



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

MCH6602 — N-Channel Silicon MOSFET General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 1.5V drive.
- Composite type with 2 MOSFETs contained in a single package, facilitating high-density mounting.

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 | | 0.35 | A |
| Drain Current (Pulse) | I _{DP} | PW≤10μs, duty cycle≤1% | 1.4 | 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} =0V | 30 | | | V |
| Zero-Gate Voltage Drain Current | I _{DSS} | V _{DS} =30V, V _{GS} =0V | | | 1 | μA |
| Gate-to-Source Leakage Current | I _{GSS} | V _{GS} =±8V, V _{DS} =0V | | | ±10 | μA |
| Cutoff Voltage | V _{GS(off)} | V _{DS} =10V, I _D =100μA | 0.4 | | 1.3 | V |
| Forward Transfer Admittance | y _{fs} | V _{DS} =10V, I _D =80mA | 0.15 | 0.22 | | S |
| Static Drain-to-Source On-State Resistance | R _{DS(on)1} | I _D =80mA, V _{GS} =4V | | 2.9 | 3.7 | Ω |
| | R _{DS(on)2} | I _D =40mA, V _{GS} =2.5V | | 3.7 | 5.2 | Ω |
| | R _{DS(on)3} | I _D =10mA, V _{GS} =1.5V | | 6.4 | 12.8 | Ω |
| Input Capacitance | C _{iss} | V _{DS} =10V, f=1MHz | | 7.0 | | pF |
| Output Capacitance | C _{oss} | V _{DS} =10V, f=1MHz | | 5.9 | | pF |
| Reverse Transfer Capacitance | C _{rss} | V _{DS} =10V, f=1MHz | | 2.3 | | pF |

Marking : FB

Continued on next page.

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MCH6602

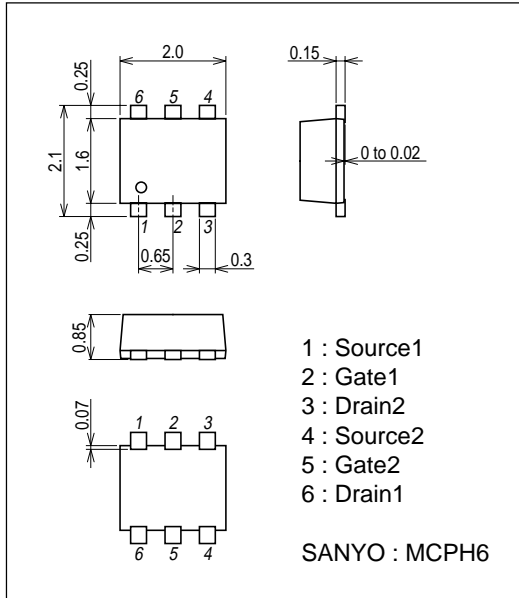
Continued from preceding page.

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|-------------------------------|--------------|-------------------------------------|---------|------|-----|------|
| | | | min | typ | max | |
| Turn-ON Delay Time | $t_{d(on)}$ | See specified Test Circuit. | | 19 | | ns |
| Rise Time | t_r | See specified Test Circuit. | | 65 | | ns |
| Turn-OFF Delay Time | $t_{d(off)}$ | See specified Test Circuit. | | 155 | | ns |
| Fall Time | t_f | See specified Test Circuit. | | 120 | | ns |
| Total Gate Charge | Q_g | $V_{DS}=10V, V_{GS}=10V, I_D=150mA$ | | 1.58 | | nC |
| Gate-to-Source Charge | Q_{gs} | $V_{DS}=10V, V_{GS}=10V, I_D=150mA$ | | 0.26 | | nC |
| Gate-to-Drain "Miller" Charge | Q_{gd} | $V_{DS}=10V, V_{GS}=10V, I_D=150mA$ | | 0.31 | | nC |
| Diode Forward Voltage | V_{SD} | $I_S=150mA, V_{GS}=0V$ | | 0.87 | 1.2 | V |

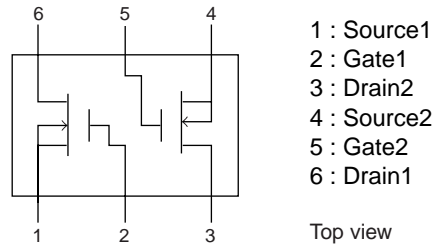
Package Dimensions

unit : mm

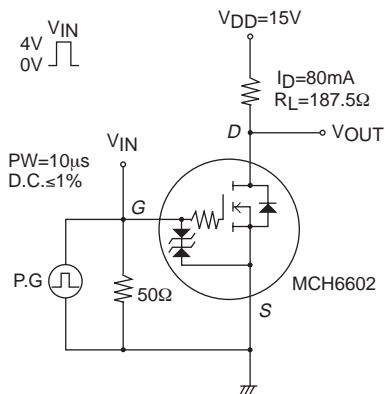
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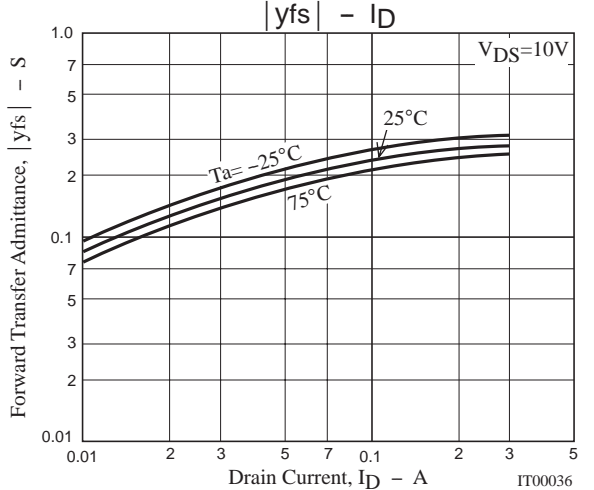
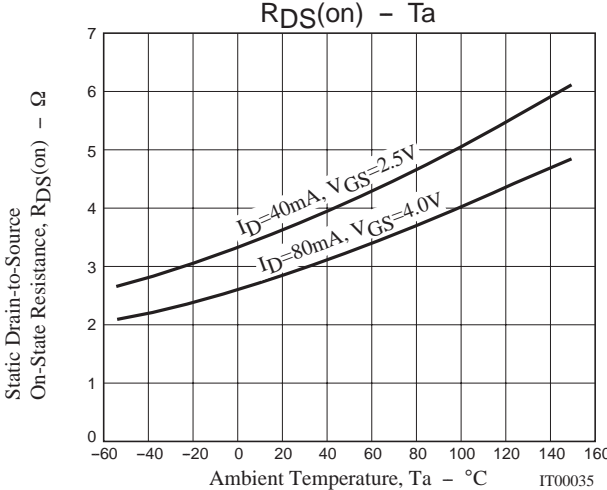
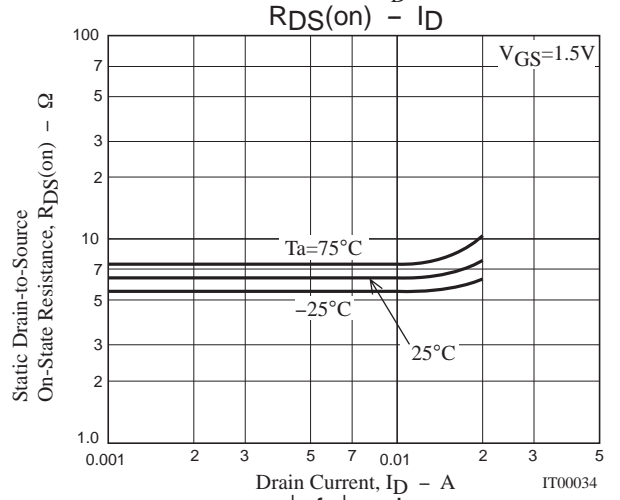
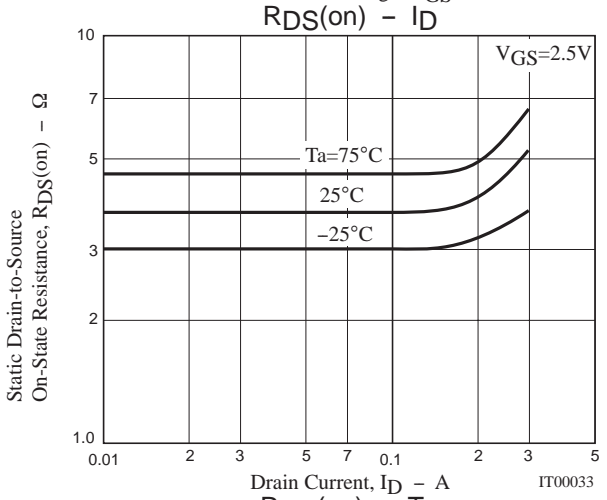
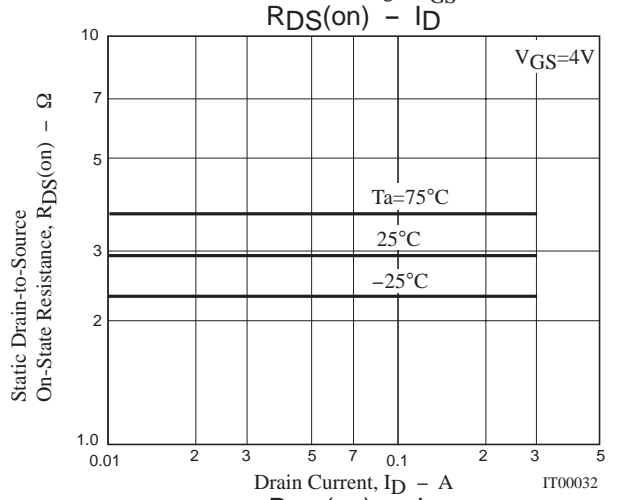
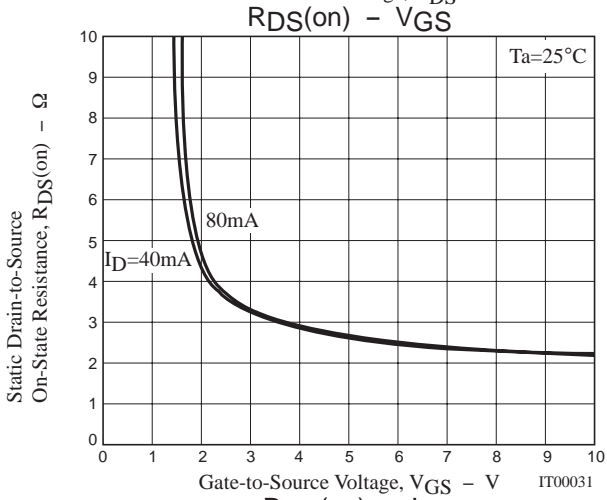
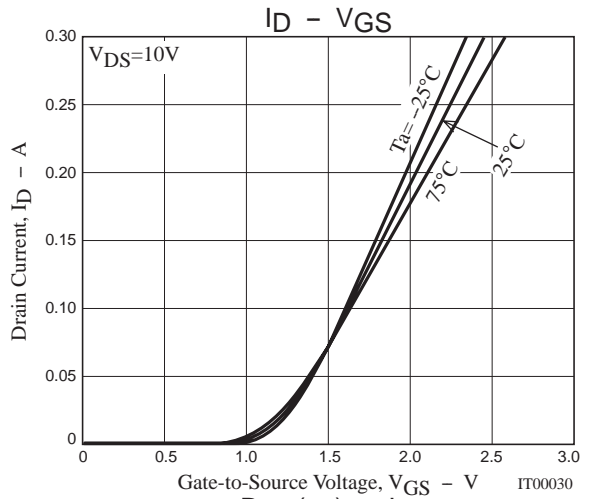
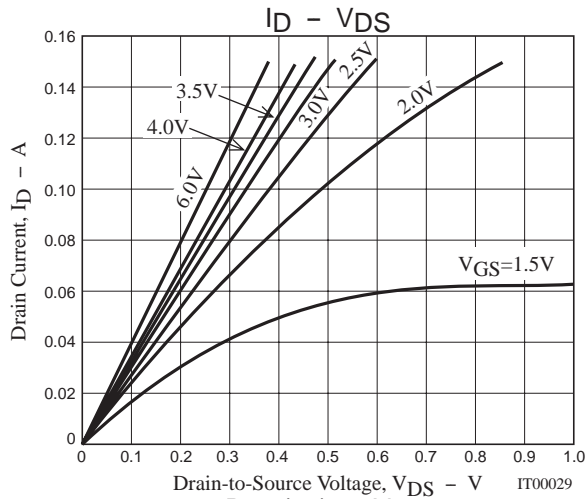
Electrical Connection



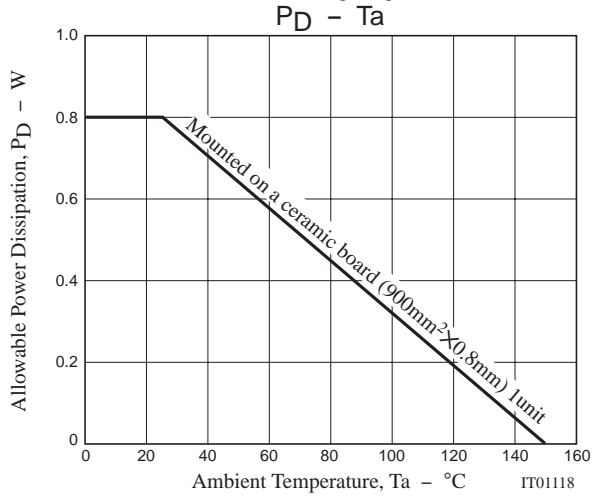
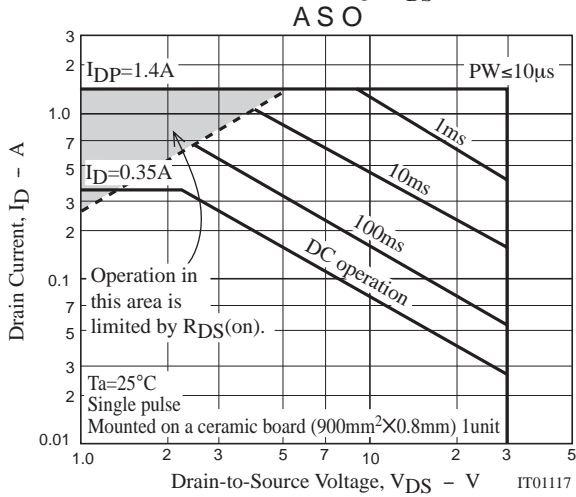
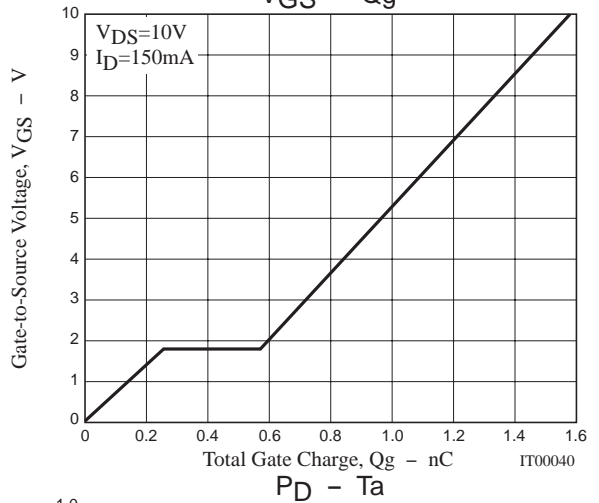
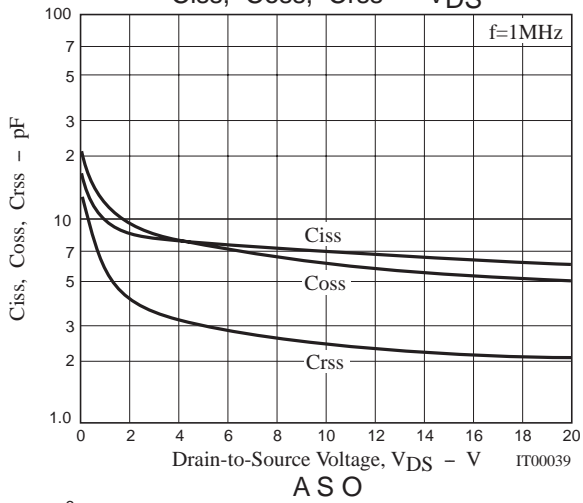
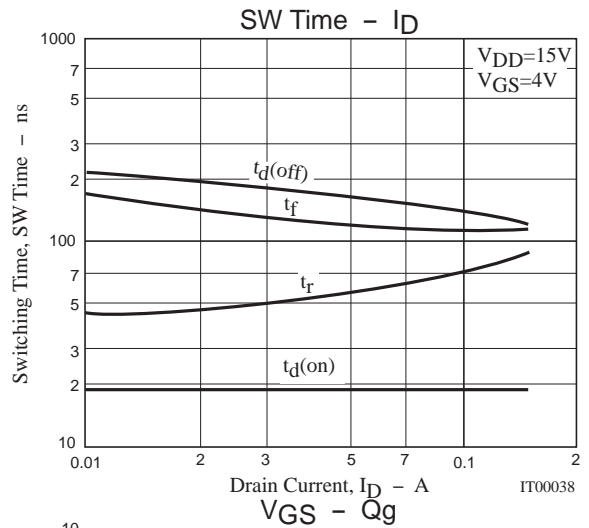
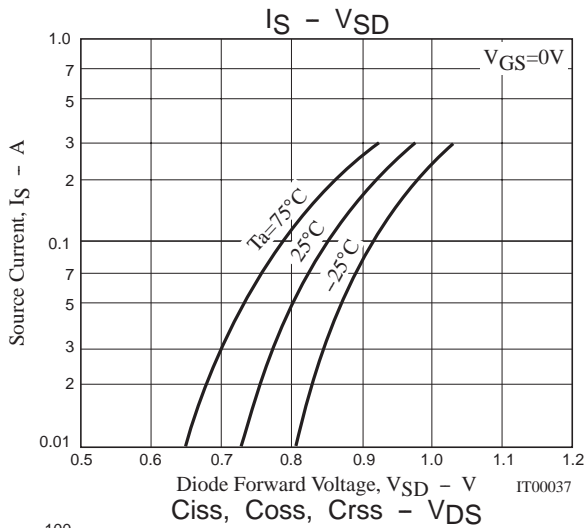
Switching Time Test Circuit



MCH6602



MCH6602



Note on usage : Since the MCH6602 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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