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FW811 — N-Channel Silicon MOSFET

General-Purpose Switching Device

Applications

Features

- 4V drive.
- Composite type, facilitating high-density mounting.

Specifications

Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|-----------------------------|------------------|--|-------------|------|
| Drain-to-Source Voltage | V _{DSS} | | 35 | V |
| Gate-to-Source Voltage | V _{GSS} | | ±20 | V |
| Drain Current (DC) | I _D | | 8 | A |
| Drain Current (PW≤10s) | I _D | Duty cycle≤1% | 9 | A |
| Drain Current (PW≤10μs) | I _{DP} | Duty cycle≤1% | 52 | A |
| Allowable Power Dissipation | P _D | When mounted on ceramic substrate (2000mm ² ×0.8mm) 1unit, PW≤10s | 2.0 | W |
| Total Dissipation | P _T | When mounted on ceramic substrate (2000mm ² ×0.8mm), PW≤10s | 2.2 | 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 | 35 | | | V |
| Zero-Gate Voltage Drain Current | I _{DSS} | V _{DS} =35V, V _{GS} =0V | | | 1 | μA |
| Gate-to-Source Leakage Current | I _{GSS} | V _{GS} =±16V, V _{DS} =0V | | | ±10 | μA |
| Cutoff Voltage | V _{GS(off)} | V _{DS} =10V, I _D =1mA | 1.2 | | 2.6 | V |
| Forward Transfer Admittance | y _{fs} | V _{DS} =10V, I _D =8A | 2.7 | 4.5 | | S |
| Static Drain-to-Source On-State Resistance | R _{DS(on)1} | I _D =8A, V _{GS} =10V | | 18 | 24 | mΩ |
| | R _{DS(on)2} | I _D =4A, V _{GS} =4.5V | | 29 | 41 | mΩ |
| | R _{DS(on)3} | I _D =4A, V _{GS} =4V | | 39 | 55 | mΩ |

Marking : W811

Continued on next page.

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FW811

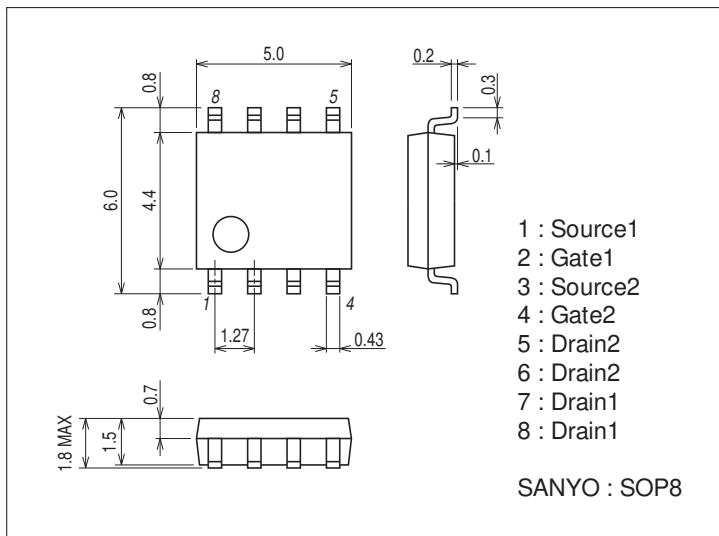
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|-------------------------------|--------------|----------------------------------|---------|------|-----|------|
| | | | min | typ | max | |
| Input Capacitance | Ciss | $V_{DS}=20V, f=1MHz$ | | 660 | | pF |
| Output Capacitance | Coss | $V_{DS}=20V, f=1MHz$ | | 90 | | pF |
| Reverse Transfer Capacitance | Crss | $V_{DS}=20V, f=1MHz$ | | 60 | | pF |
| Turn-ON Delay Time | $t_{d(on)}$ | See specified Test Circuit. | | 10 | | ns |
| Rise Time | t_r | See specified Test Circuit. | | 50 | | ns |
| Turn-OFF Delay Time | $t_{d(off)}$ | See specified Test Circuit. | | 40 | | ns |
| Fall Time | t_f | See specified Test Circuit. | | 40 | | ns |
| Total Gate Charge | Qg | $V_{DS}=20V, V_{GS}=10V, I_D=8A$ | | 13.0 | | nC |
| Gate-to-Source Charge | Qgs | $V_{DS}=20V, V_{GS}=10V, I_D=8A$ | | 2.4 | | nC |
| Gate-to-Drain "Miller" Charge | Qgd | $V_{DS}=20V, V_{GS}=10V, I_D=8A$ | | 3.2 | | nC |
| Diode Forward Voltage | VSD | $I_S=8A, V_{GS}=0V$ | | 0.81 | 1.2 | V |

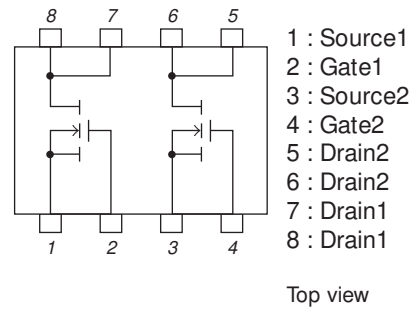
Package Dimensions

unit : mm (typ)

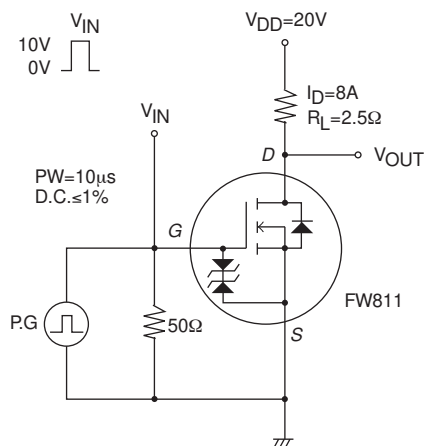
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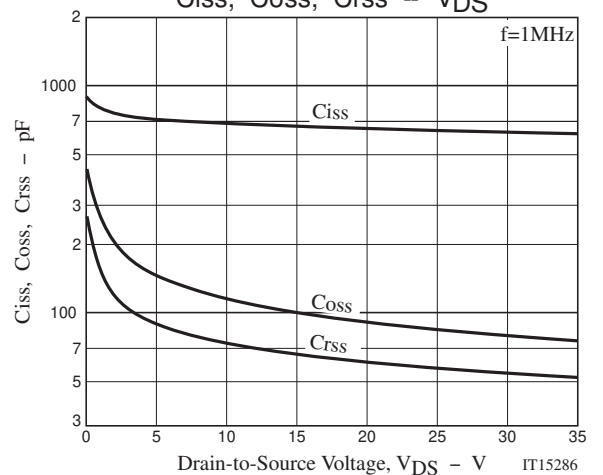
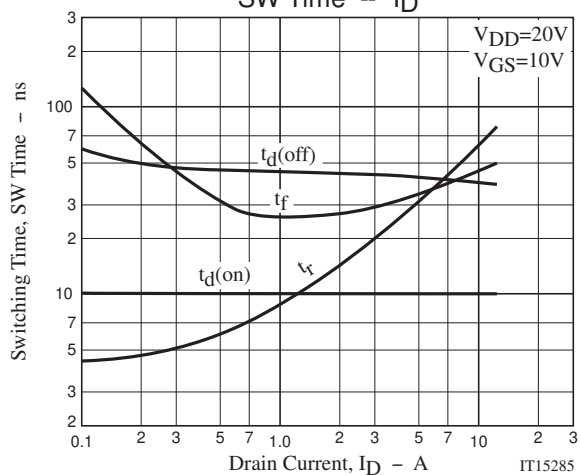
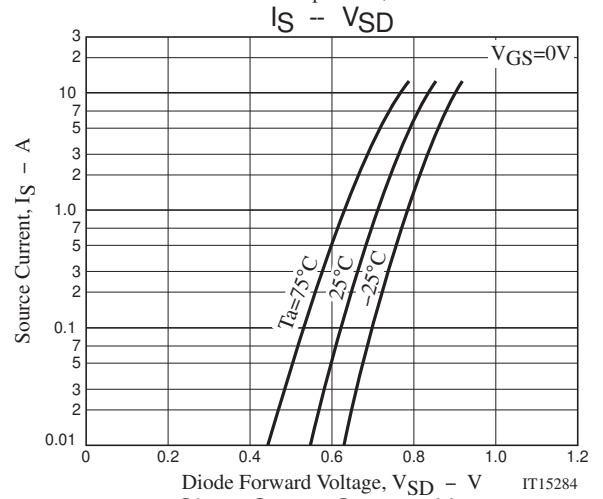
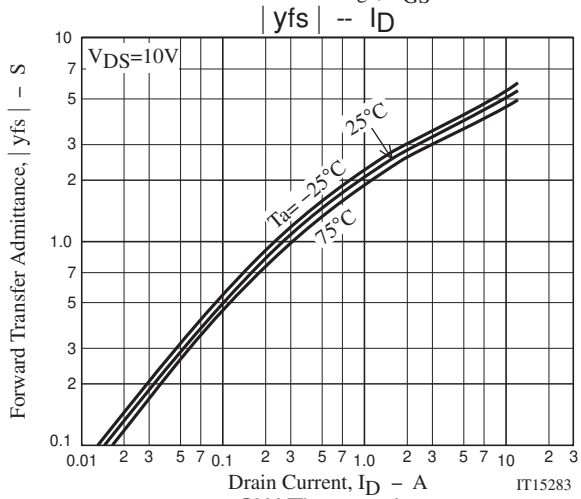
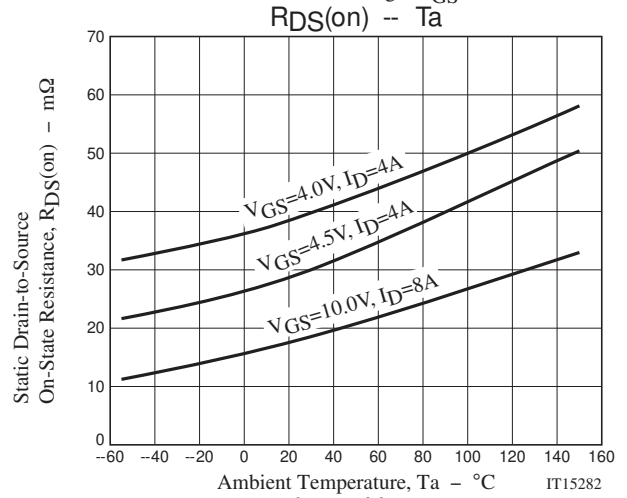
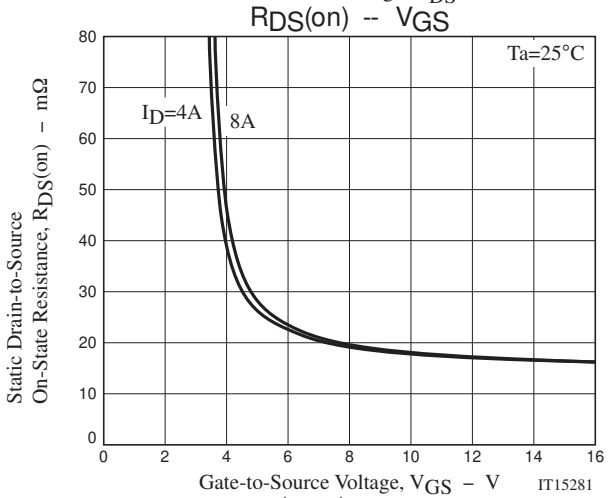
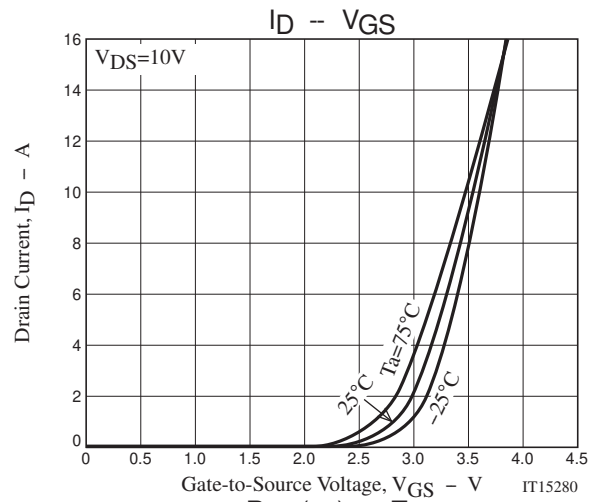
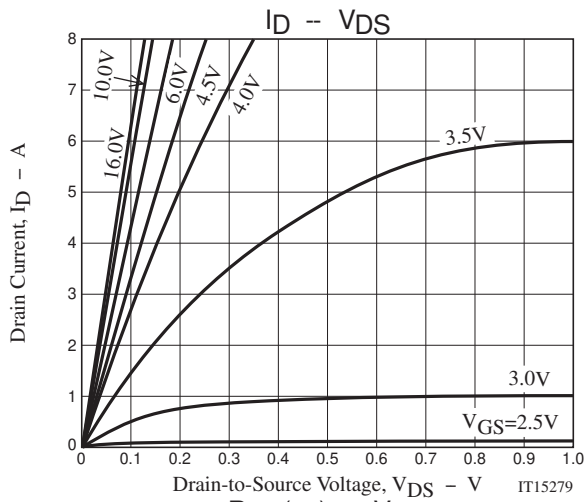


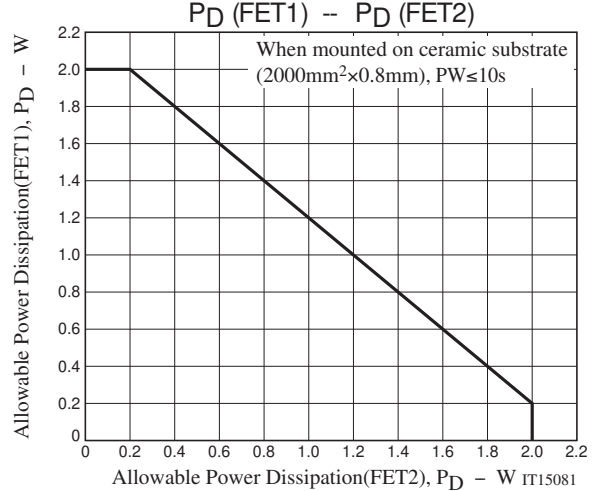
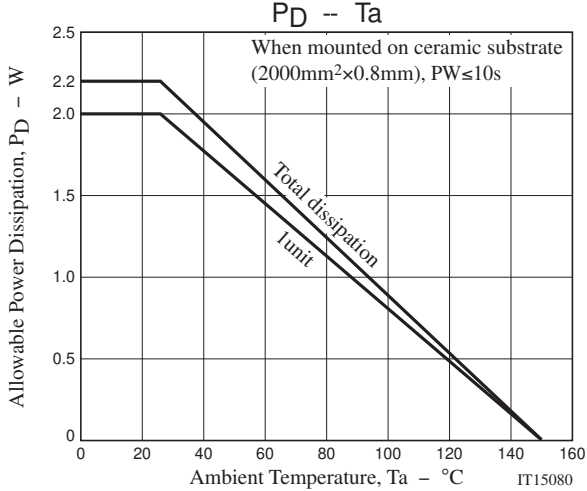
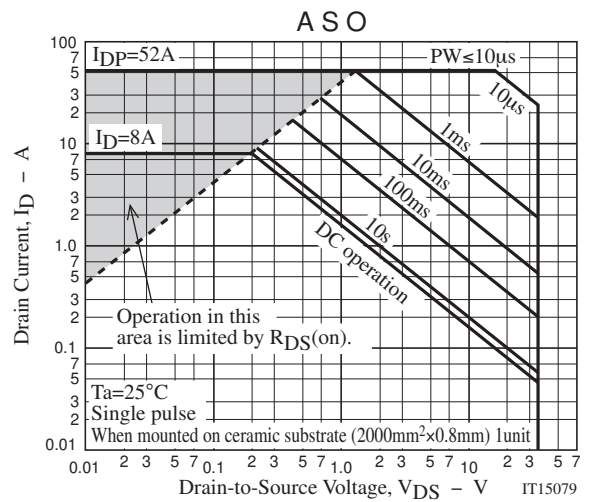
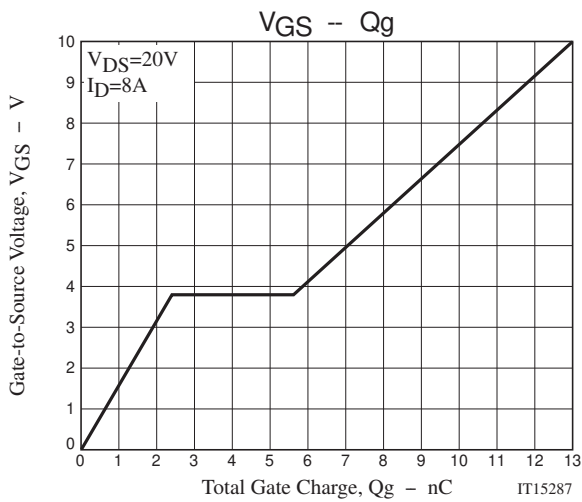
Electrical Connection



Switching Time Test Circuit







Note on usage : Since the FW811 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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