



SANYO Semiconductors

DATA SHEET

P-Channel Silicon MOSFET

MCH6635 — General-Purpose Switching Device 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.

Specifications

Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|-----------------------------|------------------|---|-------------|------|
| Drain-to-Source Voltage | V _{DSS} | | -20 | V |
| Gate-to-Source Voltage | V _{GSS} | | ±10 | V |
| Drain Current (DC) | I _D | | -0.8 | A |
| Drain Current (Pulse) | I _{DP} | PW≤10μs, duty cycle≤1% | -3.2 | 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 | -20 | | | V |
| Zero-Gate Voltage Drain Current | I _{DSS} | V _{DS} =-20V, 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 =-400mA | 0.5 | 0.85 | | S |
| Static Drain-to-Source On-State Resistance | R _{DS(on)1} | I _D =-400mA, V _{GS} =-4V | | 0.69 | 0.9 | Ω |
| | R _{DS(on)2} | I _D =-200mA, V _{GS} =-2.5V | | 0.96 | 1.35 | Ω |

Marking : WK

Continued on next page.

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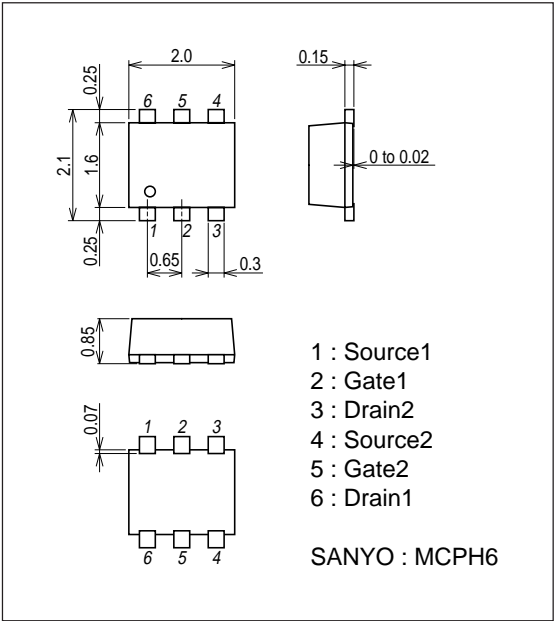
MCH6635

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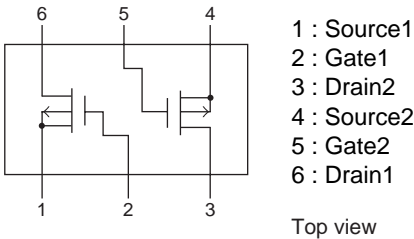
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|-------------------------------|---------------------|---|---------|-------|------|------|
| | | | min | typ | max | |
| Input Capacitance | Ciss | V _{DS} =-10V, f=1MHz | | 76 | | pF |
| Output Capacitance | Coss | V _{DS} =-10V, f=1MHz | | 17.5 | | pF |
| Reverse Transfer Capacitance | Crss | V _{DS} =-10V, f=1MHz | | 11 | | pF |
| Turn-ON Delay Time | t _{d(on)} | See specified Test Circuit | | 8.2 | | ns |
| Rise Time | t _r | See specified Test Circuit | | 15 | | ns |
| Turn-OFF Delay Time | t _{d(off)} | See specified Test Circuit | | 12 | | ns |
| Fall Time | t _f | See specified Test Circuit | | 11.5 | | ns |
| Total Gate Charge | Q _g | V _{DS} =-10V, V _{GS} =-4V, I _D =-800mA | | 1.18 | | nC |
| Gate-to-Source Charge | Q _{gs} | V _{DS} =-10V, V _{GS} =-4V, I _D =-800mA | | 0.32 | | nC |
| Gate-to-Drain "Miller" Charge | Q _{gd} | V _{DS} =-10V, V _{GS} =-4V, I _D =-800mA | | 0.24 | | nC |
| Diode Forward Voltage | V _{SD} | I _S =-800mA, V _{GS} =0V | | -0.95 | -1.5 | V |

Package Dimensions

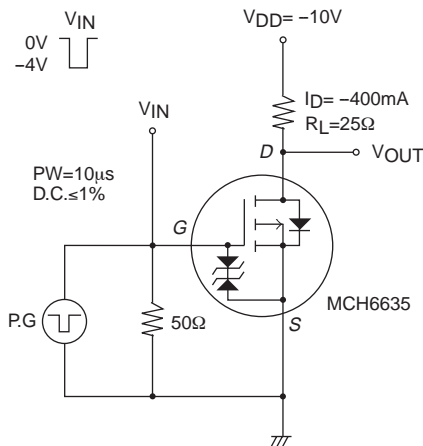
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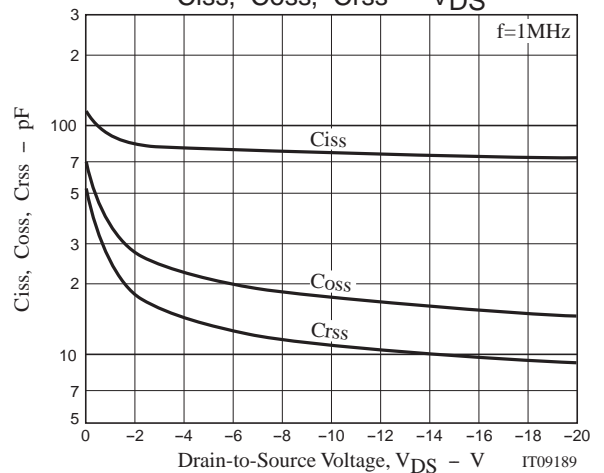
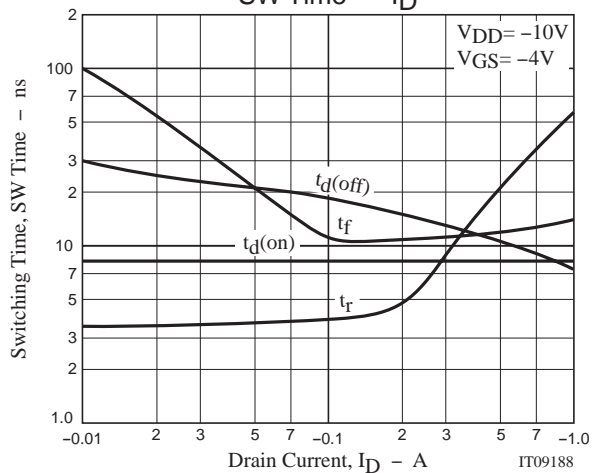
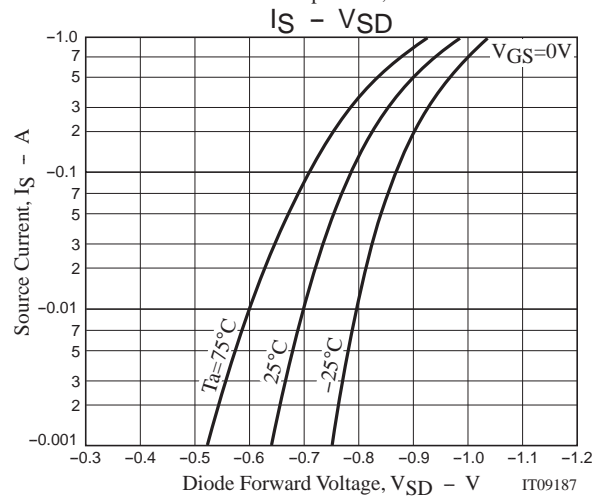
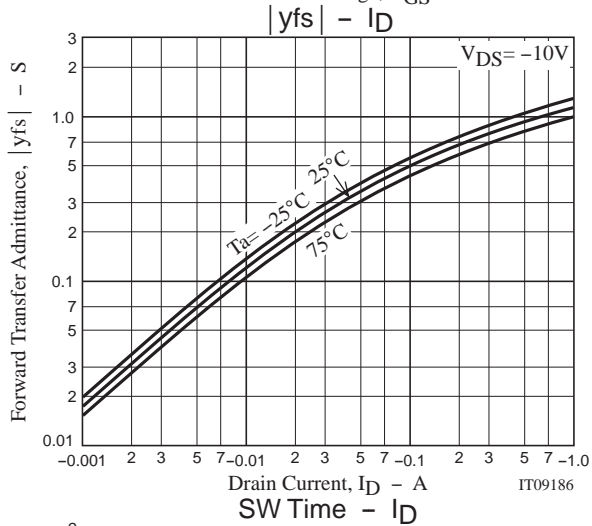
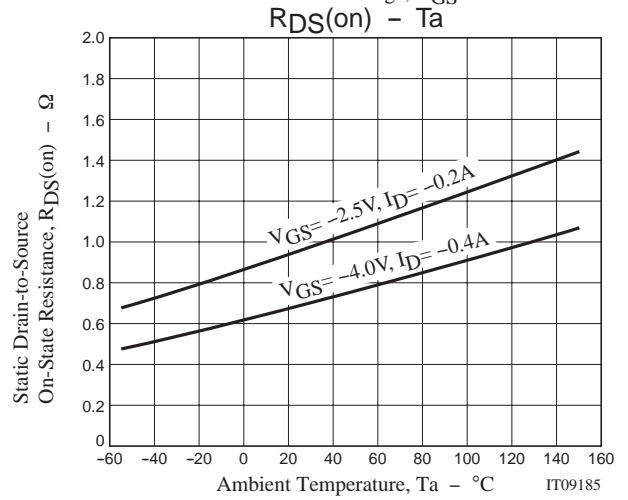
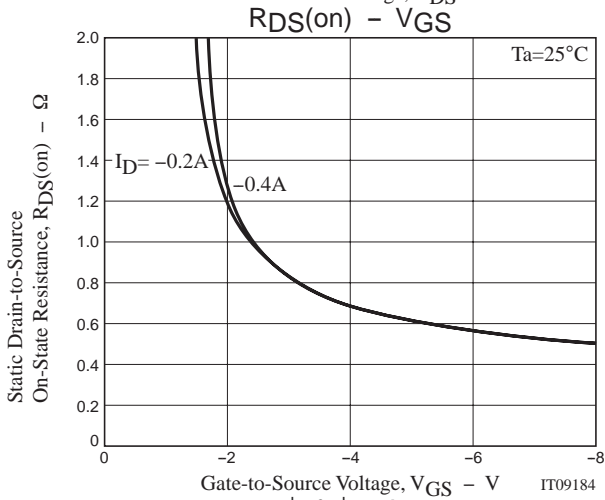
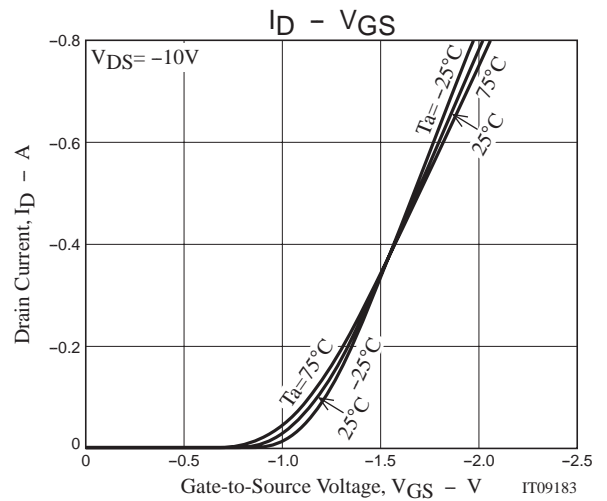
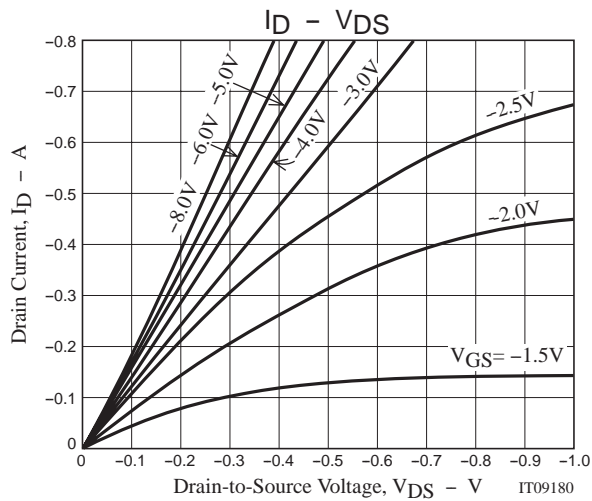


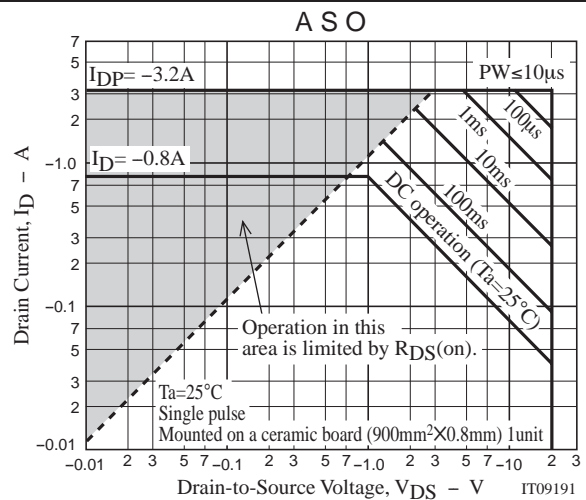
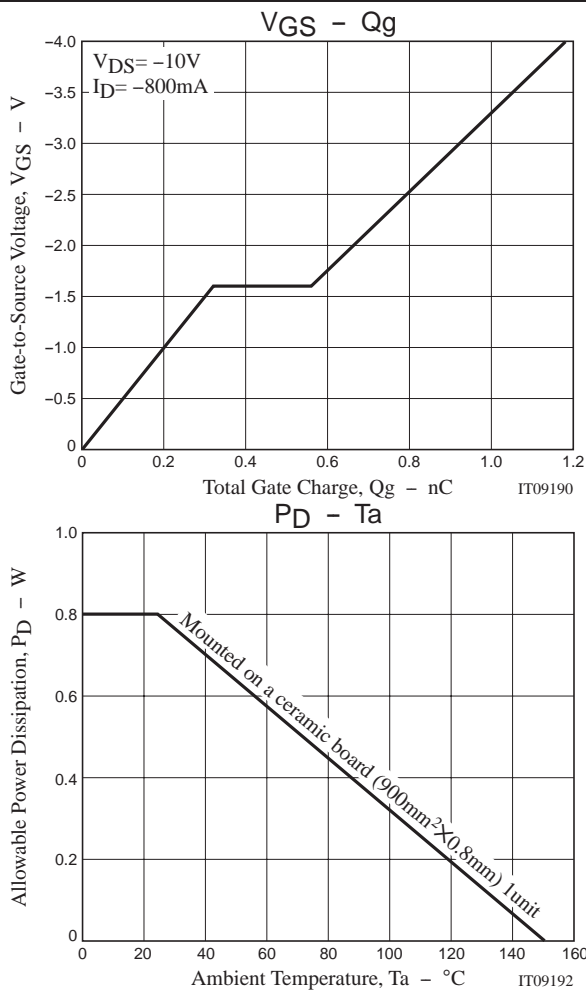
Electrical Connection



Switching Time Test Circuit







Note on usage : Since the MCH6635 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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