

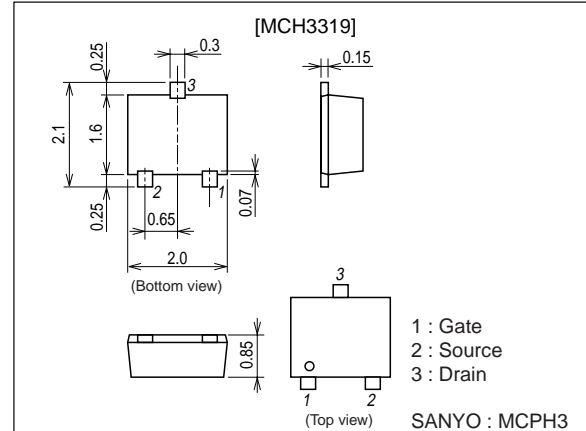
**MCH3319****Ultrahigh-Speed Switching Applications****Features**

- Low ON-resistance.
- Ultrahigh-speed switching.
- 1.8V drive.

Package Dimensions

unit : mm

2167A

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

| Parameter | Symbol | Conditions | Ratings | Unit |
|-----------------------------|------------------|---|-------------|------|
| Drain-to-Source Voltage | V _{DSS} | | -12 | V |
| Gate-to-Source Voltage | V _{GSS} | | ±8 | V |
| Drain Current (DC) | I _D | | -2.6 | A |
| Drain Current (Pulse) | I _{DP} | PW≤10μs, duty cycle≤1% | -10.4 | A |
| Allowable Power Dissipation | P _D | Mounted on a ceramic board (900mm²×0.8mm) | 1.0 | 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 | -12 | | | V |
| Zero-Gate Voltage Drain Current | I _{DSS} | V _{DS} =-12V, V _{GS} =0 | | | -10 | μA |
| Gate-to-Source Leakage Current | I _{GSS} | V _{GS} =±6.4V, V _{DS} =0 | | | ±10 | μA |
| Cutoff Voltage | V _{GS(off)} | V _{DS} =-6V, I _D =-1mA | -0.3 | | -1.0 | V |
| Forward Transfer Admittance | y _{fs} | V _{DS} =-6V, I _D =-1.3A | 2.9 | 4.2 | | S |
| Static Drain-to-Source On-State Resistance | R _{DS(on)1} | I _D =-1.3A, V _{GS} =-4.5V | | 75 | 98 | mΩ |
| | R _{DS(on)2} | I _D =-0.7A, V _{GS} =-2.5V | | 110 | 155 | mΩ |
| | R _{DS(on)3} | I _D =-0.3A, V _{GS} =-1.8V | | 150 | 255 | mΩ |

Marking : JU

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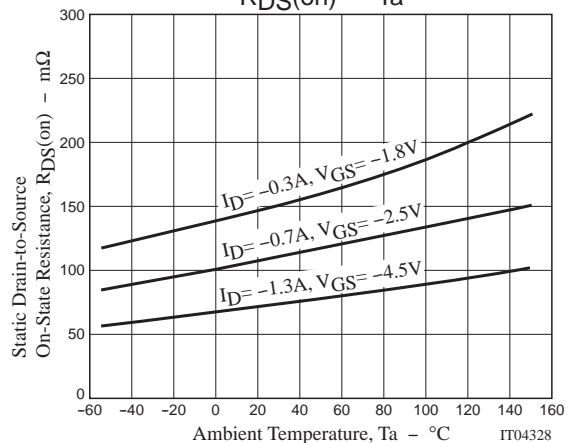
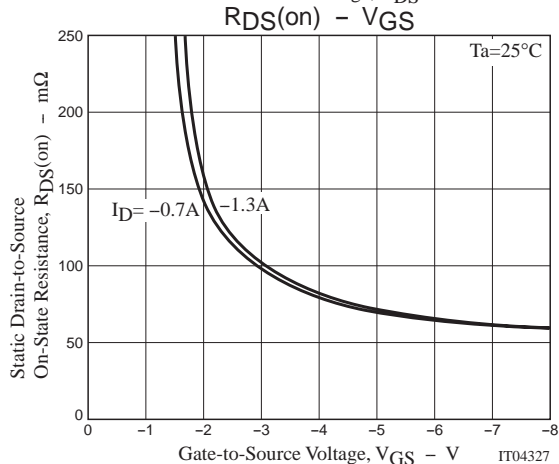
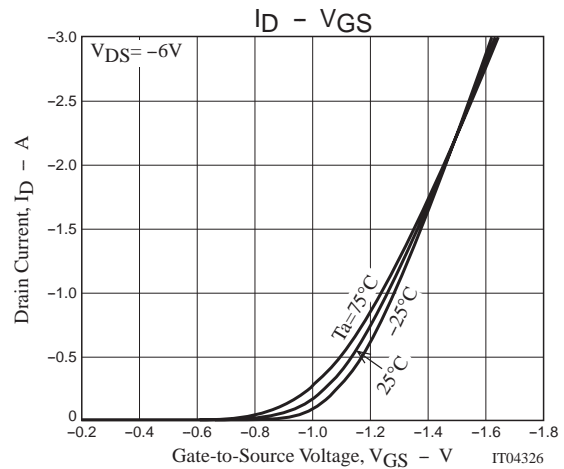
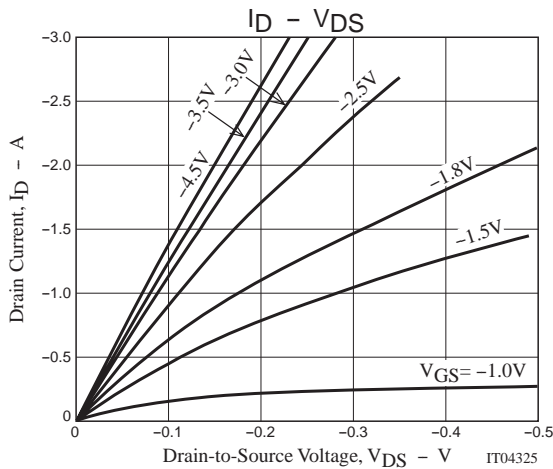
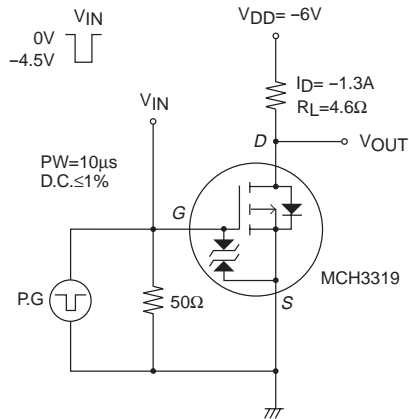
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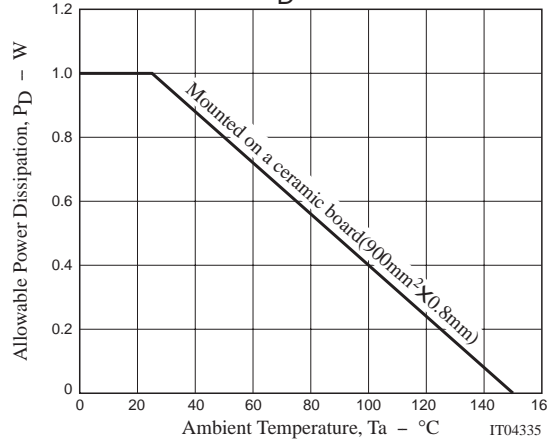
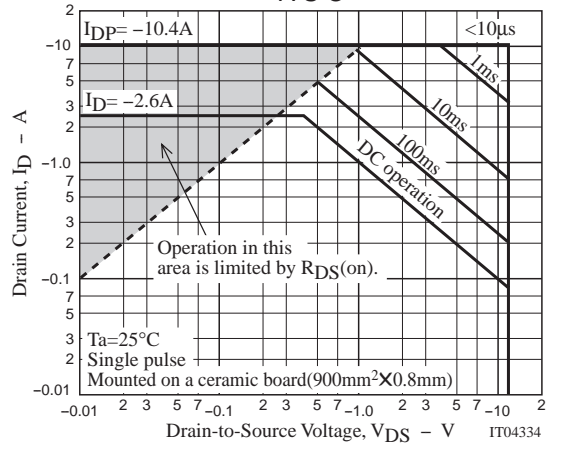
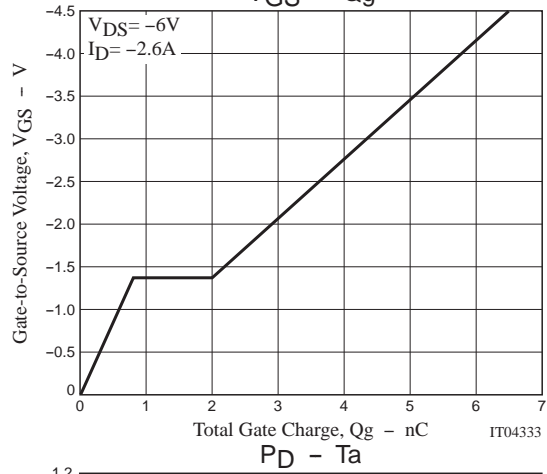
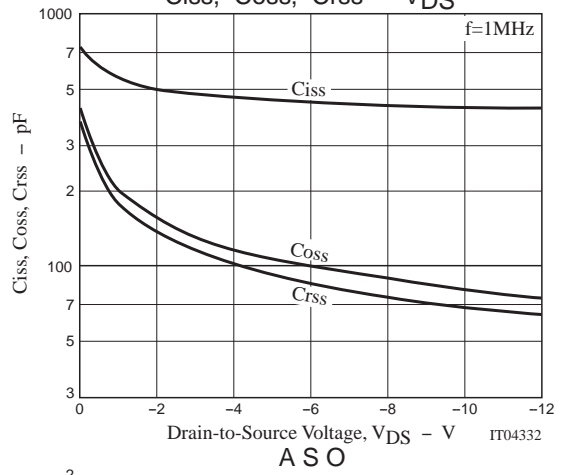
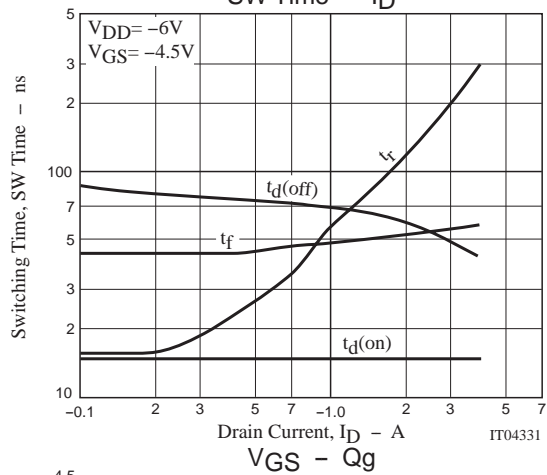
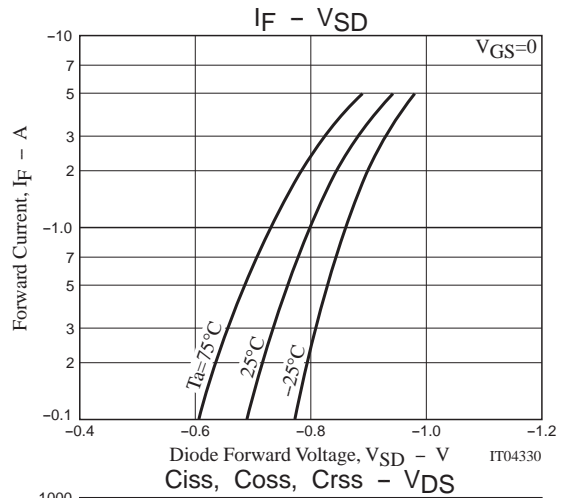
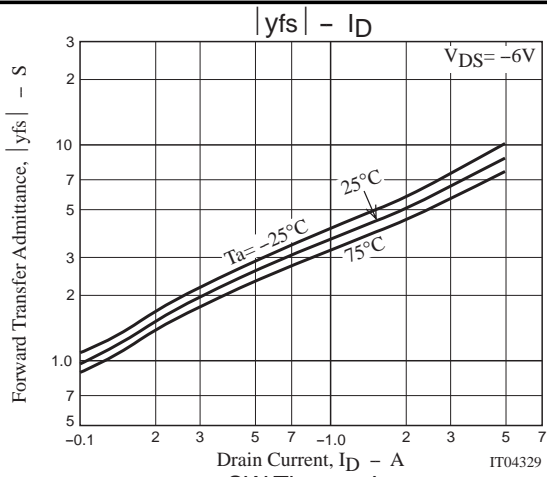
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|-------------------------------|--------------|---|---------|-------|------|------|
| | | | min | typ | max | |
| Input Capacitance | Ciss | $V_{DS} = -6V, f = 1MHz$ | | 450 | | pF |
| Output Capacitance | Coss | $V_{DS} = -6V, f = 1MHz$ | | 100 | | pF |
| Reverse Transfer Capacitance | Crss | $V_{DS} = -6V, f = 1MHz$ | | 85 | | pF |
| Turn-ON Delay Time | $t_{d(on)}$ | See specified Test Circuit. | | 15 | | ns |
| Rise Time | t_r | See specified Test Circuit. | | 70 | | ns |
| Turn-OFF Delay Time | $t_{d(off)}$ | See specified Test Circuit. | | 65 | | ns |
| Fall Time | t_f | See specified Test Circuit. | | 50 | | ns |
| Total Gate Charge | Qg | $V_{DS} = -6V, V_{GS} = -4.5V, I_D = -2.6A$ | | 6.5 | | nC |
| Gate-to-Source Charge | Qgs | $V_{DS} = -6V, V_{GS} = -4.5V, I_D = -2.6A$ | | 0.8 | | nC |
| Gate-to-Drain "Miller" Charge | Qgd | $V_{DS} = -6V, V_{GS} = -4.5V, I_D = -2.6A$ | | 2.0 | | nC |
| Diode Forward Voltage | V_{SD} | $I_S = -2.6A, V_{GS} = 0$ | | -0.87 | -1.5 | V |

Switching Time Test Circuit



MCH3319



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