



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

FW282 — 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 | | 6 | A |
| Drain Current (PW≤10s) | I _D | Duty cycle≤1% | 6.5 | A |
| Drain Current (PW≤10μs) | I _{DP} | Duty cycle≤1% | 24 | A |
| Allowable Power Dissipation | P _D | When mounted on ceramic substrate (2000mm ² ×0.8mm) 1unit, PW≤10s | 1.8 | 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 | 1.5 | | 2.6 | V |
| Forward Transfer Admittance | y _{fs} | V _{DS} =10V, I _D =6A | 1.8 | 3 | | S |
| Static Drain-to-Source On-State Resistance | R _{DS(on)1} | I _D =6A, V _{GS} =10V | | 28 | 37 | mΩ |
| | R _{DS(on)2} | I _D =3A, V _{GS} =4.5V | | 43 | 61 | mΩ |
| | R _{DS(on)3} | I _D =3A, V _{GS} =4V | | 52 | 73 | mΩ |

Marking : W282

Continued on next page.

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FW282

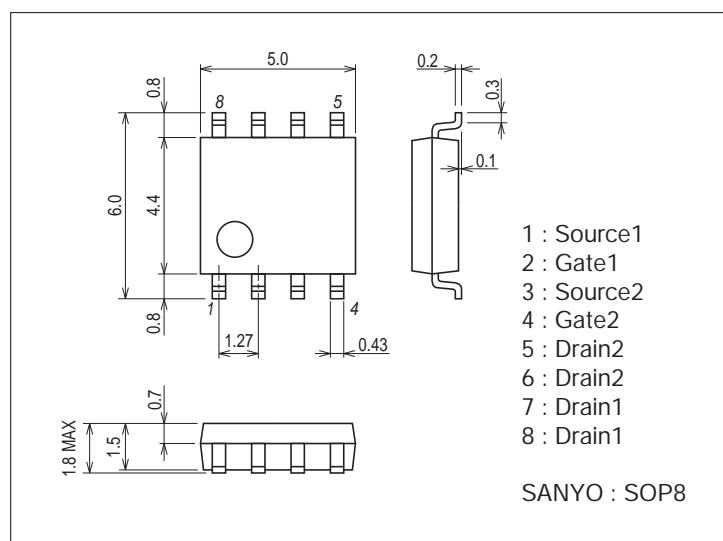
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|-------------------------------|--------------|----------------------------------|---------|------|-----|------|
| | | | min | typ | max | |
| Input Capacitance | Ciss | $V_{DS}=20V, f=1MHz$ | | 470 | | pF |
| Output Capacitance | Coss | $V_{DS}=20V, f=1MHz$ | | 70 | | pF |
| Reverse Transfer Capacitance | Crss | $V_{DS}=20V, f=1MHz$ | | 35 | | pF |
| Turn-ON Delay Time | $t_{d(on)}$ | See specified Test Circuit. | | 8 | | ns |
| Rise Time | t_r | See specified Test Circuit. | | 34 | | ns |
| Turn-OFF Delay Time | $t_{d(off)}$ | See specified Test Circuit. | | 31 | | ns |
| Fall Time | t_f | See specified Test Circuit. | | 30 | | ns |
| Total Gate Charge | Qg | $V_{DS}=20V, V_{GS}=10V, I_D=6A$ | | 10 | | nC |
| Gate-to-Source Charge | Qgs | $V_{DS}=20V, V_{GS}=10V, I_D=6A$ | | 2 | | nC |
| Gate-to-Drain "Miller" Charge | Qgd | $V_{DS}=20V, V_{GS}=10V, I_D=6A$ | | 2 | | nC |
| Diode Forward Voltage | VSD | $I_S=6A, V_{GS}=0V$ | | 0.84 | 1.2 | V |

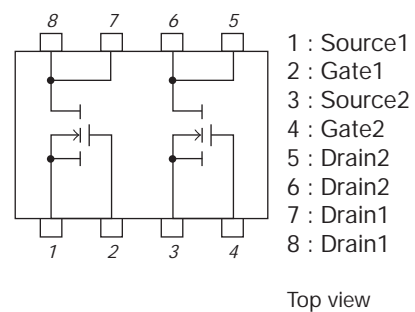
Package Dimensions

unit : mm (typ)

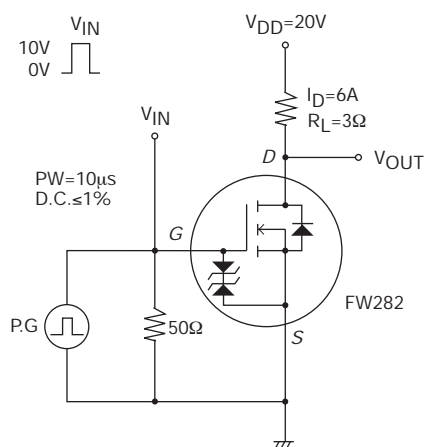
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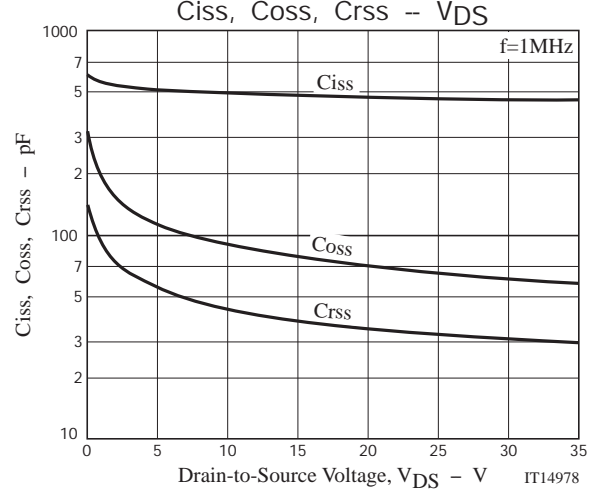
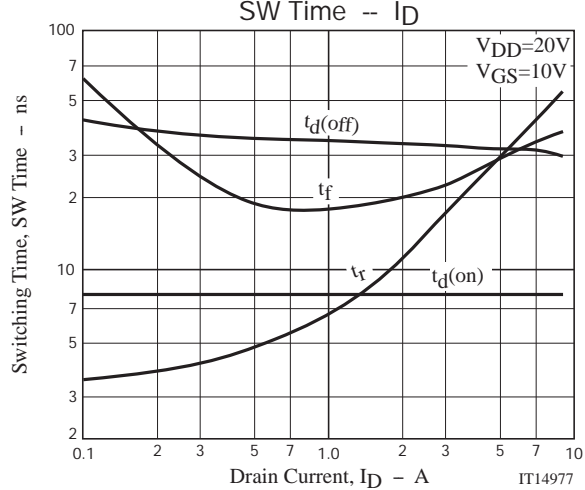
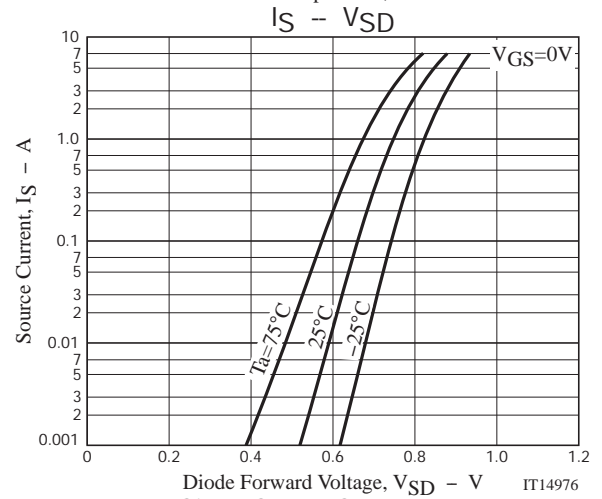
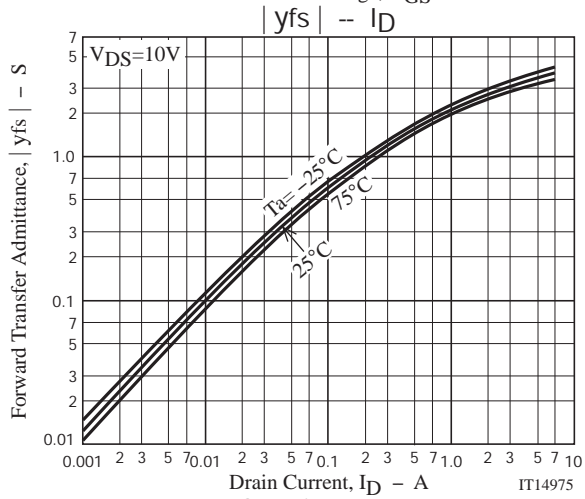
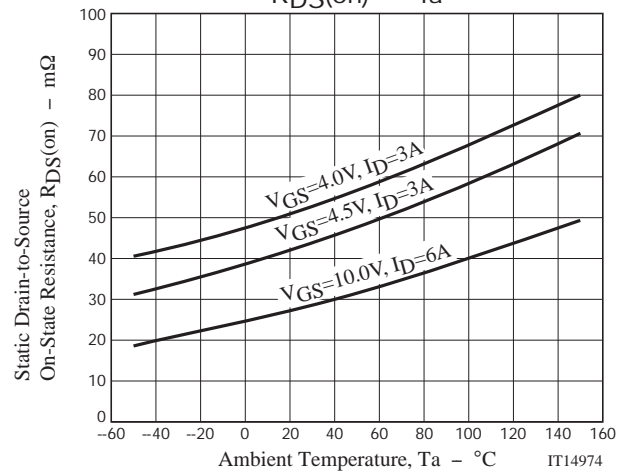
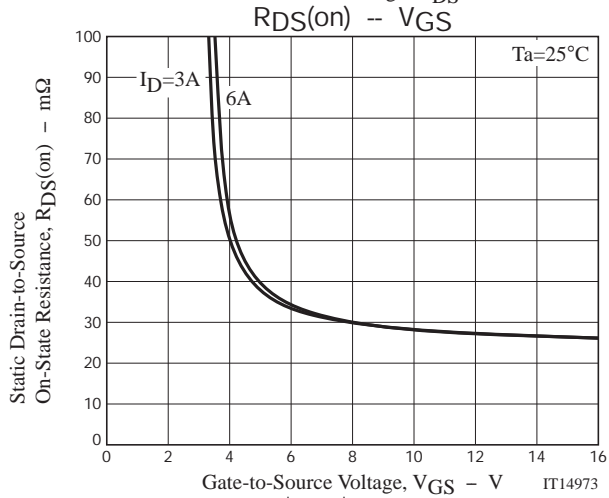
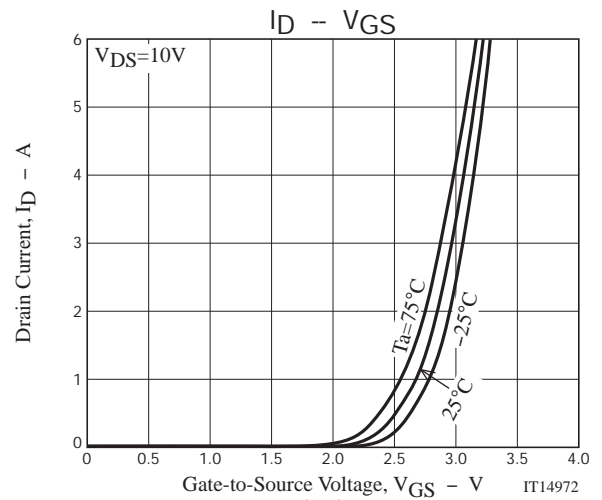
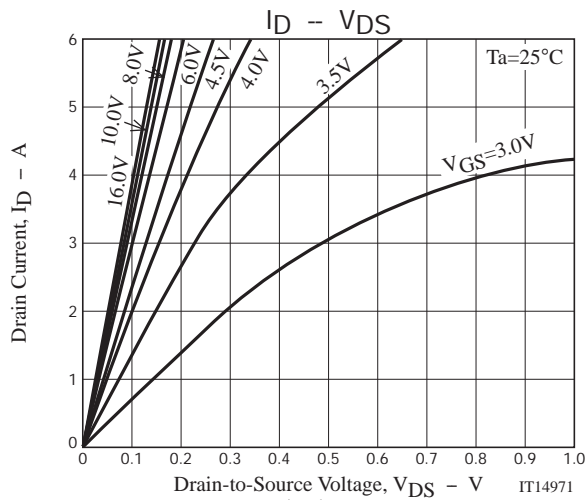


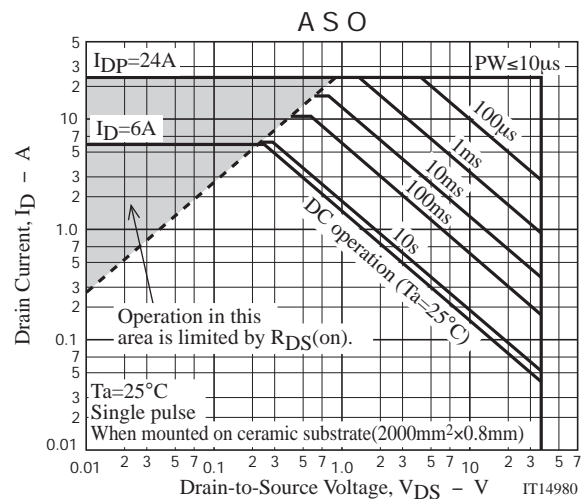
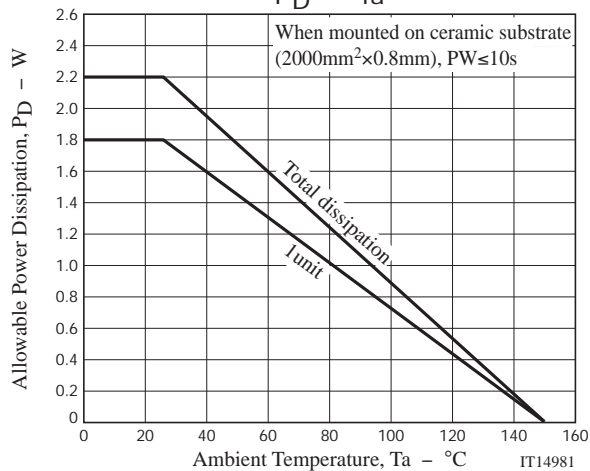
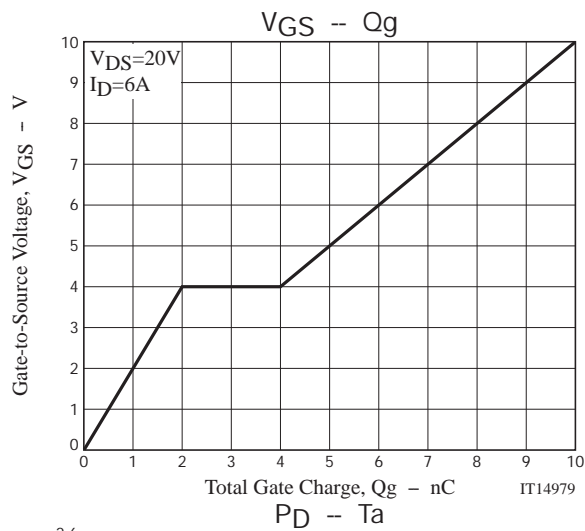
Electrical Connection



Switching Time Test Circuit







Note on usage : Since the FW282 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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