



SFT1427 — N-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- 4V drive.

Specifications

Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|-----------------------------|------------------|------------------------|-------------|------|
| Drain-to-Source Voltage | V _{DSS} | | 80 | V |
| Gate-to-Source Voltage | V _{GSS} | | ±20 | V |
| Drain Current (DC) | I _D | | 7 | A |
| Drain Current (PW≤10μs) | I _{DP} | PW≤10μs, duty cycle≤1% | 28 | A |
| Allowable Power Dissipation | P _D | | 1.0 | W |
| | | T _c =25°C | 15 | 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 | 80 | | | V |
| Zero-Gate Voltage Drain Current | I _{DSS} | V _{DS} =80V, 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 =3.5A | 3.3 | 5.5 | | S |
| Static Drain-to-Source On-State Resistance | R _{DS(on)1} | I _D =3.5A, V _{GS} =10V | | 51 | 66 | mΩ |
| | R _{DS(on)2} | I _D =3.5A, V _{GS} =4.5V | | 62 | 87 | mΩ |
| | R _{DS(on)2} | I _D =3.5A, V _{GS} =4V | | 67 | 94 | mΩ |

Marking : T1427

Continued on next page.

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SFT1427

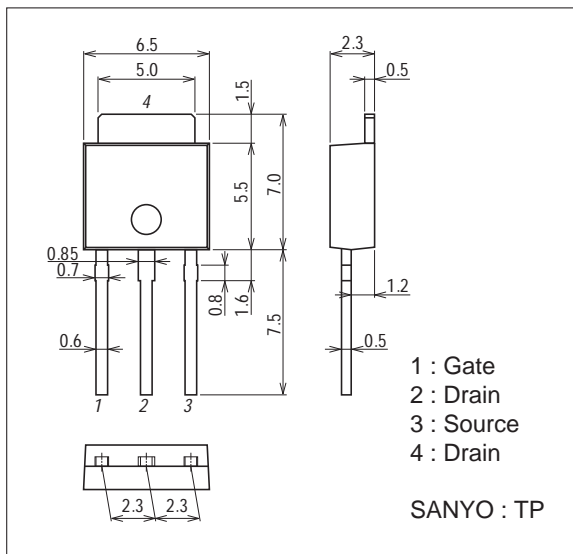
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|-------------------------------|--------------|----------------------------------|---------|------|-----|------|
| | | | min | typ | max | |
| Input Capacitance | Ciss | $V_{DS}=20V, f=1MHz$ | | 1050 | | pF |
| Output Capacitance | Coss | $V_{DS}=20V, f=1MHz$ | | 90 | | pF |
| Reverse Transfer Capacitance | Crss | $V_{DS}=20V, f=1MHz$ | | 65 | | pF |
| Turn-ON Delay Time | $t_{d(on)}$ | See specified Test Circuit. | | 13 | | ns |
| Rise Time | t_r | See specified Test Circuit. | | 19 | | ns |
| Turn-OFF Delay Time | $t_{d(off)}$ | See specified Test Circuit. | | 97 | | ns |
| Fall Time | t_f | See specified Test Circuit. | | 42 | | ns |
| Total Gate Charge | Qg | $V_{DS}=40V, V_{GS}=10V, I_D=7A$ | | 23 | | nC |
| Gate-to-Source Charge | Qgs | $V_{DS}=40V, V_{GS}=10V, I_D=7A$ | | 3.1 | | nC |
| Gate-to-Drain "Miller" Charge | Qgd | $V_{DS}=40V, V_{GS}=10V, I_D=7A$ | | 5.9 | | nC |
| Diode Forward Voltage | VSD | $I_S=7A, V_{GS}=0V$ | | 0.87 | 1.2 | V |

Package Dimensions

unit : mm (typ)

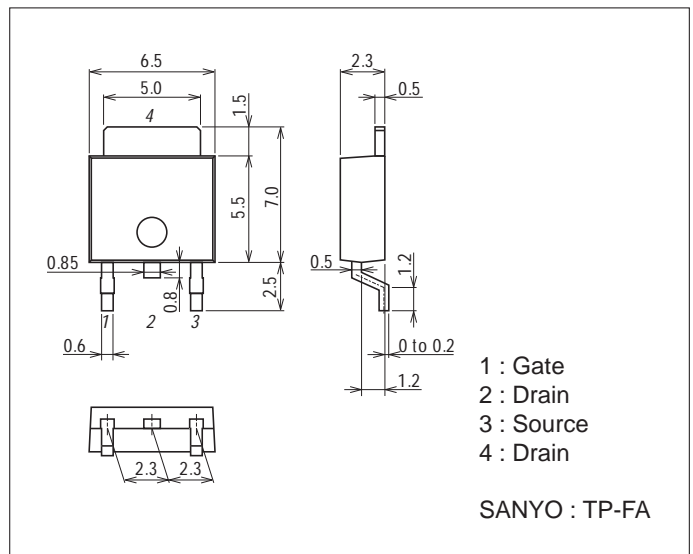
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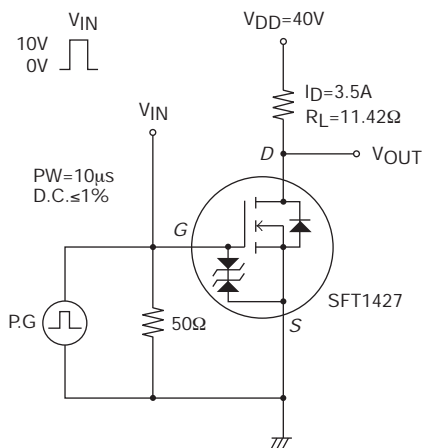
Package Dimensions

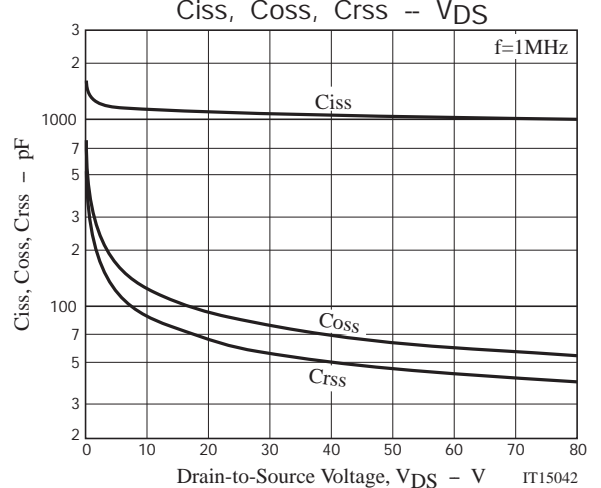
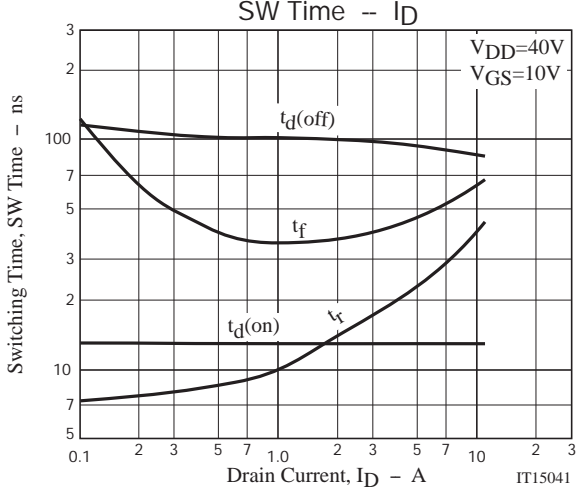
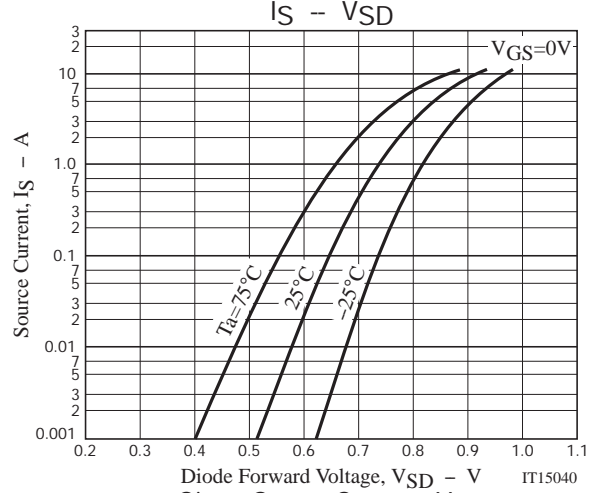
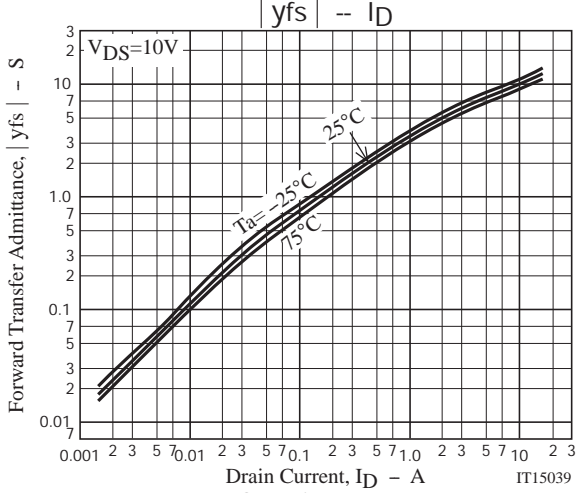
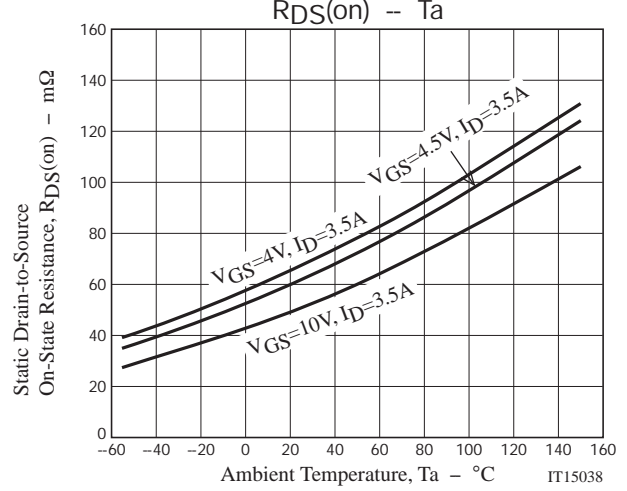
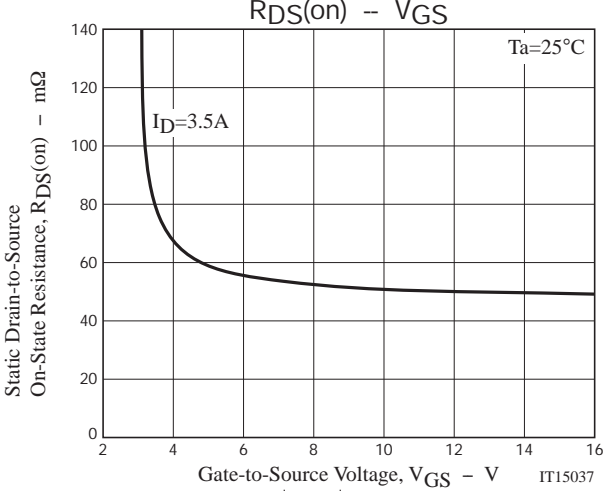
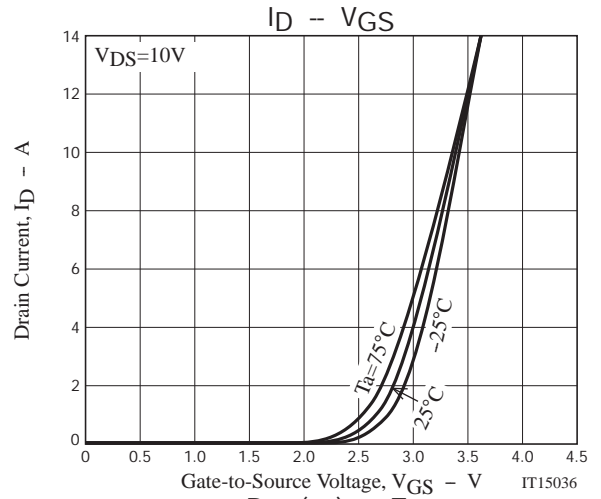
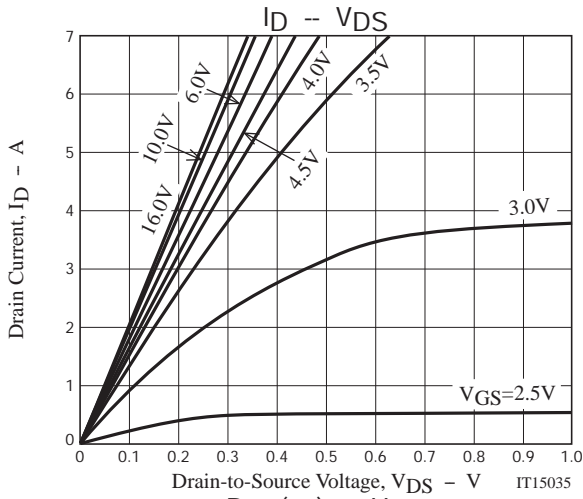
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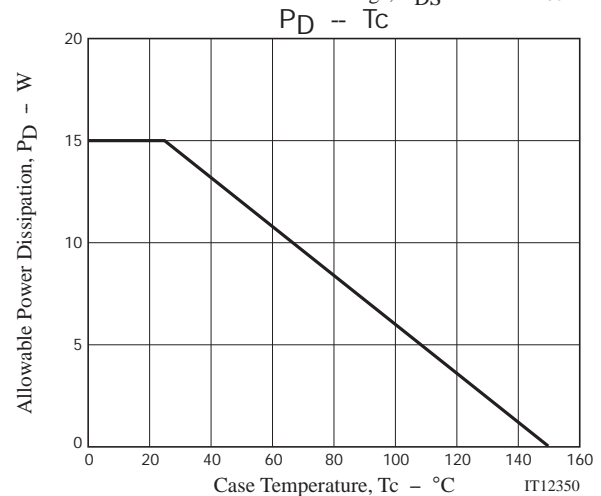
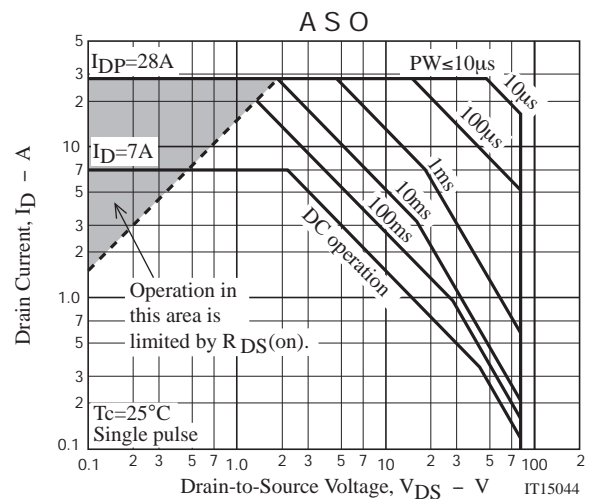
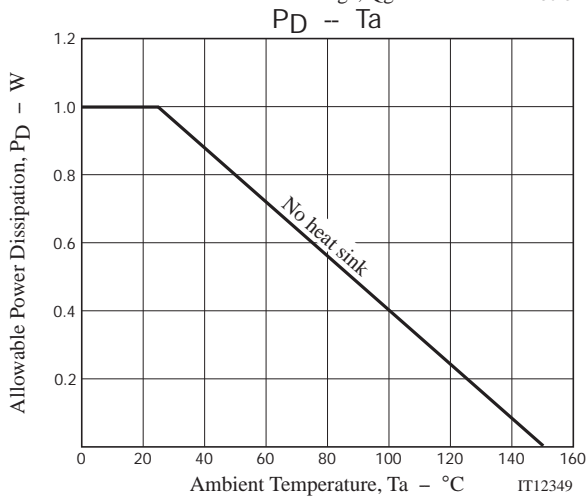
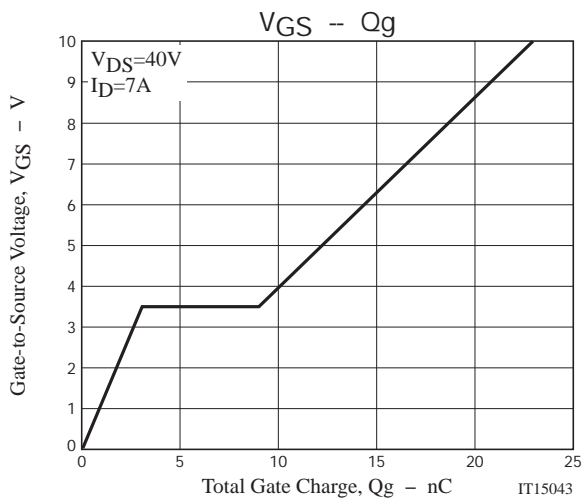
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Switching Time Test Circuit







Note on usage : Since the SFT1427 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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