



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

CPH3350 — P-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Ultrahigh-speed switching
- 1.8V drive
- Halogen free compliance

Specifications

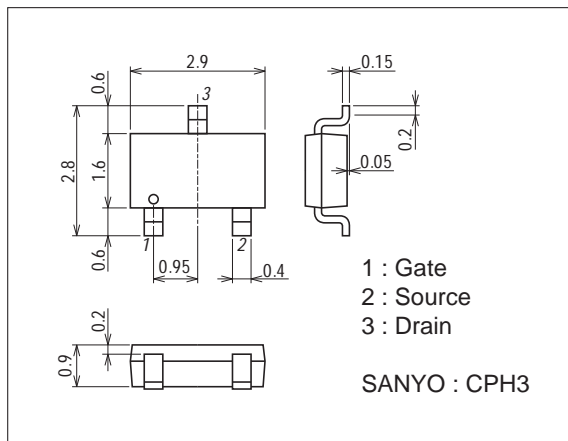
Absolute Maximum Ratings at Ta=25°C

| 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 | | -3 | A |
| Drain Current (Pulse) | I _{DP} | PW≤10μs, duty cycle≤1% | -12 | A |
| Allowable Power Dissipation | P _D | When mounted on ceramic substrate (900mm ² ×0.8mm) | 1.0 | W |
| Channel Temperature | T _{ch} | | 150 | °C |
| Storage Temperature | T _{stg} | | -55 to +150 | °C |

Package Dimensions

unit : mm (typ)

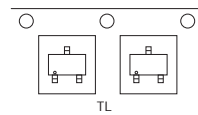
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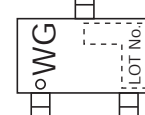
Product & Package Information

- Package : CPH3
- JEITA, JEDEC : SC-59, TO-236, SOT-23
- Minimum Packing Quantity : 3,000 pcs./reel

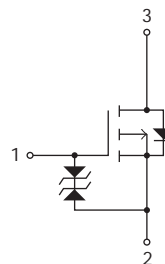
Packing Type: TL



Marking



Electrical Connection

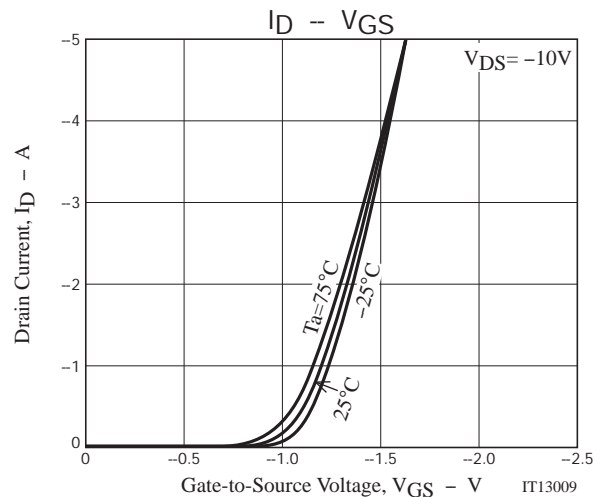
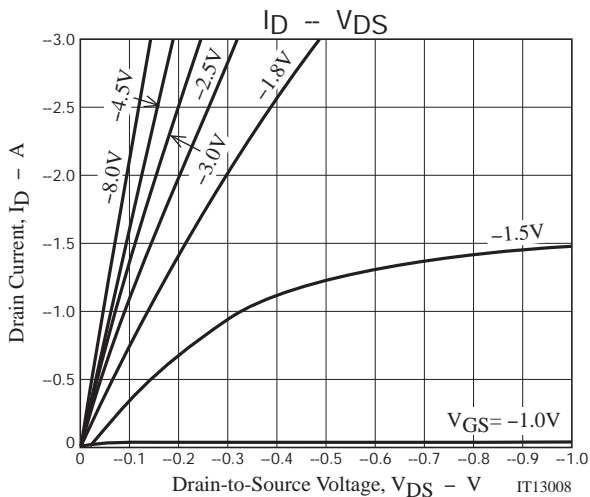
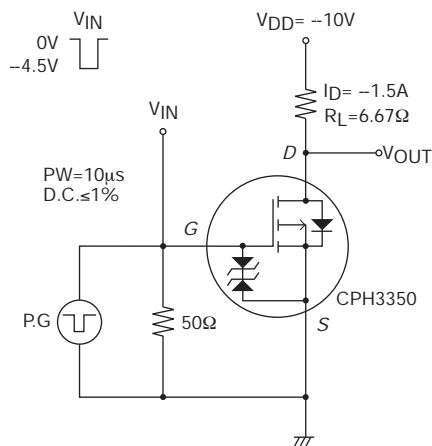


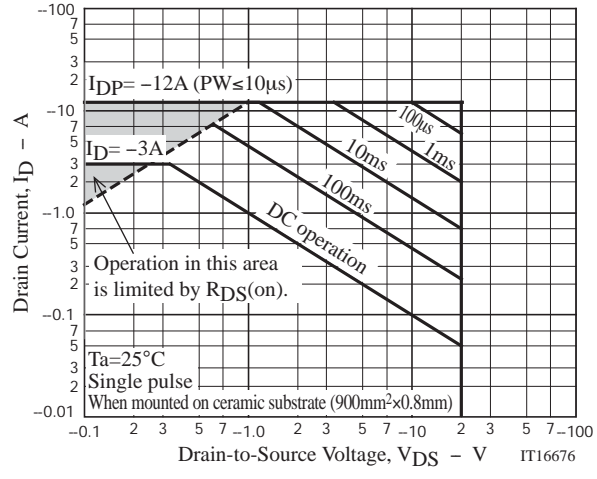
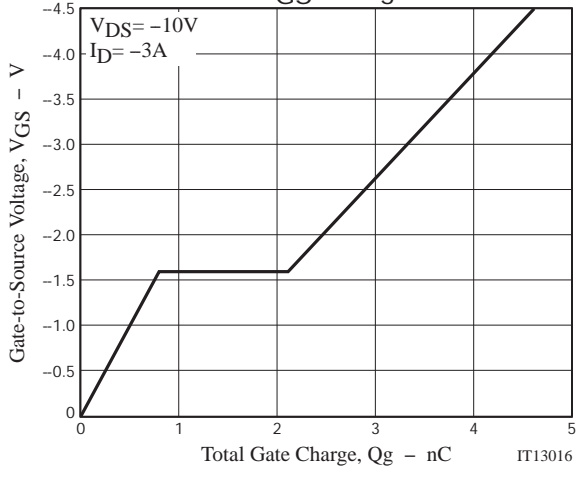
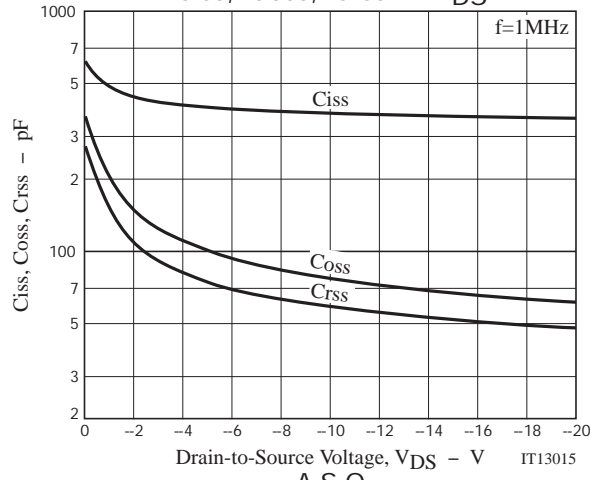
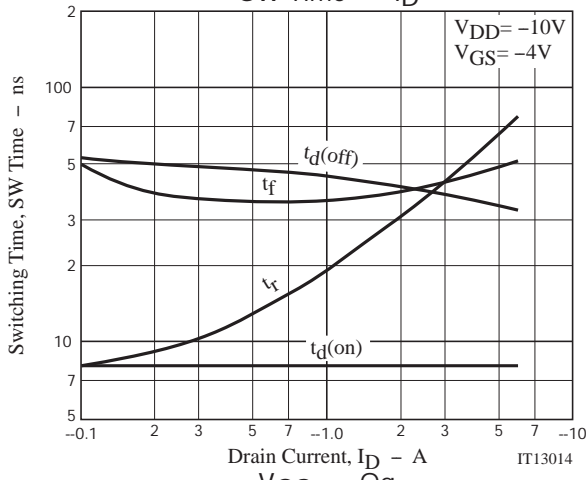
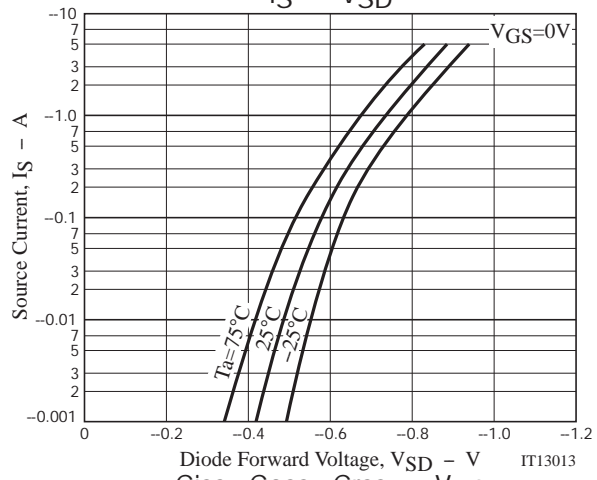
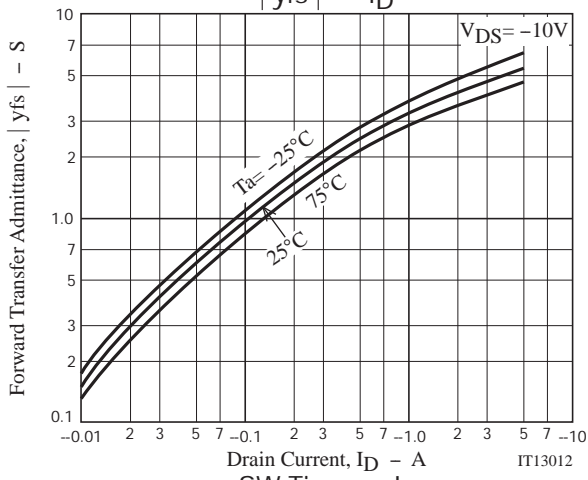
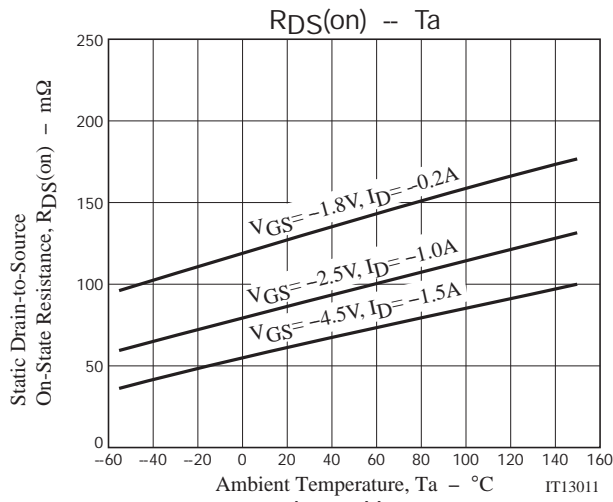
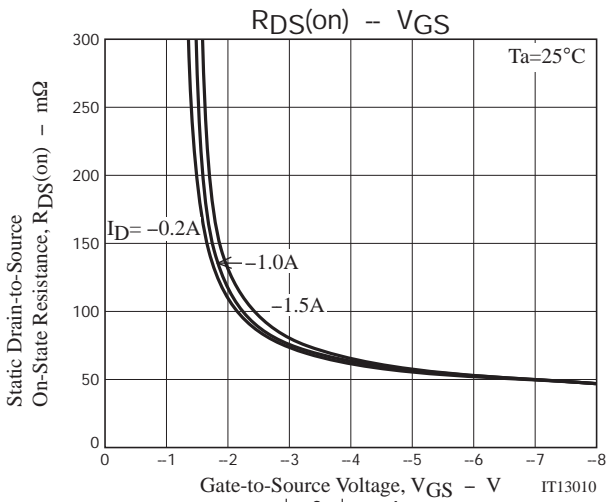
CPH3350

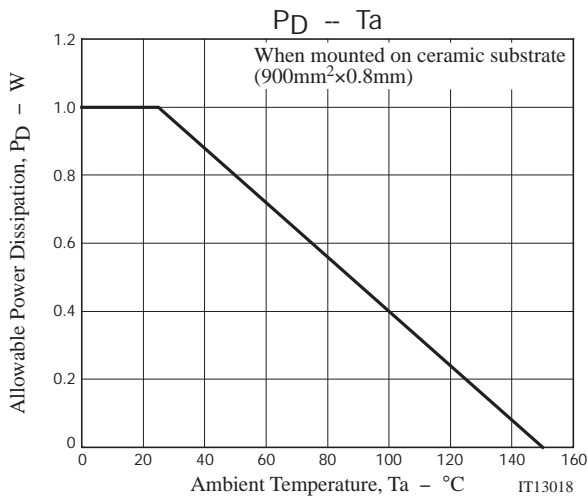
Electrical Characteristics at $T_a=25^\circ\text{C}$

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|---------------|---|------------------------------------|-----|----------|------------------|
| | | | min | typ | max | |
| Drain-to-Source Breakdown Voltage | $V_{(BR)DSS}$ | $I_D=-1\text{mA}, V_{GS}=0\text{V}$ | -20 | | | V |
| Zero-Gate Voltage Drain Current | I_{DSS} | $V_{DS}=-20\text{V}, V_{GS}=0\text{V}$ | | | -1 | μA |
| Gate-to-Source Leakage Current | I_{GSS} | $V_{GS}=\pm 8\text{V}, V_{DS}=0\text{V}$ | | | ± 10 | μA |
| Cutoff Voltage | $V_{GS(off)}$ | $V_{DS}=-10\text{V}, I_D=-1\text{mA}$ | -0.4 | | -1.3 | V |
| Forward Transfer Admittance | $ y_{fs} $ | $V_{DS}=-10\text{V}, I_D=-1.5\text{A}$ | | 4.3 | | S |
| Static Drain-to-Source On-State Resistance | $R_{DS(on)1}$ | $I_D=-1.5\text{A}, V_{GS}=-4.5\text{V}$ | | 64 | 83 | $\text{m}\Omega$ |
| | $R_{DS(on)2}$ | $I_D=-1\text{A}, V_{GS}=-2.5\text{V}$ | | 89 | 124 | $\text{m}\Omega$ |
| | $R_{DS(on)3}$ | $I_D=-0.2\text{A}, V_{GS}=-1.8\text{V}$ | | 131 | 196 | $\text{m}\Omega$ |
| Input Capacitance | C_{iss} | $V_{DS}=-10\text{V}, f=1\text{MHz}$ | | 375 | | pF |
| Output Capacitance | C_{oss} | | | 77 | | pF |
| Reverse Transfer Capacitance | C_{rss} | | | 58 | | pF |
| Turn-ON Delay Time | $t_d(on)$ | | | 8.1 | | ns |
| Rise Time | t_r | See specified Test Circuit. | | 26 | | ns |
| Turn-OFF Delay Time | $t_d(off)$ | | | 42 | | ns |
| Fall Time | t_f | | | 37 | | ns |
| Total Gate Charge | Q_g | $V_{DS}=-10\text{V}, V_{GS}=-4.5\text{V}, I_D=-3\text{A}$ | | 4.6 | | nC |
| Gate-to-Source Charge | Q_{gs} | | | 0.8 | | nC |
| Gate-to-Drain "Miller" Charge | Q_{gd} | | | 1.3 | | nC |
| Diode Forward Voltage | V_{SD} | | $I_S=-3\text{A}, V_{GS}=0\text{V}$ | | -0.83 | -1.2 |

Switching Time Test Circuit







Note on usage : Since the CPH3350 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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