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ON Semiconductor DATA SHEET

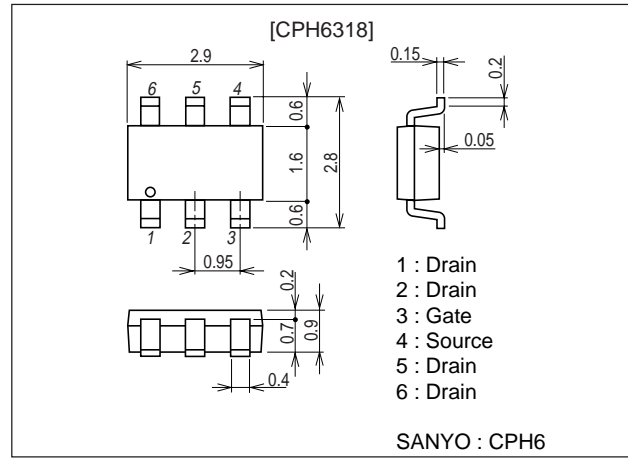
CPH6318 — P-Channel Silicon MOSFET High-Speed Switching Applications

Features

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

Package Dimensions

unit : mm
2151A



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 | | -6 | A |
| Drain Current (Pulse) | I _{DP} | PW≤10μs, duty cycle≤1% | -24 | A |
| Allowable Power Dissipation | P _D | Mounted on a ceramic board (900mm²×0.8mm) | 1.6 | W |
| | | Mounted on a FR4 board PW≤5s | 2.0 | 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 =-3A | 7.7 | 11 | | S |
| Static Drain-to-Source On-State Resistance | R _{DS(on)1} | I _D =-3A, V _{GS} =-4.5V | | 26 | 34 | mΩ |
| | R _{DS(on)2} | I _D =-1.5A, V _{GS} =-2.5V | | 36 | 50 | mΩ |
| | R _{DS(on)3} | I _D =-0.5A, V _{GS} =-1.8V | | 50 | 75 | mΩ |

Marking : JU

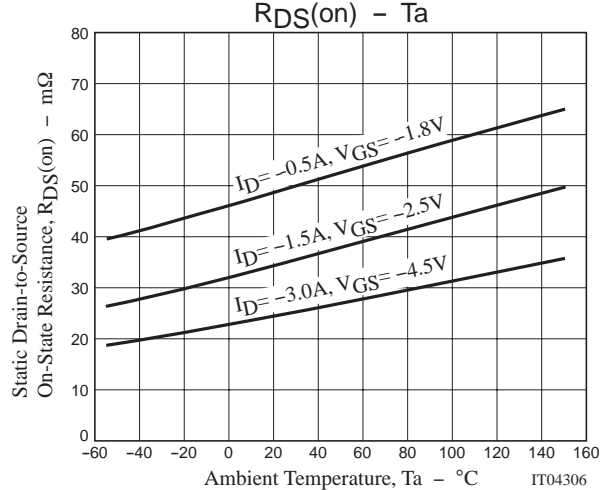
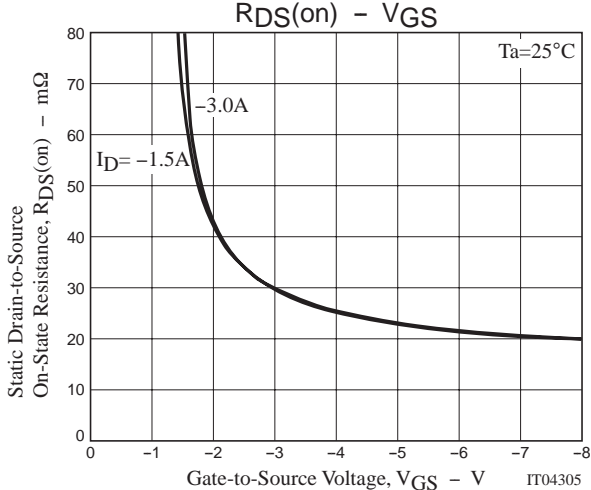
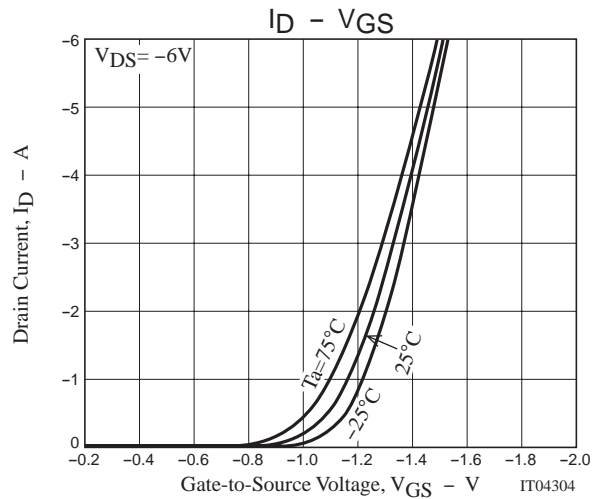
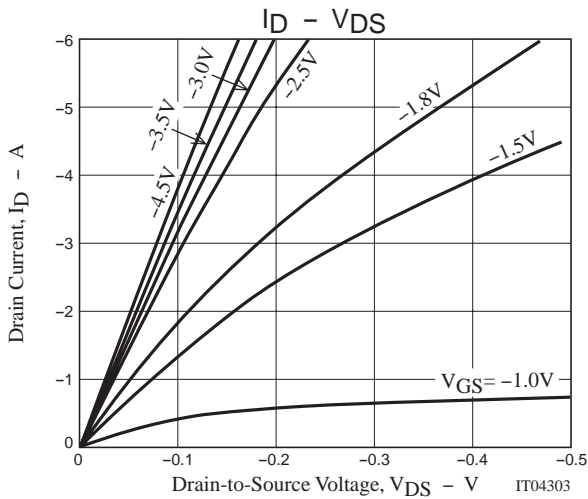
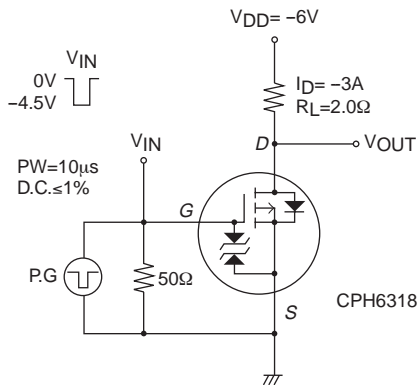
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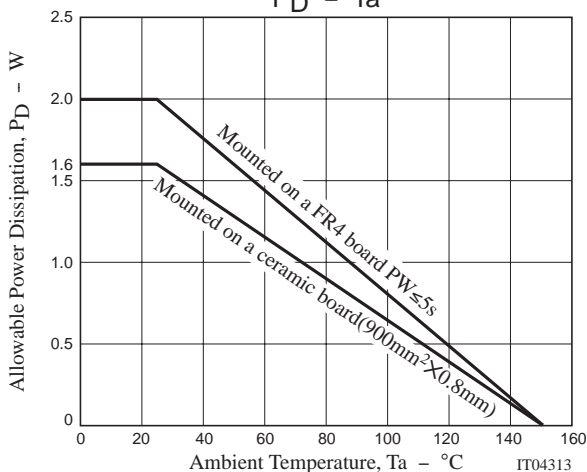
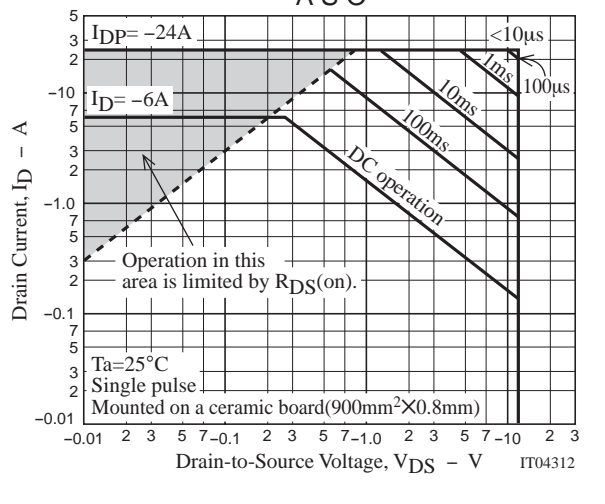
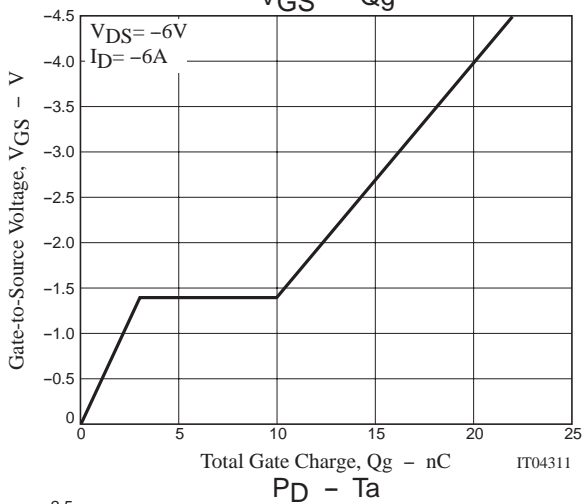
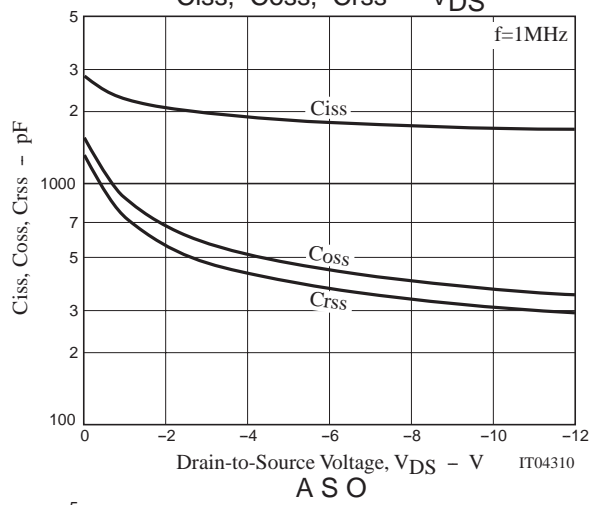
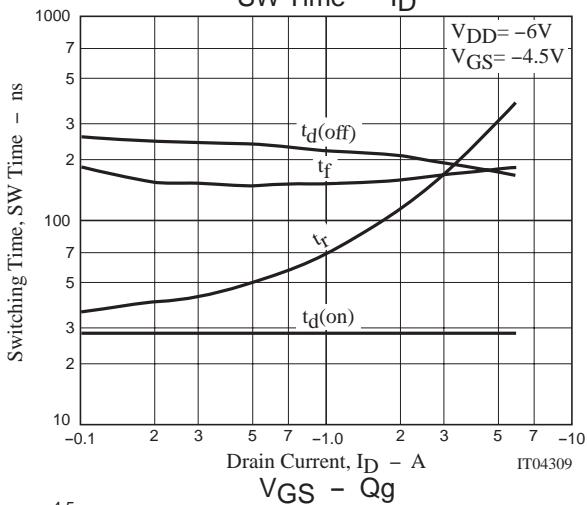
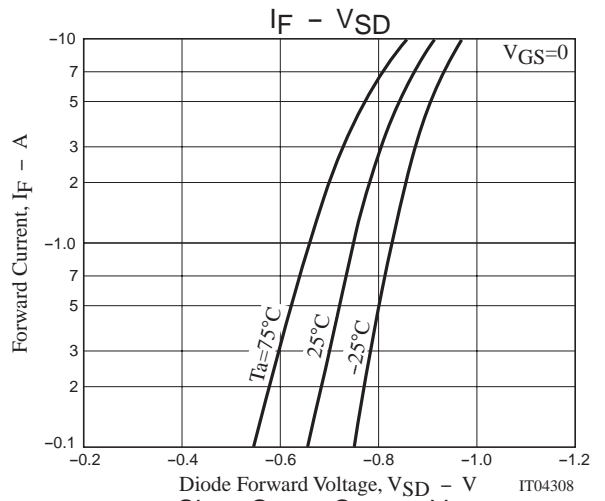
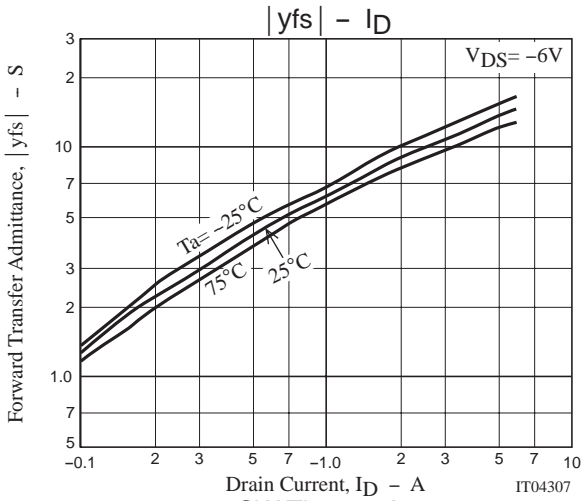
CPH6318

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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|-------------------------------|------------|-------------------------------------|---------|-------|------|------|
| | | | min | typ | max | |
| Input Capacitance | C_{iss} | $V_{DS}=-6V, f=1MHz$ | | 1900 | | pF |
| Output Capacitance | C_{oss} | $V_{DS}=-6V, f=1MHz$ | | 440 | | pF |
| Reverse Transfer Capacitance | C_{rss} | $V_{DS}=-6V, f=1MHz$ | | 360 | | pF |
| Turn-ON Delay Time | $t_d(on)$ | See specified Test Circuit. | | 28 | | ns |
| Rise Time | t_r | See specified Test Circuit. | | 170 | | ns |
| Turn-OFF Delay Time | $t_d(off)$ | See specified Test Circuit. | | 190 | | ns |
| Fall Time | t_f | See specified Test Circuit. | | 170 | | ns |
| Total Gate Charge | Q_g | $V_{DS}=-6V, V_{GS}=-4.5V, I_D=-6A$ | | 22 | | nC |
| Gate-to-Source Charge | Q_{gs} | $V_{DS}=-6V, V_{GS}=-4.5V, I_D=-6A$ | | 3.0 | | nC |
| Gate-to-Drain "Miller" Charge | Q_{gd} | $V_{DS}=-6V, V_{GS}=-4.5V, I_D=-6A$ | | 7.0 | | nC |
| Diode Forward Voltage | V_{SD} | $I_S=-6A, V_{GS}=0$ | | -0.86 | -1.5 | V |

Switching Time Test Circuit





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