



SFT1302 — P-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Motor drive application.
- Low ON-resistance.
- 4V drive.

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 | | -11 | A |
| Drain Current (PW≤10μs) | I _{DP} | PW≤10μs, duty cycle≤1% | -44 | 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 | -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 =-5.5A | 5.2 | 8.7 | | S |

Marking : T1302

Continued on next page.

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SFT1302

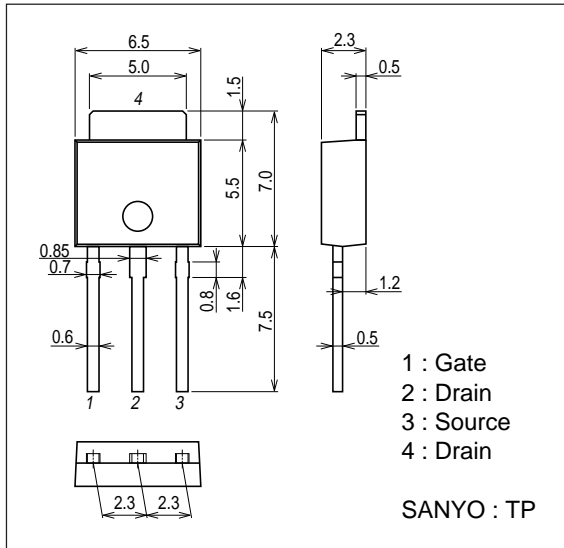
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|----------------------|--|---------|-------|------|------|
| | | | min | typ | max | |
| Static Drain-to-Source On-State Resistance | R _{DS(on)1} | I _D =-5.5A, V _{GS} =-10V | | 39 | 51 | mΩ |
| | R _{DS(on)2} | I _D =-5.5A, V _{GS} =-4.5V | | 55 | 77 | mΩ |
| | R _{DS(on)3} | I _D =-5.5A, V _{GS} =-4V | | 65 | 91 | mΩ |
| Input Capacitance | C _{iss} | V _{DS} =-20V, f=1MHz | | 1240 | | pF |
| Output Capacitance | C _{oss} | V _{DS} =-20V, f=1MHz | | 185 | | pF |
| Reverse Transfer Capacitance | C _{rss} | V _{DS} =-20V, f=1MHz | | 140 | | pF |
| Turn-ON Delay Time | t _{d(on)} | See specified Test Circuit. | | 14 | | ns |
| Rise Time | t _r | See specified Test Circuit. | | 100 | | ns |
| Turn-OFF Delay Time | t _{d(off)} | See specified Test Circuit. | | 95 | | ns |
| Fall Time | t _f | See specified Test Circuit. | | 75 | | ns |
| Total Gate Charge | Q _g | V _{DS} =-17V, V _{GS} =-10V, I _D =-11A | | 24 | | nC |
| Gate-to-Source Charge | Q _{gs} | V _{DS} =-17V, V _{GS} =-10V, I _D =-11A | | 3.5 | | nC |
| Gate-to-Drain "Miller" Charge | Q _{gd} | V _{DS} =-17V, V _{GS} =-10V, I _D =-11A | | 5.2 | | nC |
| Diode Forward Voltage | V _{SD} | I _S =-11A, V _{GS} =0V | | -0.95 | -1.5 | V |

Package Dimensions

unit : mm (typ)

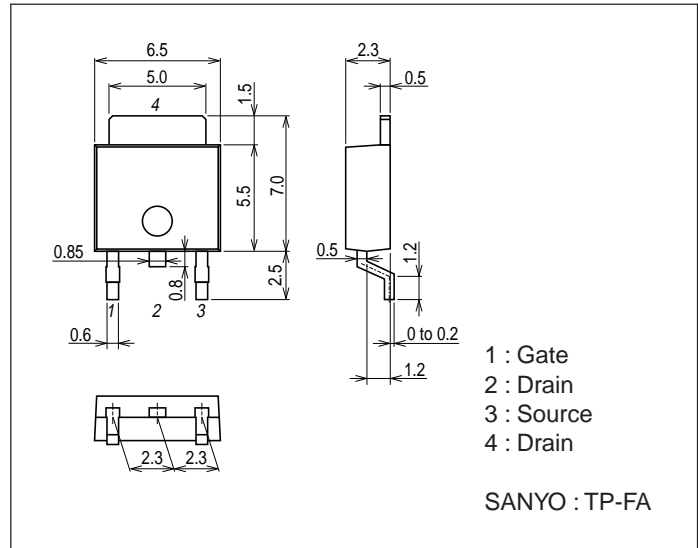
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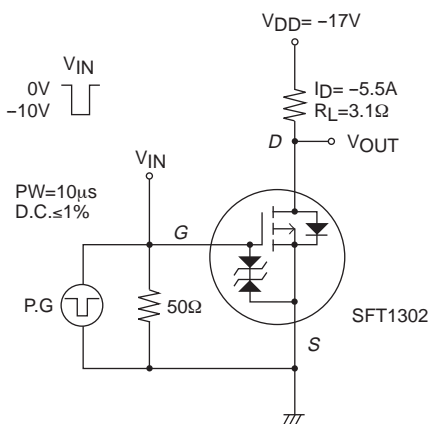
Package Dimensions

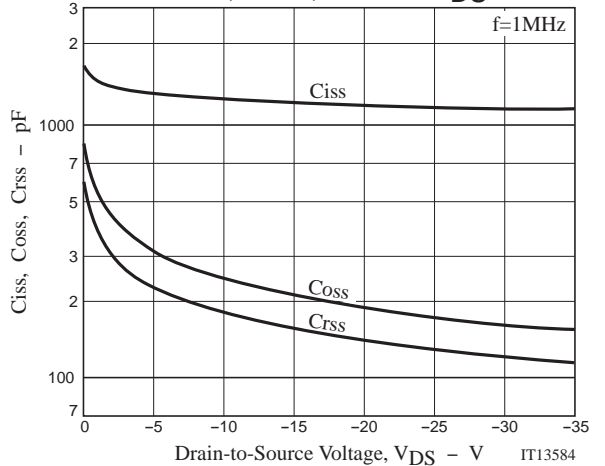
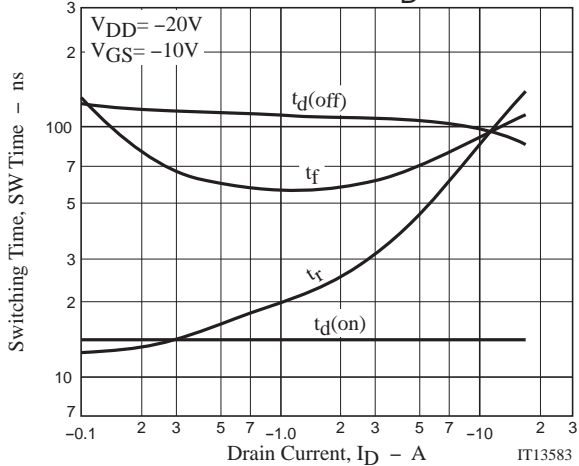
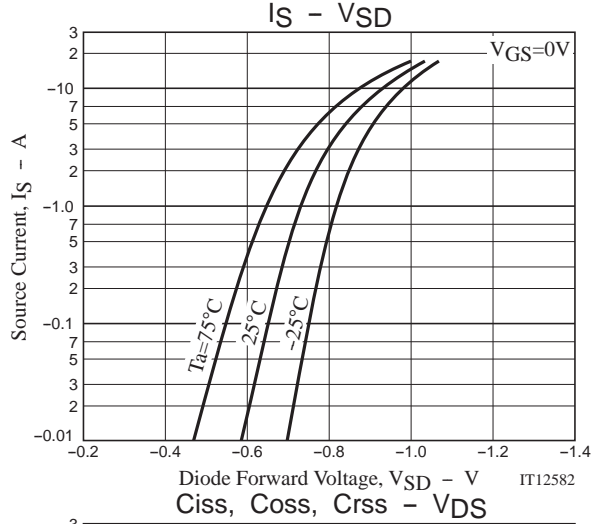
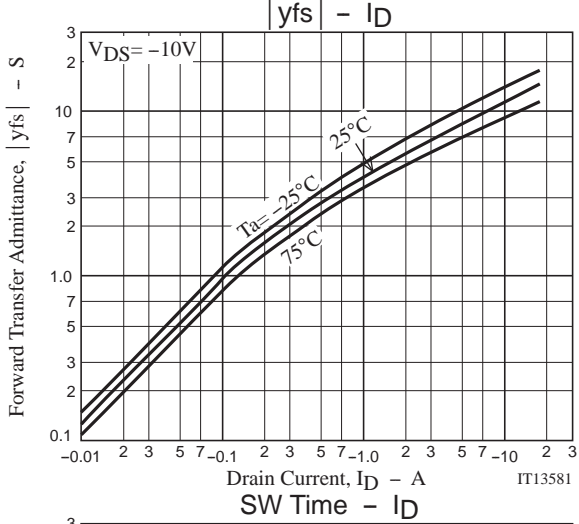
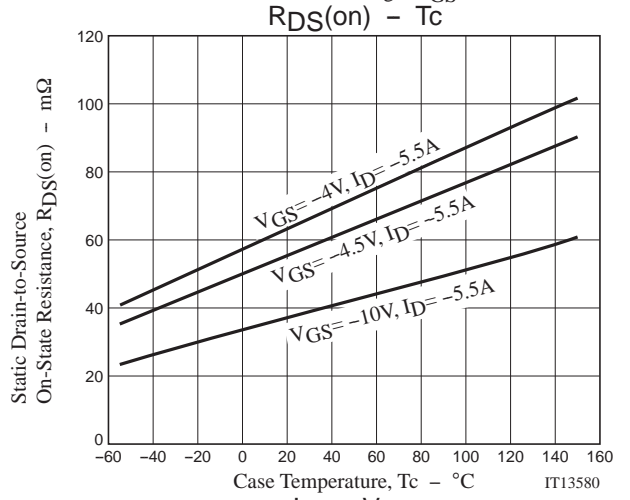
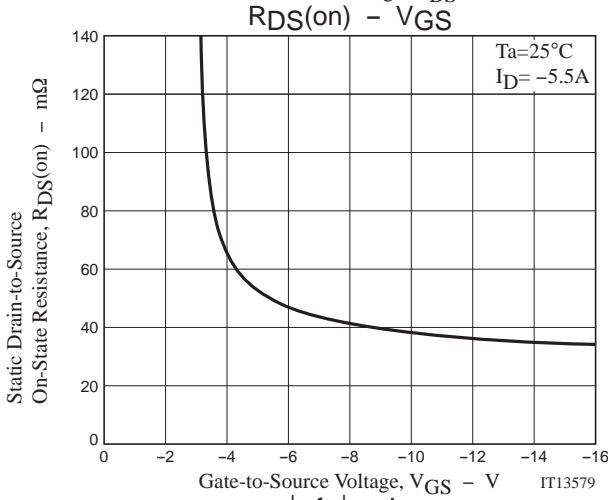
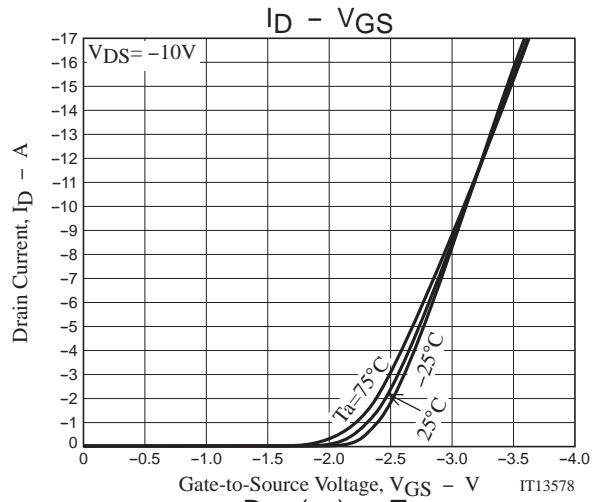
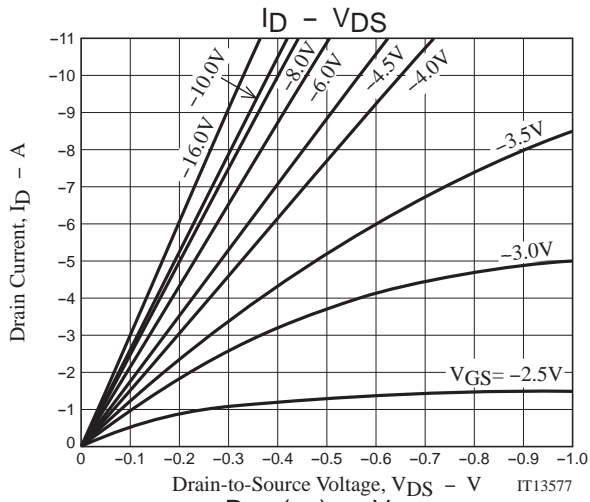
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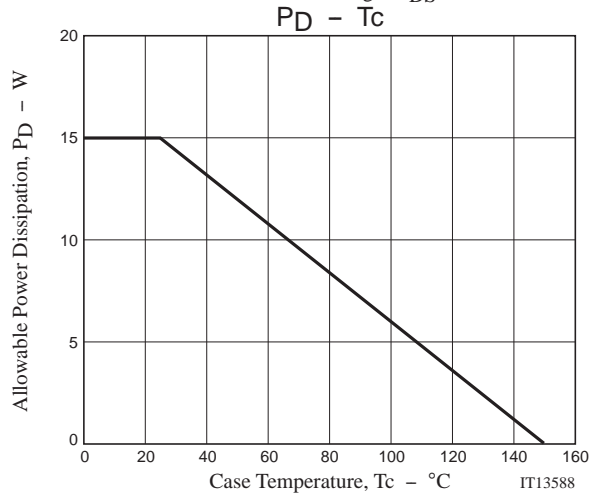
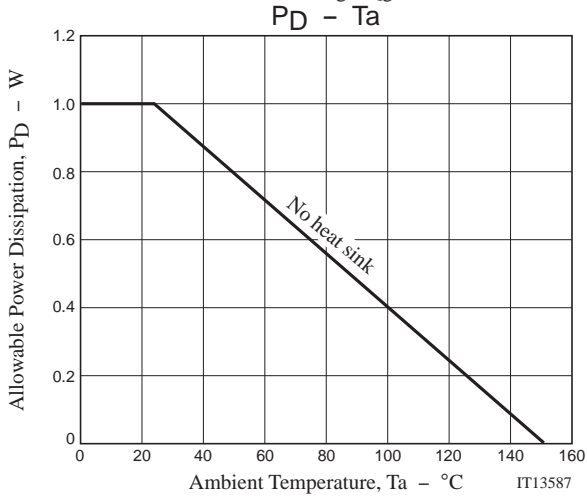
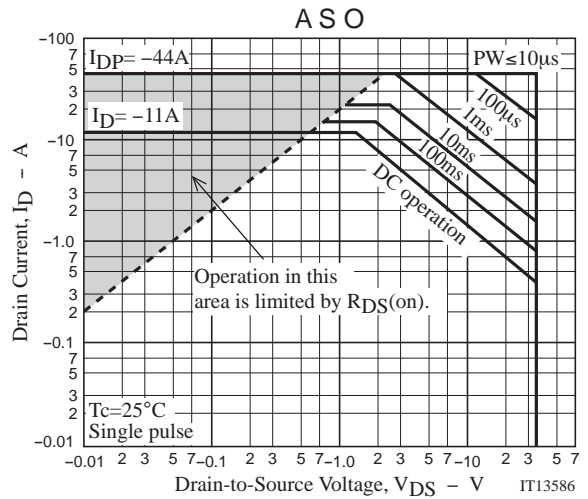
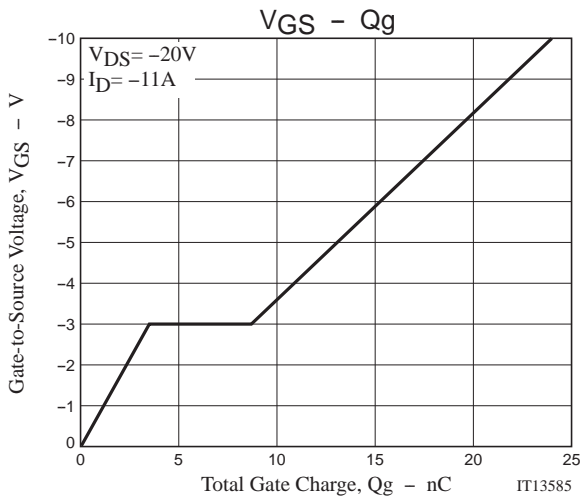
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Switching Time Test Circuit







Note on usage : Since the SFT1302 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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