input Capacitance | Ciss | $V_{DS}=10V, f=1MHz$ | | 6.2 | | pF |
| Output Capacitance | Coss | $V_{DS}=10V, f=1MHz$ | | 4.4 | | pF |
| Reverse Transfer Capacitance | Crss | $V_{DS}=10V, f=1MHz$ | | 1.5 | | pF |

Marking : FF

Continued on next page.

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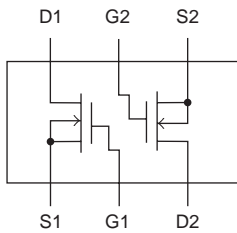
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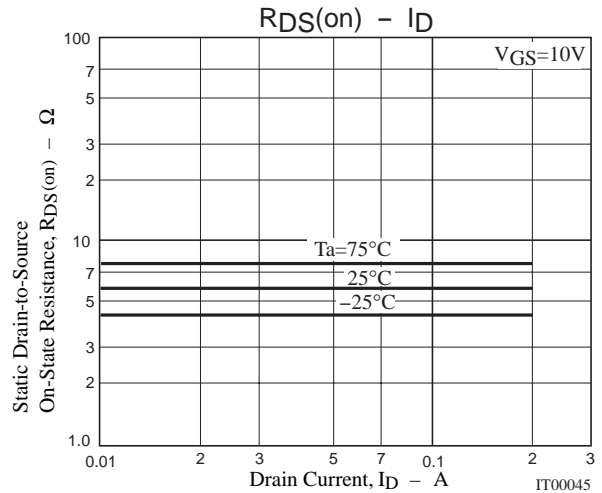
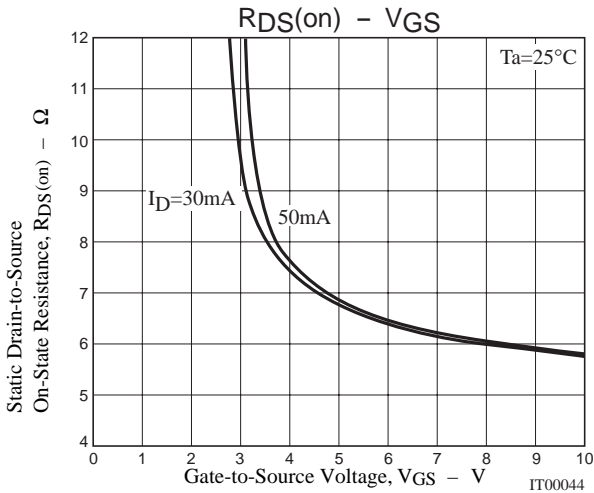
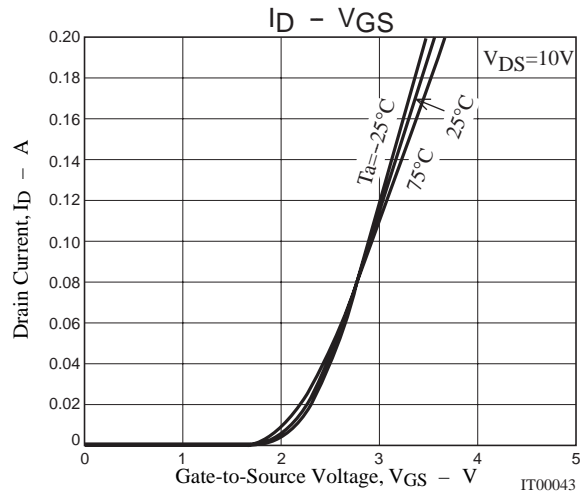
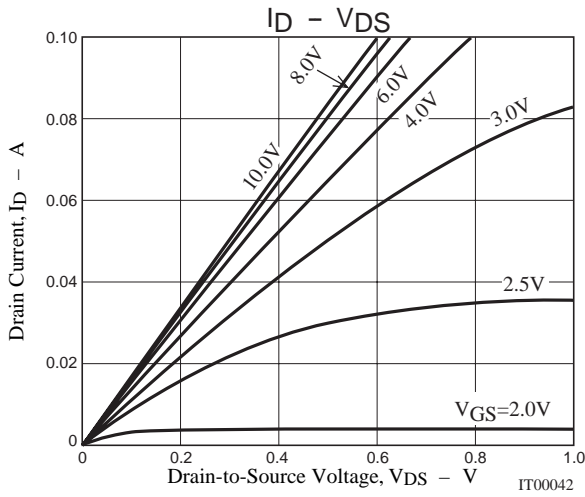
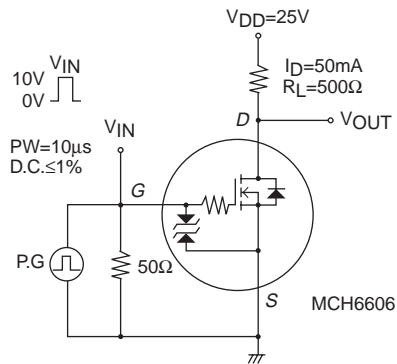
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|-------------------------------|--------------|-------------------------------------|---------|------|-----|------|
| | | | min | typ | max | |
| Turn-ON Delay Time | $t_{d(on)}$ | See specified Test Circuit | | 10 | | ns |
| Rise Time | t_r | See specified Test Circuit | | 11 | | ns |
| Turn-OFF Delay Time | $t_{d(off)}$ | See specified Test Circuit | | 105 | | ns |
| Fall Time | t_f | See specified Test Circuit | | 75 | | ns |
| Total Gate Charge | Q_g | $V_{DS}=10V, V_{GS}=10V, I_D=100mA$ | | 1.40 | | nC |
| Gate-to-Source Charge | Q_{gs} | $V_{DS}=10V, V_{GS}=10V, I_D=100mA$ | | 0.21 | | nC |
| Gate-to-Drain "Miller" Charge | Q_{gd} | $V_{DS}=10V, V_{GS}=10V, I_D=100mA$ | | 0.34 | | nC |
| Diode Forward Voltage | V_{SD} | $I_S=100mA, V_{GS}=0$ | | 0.85 | 1.2 | V |

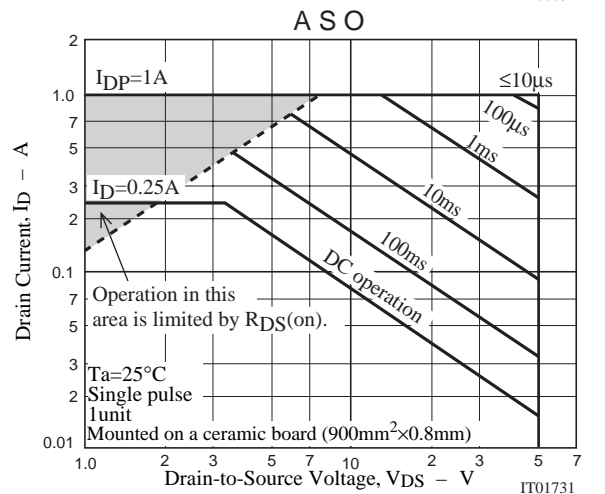
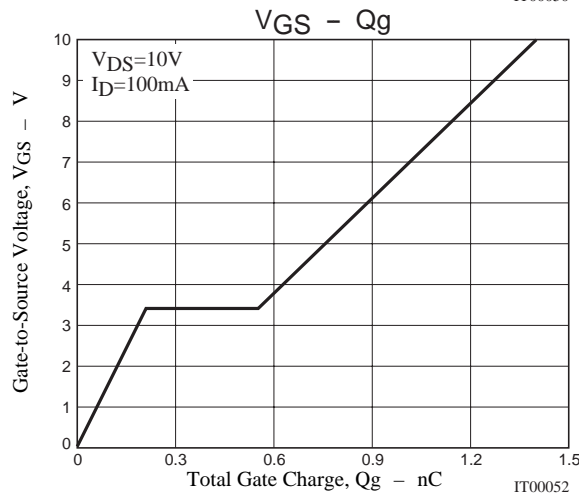
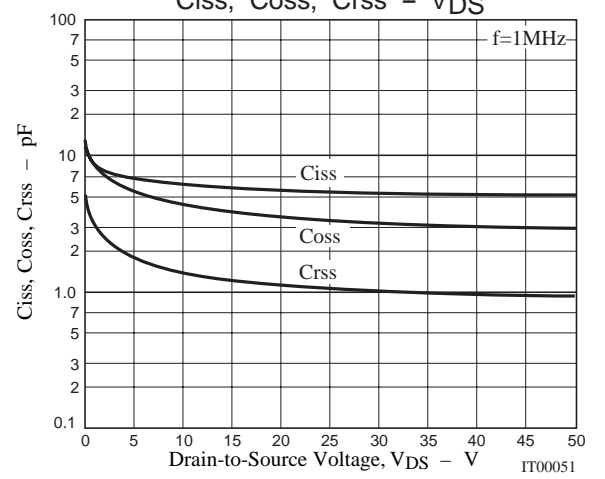
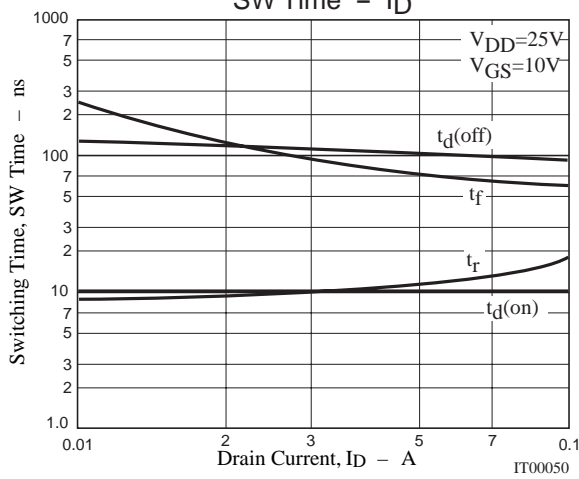
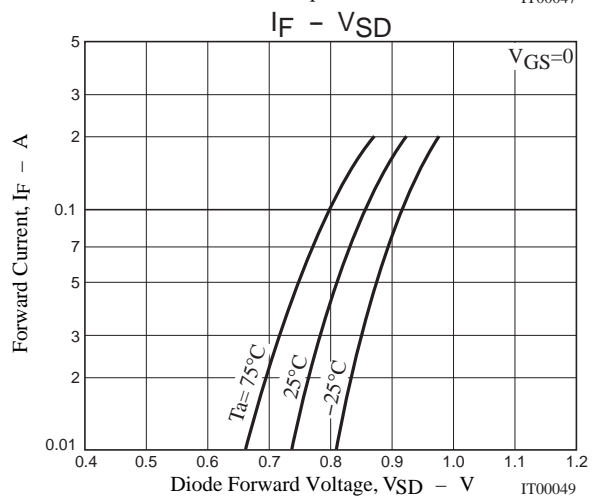
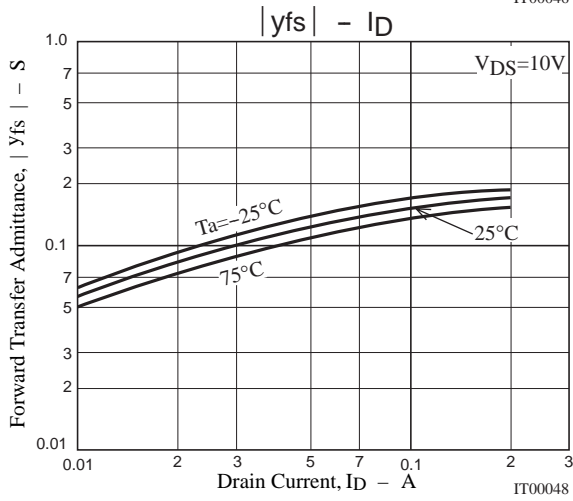
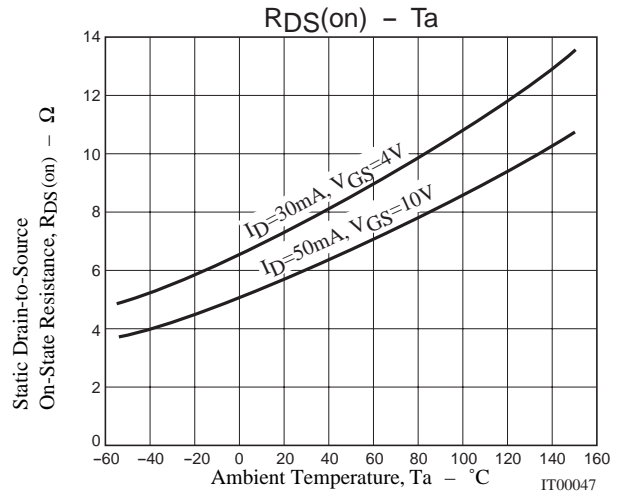
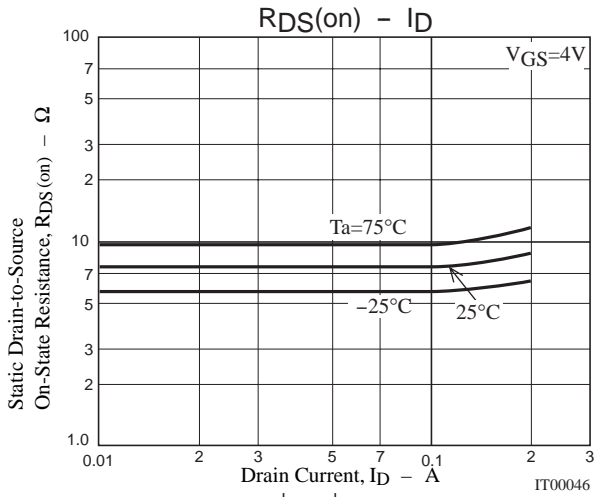
Electrical Connection



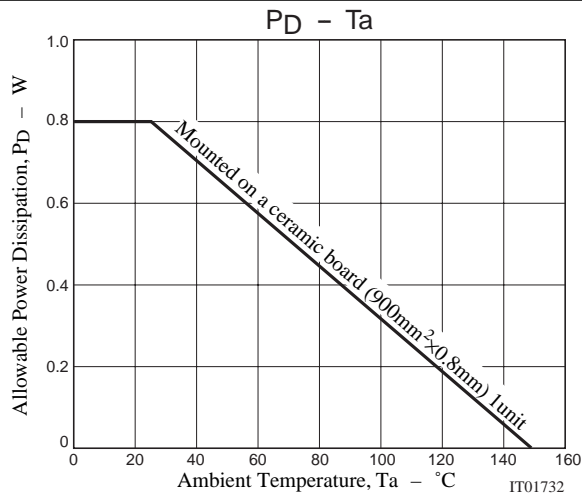
Switching Time Test Circuit



MCH6606



MCH6606



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