



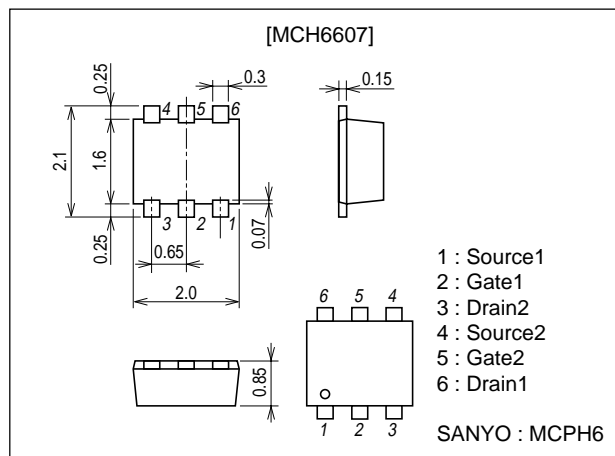
Ultrahigh-Speed Switching Applications

Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 2.5V drive.
- Composite type with 2 MOSFETs contained in a single package, facilitating high-density mounting.

Package Dimensions

unit : mm
2173A



Specifications

Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|-----------------------------|------------------|---|-------------|------|
| Drain-to-Source Voltage | V _{DSS} | | -30 | V |
| Gate-to-Source Voltage | V _{GSS} | | ±10 | V |
| Drain Current (DC) | I _D | | -0.4 | A |
| Drain Current (Pulse) | I _{DP} | PW≤10μs, duty cycle≤1% | -1.6 | A |
| Allowable Power Dissipation | P _D | Mounted on a ceramic board (900mm ² ×0.8mm)1unit | 0.8 | W |
| Channel Temperature | T _{ch} | | 150 | °C |
| Storage Temperature | T _{stg} | | -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 | -30 | | | V |
| Zero-Gate Voltage Drain Current | I _{DSS} | V _{DS} =-30V, V _{GS} =0 | | | -10 | μA |
| Gate-to-Source Leakage Current | I _{GSS} | V _{GS} =±8V, V _{DS} =0 | | | ±10 | μA |
| Cutoff Voltage | V _{GS(off)} | V _{DS} =-10V, I _D =-100μA | -0.4 | | -1.4 | V |
| Forward Transfer Admittance | y _{fs} | V _{DS} =-10V, I _D =-100mA | 210 | 300 | | mS |
| Static Drain-to-Source On-State Resistance | R _{DS(on)1} | I _D =-100mA, V _{GS} =-4V | | 2.4 | 3.1 | Ω |
| | R _{DS(on)2} | I _D =-50mA, V _{GS} =-2.5V | | 3.5 | 4.9 | Ω |
| | R _{DS(on)3} | I _D =-10mA, V _{GS} =-1.5V | | 10 | 20 | Ω |

Marking : FG

Continued on next page.

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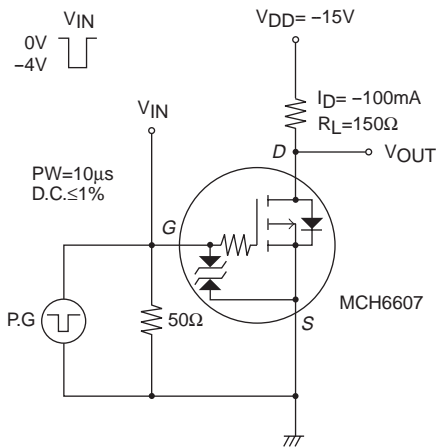
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MCH6607

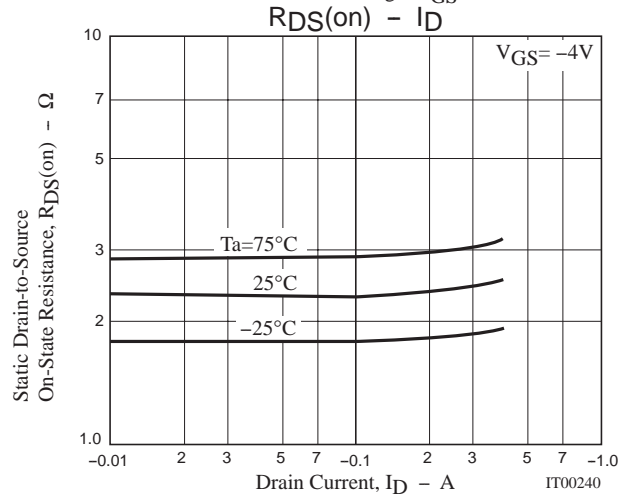
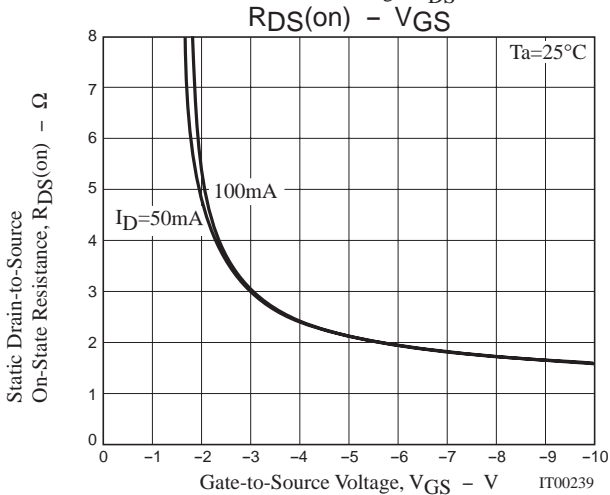
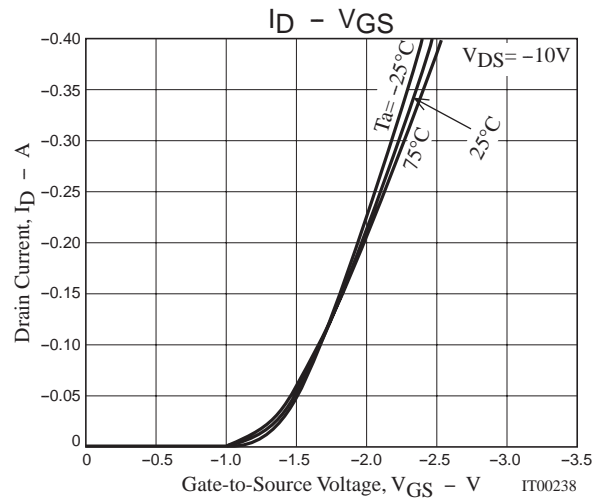
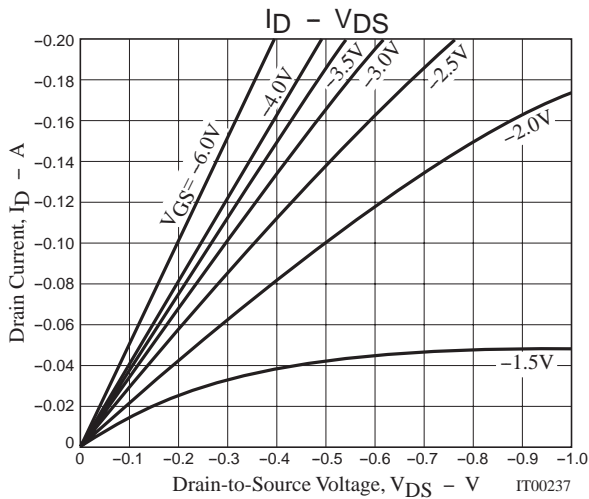
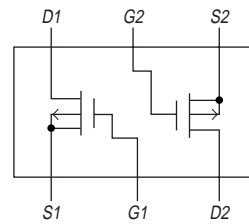
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|-------------------------------|---------------------|--|---------|------|------|------|
| | | | min | typ | max | |
| Input Capacitance | Ciss | V _{DS} =-10V, f=1MHz | | 28 | | pF |
| Output Capacitance | Coss | V _{DS} =-10V, f=1MHz | | 15 | | pF |
| Reverse Transfer Capacitance | Crss | V _{DS} =-10V, f=1MHz | | 5.2 | | pF |
| Turn-ON Delay Time | t _{d(on)} | See specified Test Circuit. | | 24 | | ns |
| Rise Time | t _r | See specified Test Circuit. | | 75 | | ns |
| Turn-OFF Delay Time | t _{d(off)} | See specified Test Circuit. | | 200 | | ns |
| Fall Time | t _f | See specified Test Circuit. | | 150 | | ns |
| Total Gate Charge | Q _g | V _{DS} =-10V, V _{GS} =-10V, I _D =-200mA | | 2 | | nC |
| Gate-to-Source Charge | Q _{gs} | V _{DS} =-10V, V _{GS} =-10V, I _D =-200mA | | 0.25 | | nC |
| Gate-to-Drain "Miller" Charge | Q _{gd} | V _{DS} =-10V, V _{GS} =-10V, I _D =-200mA | | 0.35 | | nC |
| Diode Forward Voltage | V _{SD} | I _S =-200mA, V _{GS} =0 | -0.82 | | -1.2 | V |

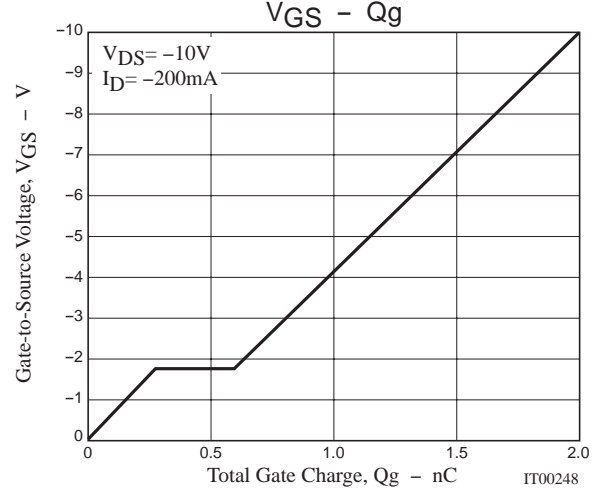
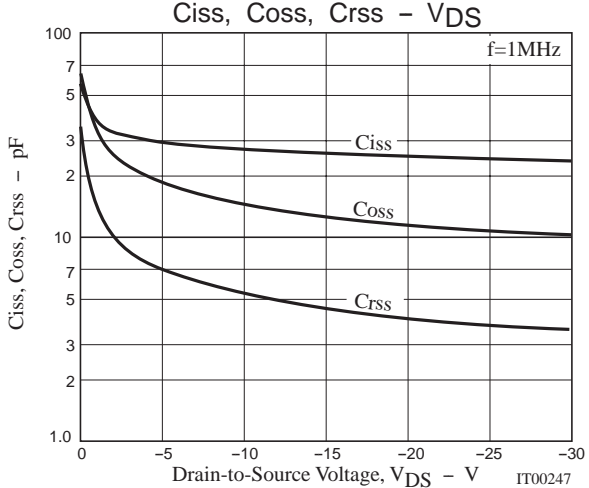
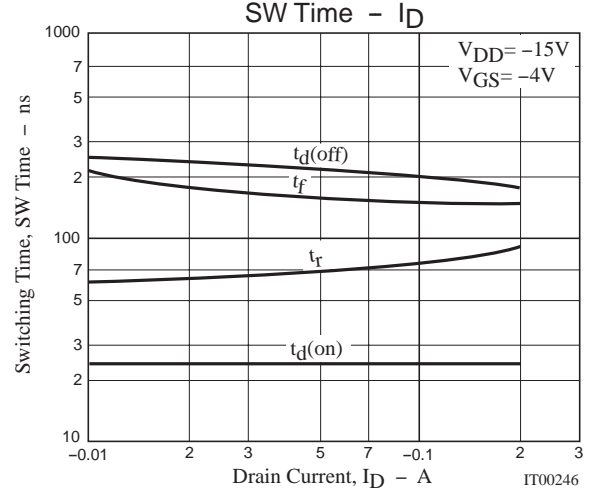
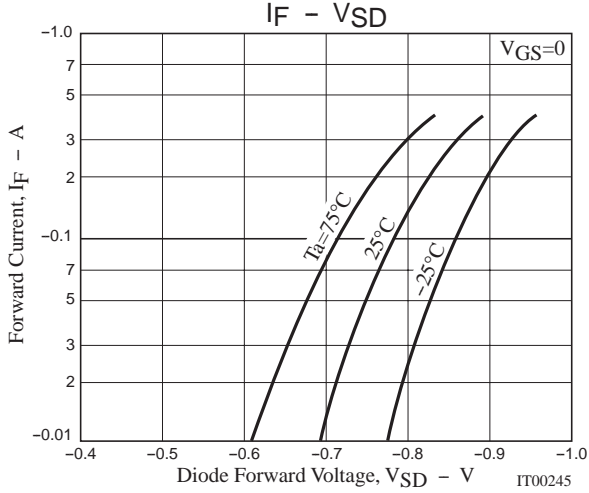
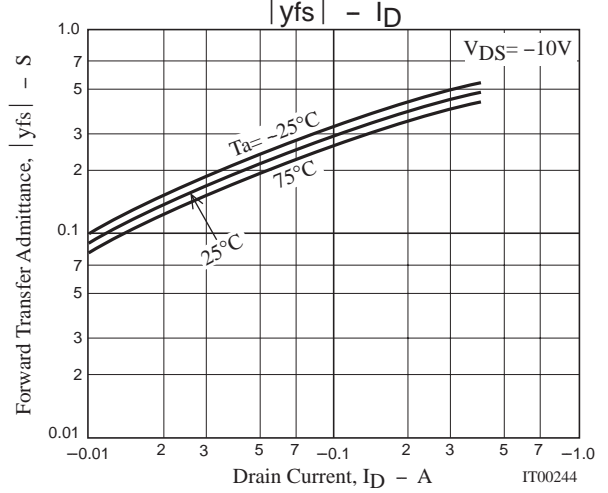
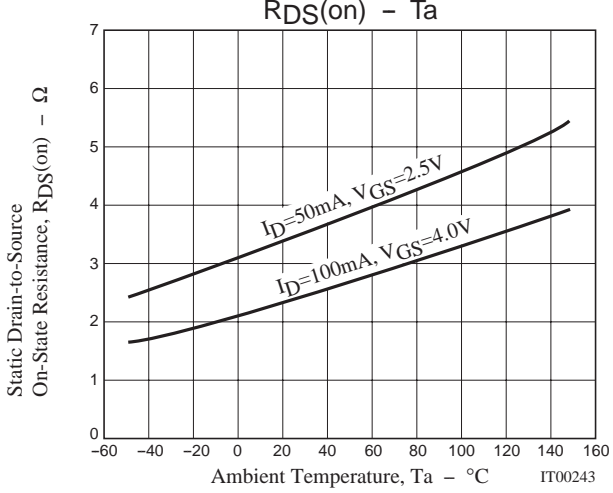
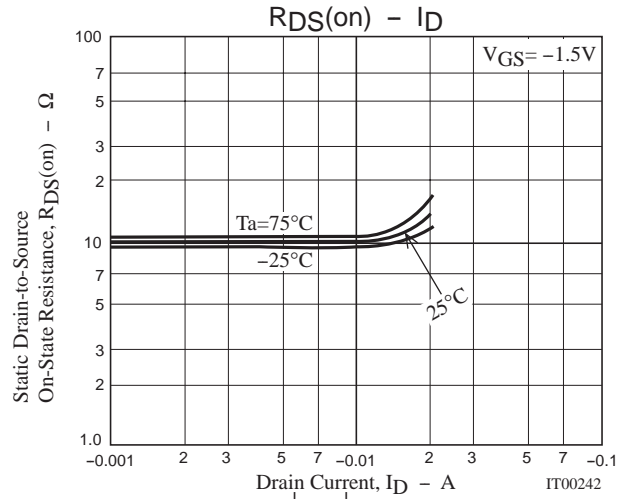
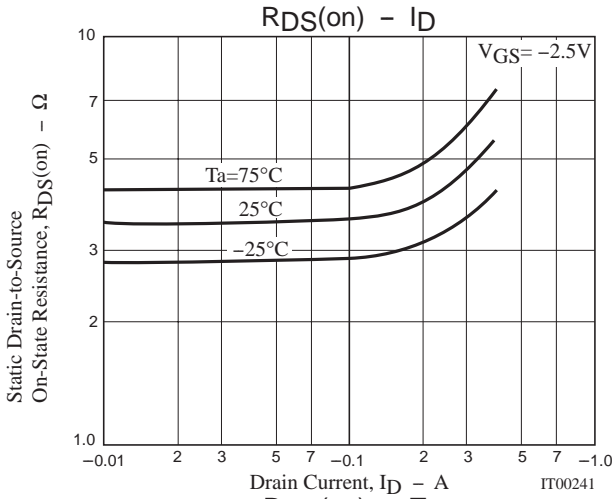
Switching Time Test Circuit



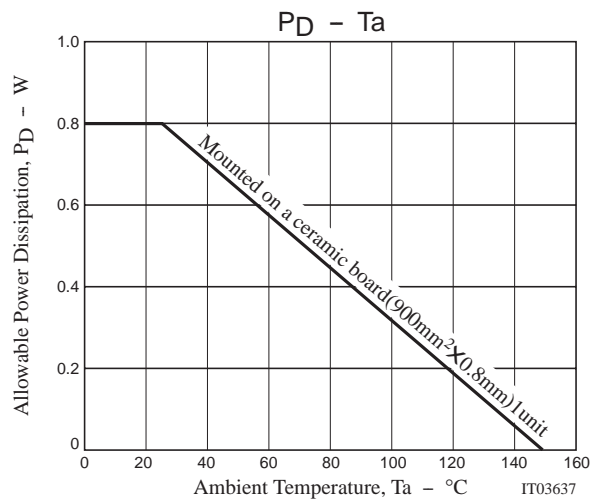
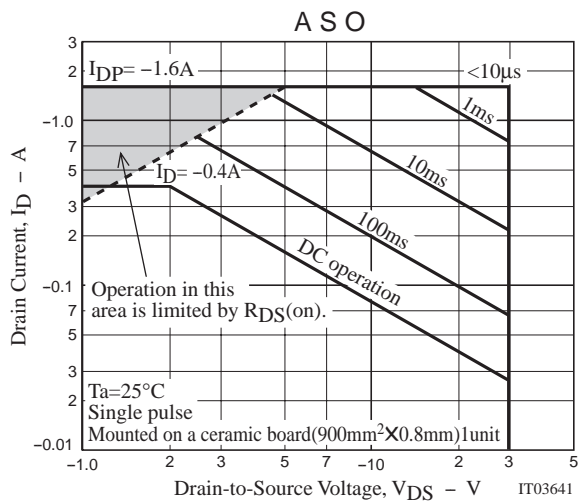
Electrical Connection



MCH6607



MCH6607



Note on usage : Since the MCH6607 is designed for high-speed switching applications, please avoid using this device in the vicinity of highly charged objects.

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