



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

SCH1332 — P-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 1.8V drive.
- Halogen free compliance.

Specifications

Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

| 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 | | -2.5 | A |
| Drain Current (Pulse) | I_{DP} | $PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$ | -10 | A |
| Allowable Power Dissipation | P_D | When mounted on ceramic substrate (900mm ² ×0.8mm) | 1 | W |
| Channel Temperature | T_{ch} | | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | | -55 to +150 | $^\circ\text{C}$ |

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} $ | $V_{DS} = -10\text{V}$, $I_D = -1.5\text{A}$ | 2.2 | 3.8 | | S |
| Static Drain-to-Source On-State Resistance | $R_{DS(on)1}$ | $I_D = -1.5\text{A}$, $V_{GS} = -4.5\text{V}$ | | 73 | 95 | $\text{m}\Omega$ |
| | $R_{DS(on)2}$ | $I_D = -0.8\text{A}$, $V_{GS} = -2.5\text{V}$ | | 98 | 138 | $\text{m}\Omega$ |
| | $R_{DS(on)3}$ | $I_D = -0.3\text{A}$, $V_{GS} = -1.8\text{V}$ | | 140 | 215 | $\text{m}\Omega$ |

Marking : YH

Continued on next page.

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SANYO Semiconductor Co., Ltd.

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SCH1332

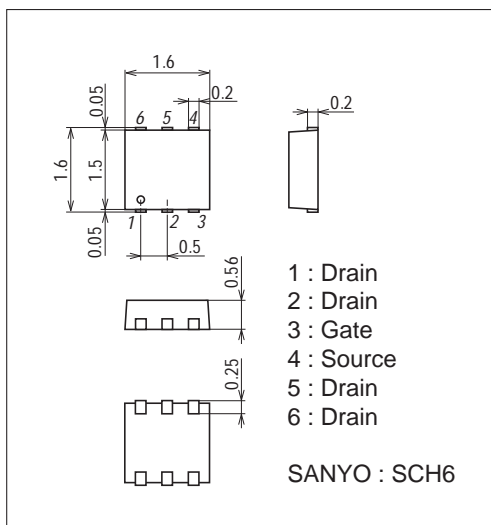
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|-------------------------------|--------------|--|---------|-------|------|------|
| | | | min | typ | max | |
| Input Capacitance | Ciss | $V_{DS} = -10V, f = 1MHz$ | | 375 | | pF |
| Output Capacitance | Coss | $V_{DS} = -10V, f = 1MHz$ | | 77 | | pF |
| Reverse Transfer Capacitance | Crss | $V_{DS} = -10V, f = 1MHz$ | | 58 | | pF |
| Turn-ON Delay Time | $t_{d(on)}$ | See specified Test Circuit. | | 8.1 | | ns |
| Rise Time | t_r | See specified Test Circuit. | | 26 | | ns |
| Turn-OFF Delay Time | $t_{d(off)}$ | See specified Test Circuit. | | 43 | | ns |
| Fall Time | t_f | See specified Test Circuit. | | 37 | | ns |
| Total Gate Charge | Qg | $V_{DS} = -10V, V_{GS} = -4.5V, I_D = -2.5A$ | | 4.6 | | nC |
| Gate-to-Source Charge | Qgs | $V_{DS} = -10V, V_{GS} = -4.5V, I_D = -2.5A$ | | 0.8 | | nC |
| Gate-to-Drain "Miller" Charge | Qgd | $V_{DS} = -10V, V_{GS} = -4.5V, I_D = -2.5A$ | | 1.3 | | nC |
| Diode Forward Voltage | VSD | $I_S = -2.5A, V_{GS} = 0V$ | | -0.82 | -1.2 | V |

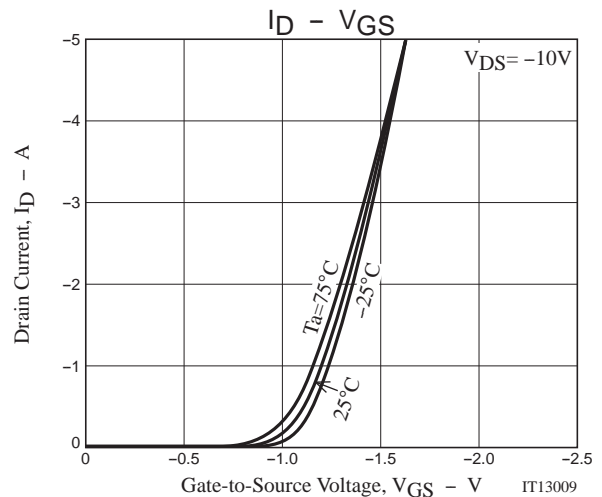
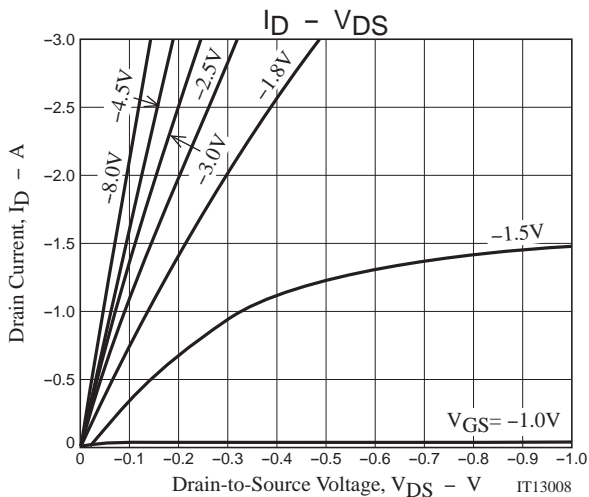
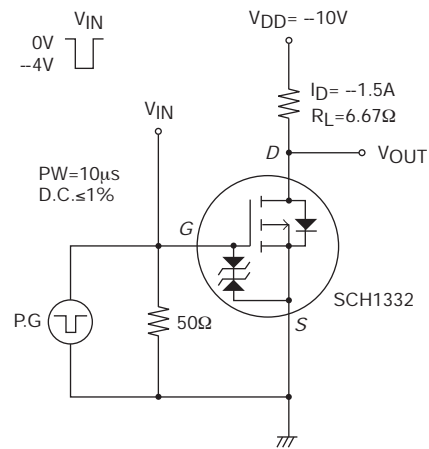
Package Dimensions

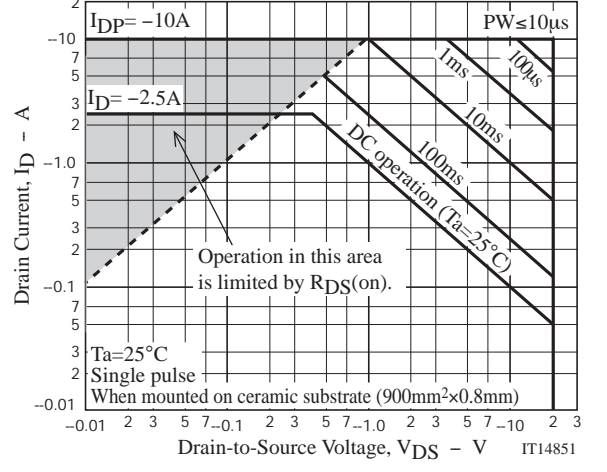
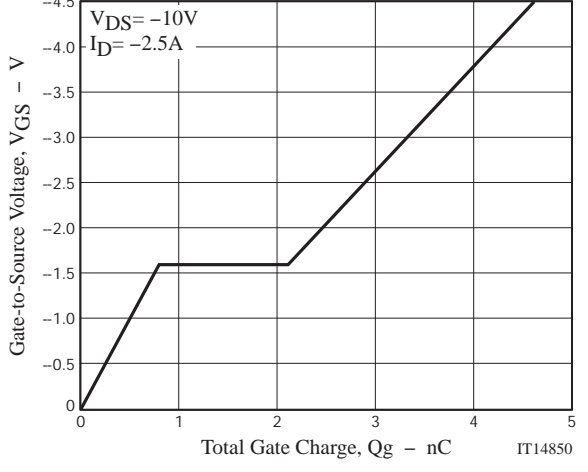
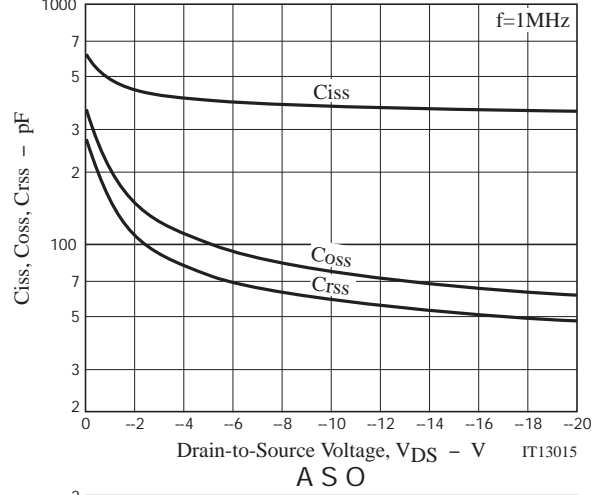
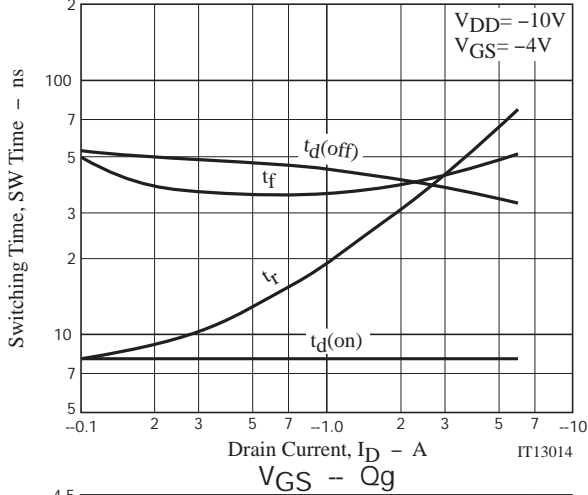
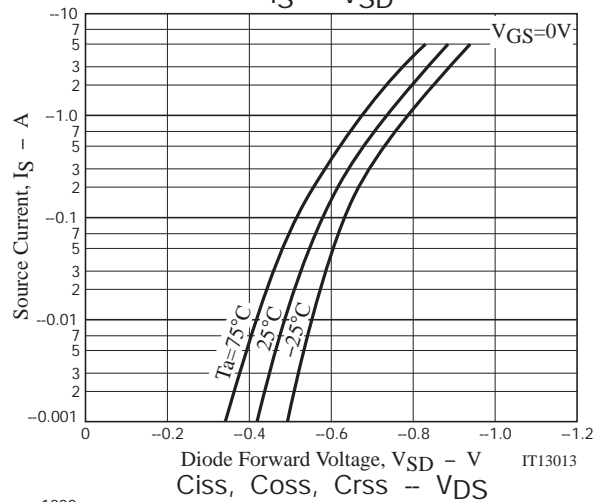
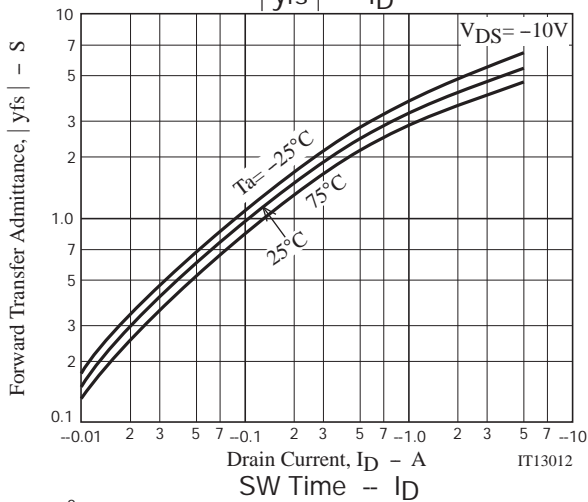
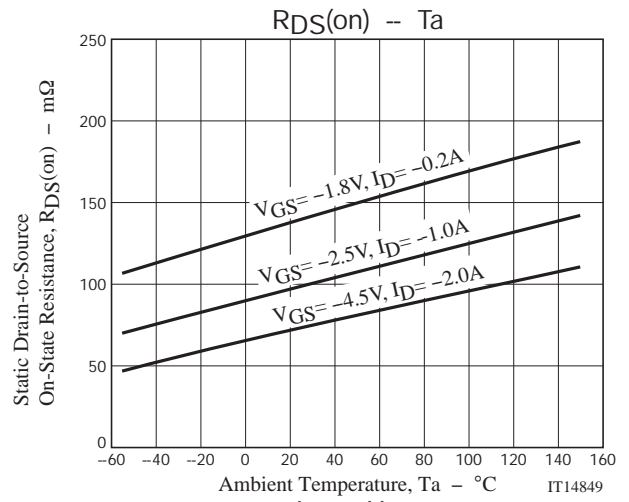
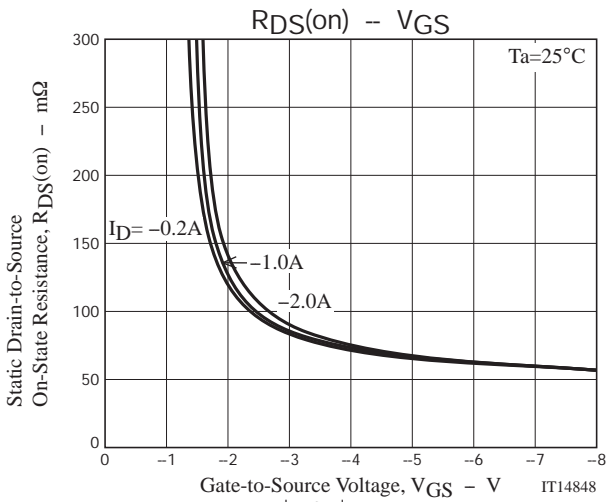
unit : mm (typ)

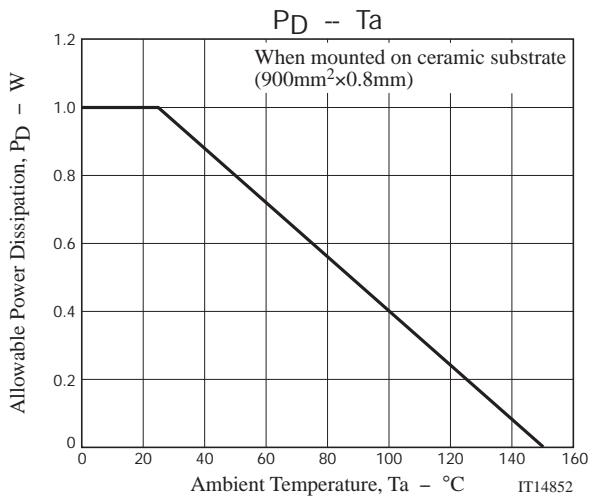
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Switching Time Test Circuit







Note on usage : Since the SCH1332 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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