



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

P-Channel Silicon MOSFET

SFT1345 — General-Purpose Switching Device Applications

Features

- ON-resistance $R_{DS(on)1}=210m\Omega(\text{typ.})$
- 4V drive
- Input Capacitance $C_{iss}=1020pF(\text{typ.})$
- Halogen free compliance

Specifications

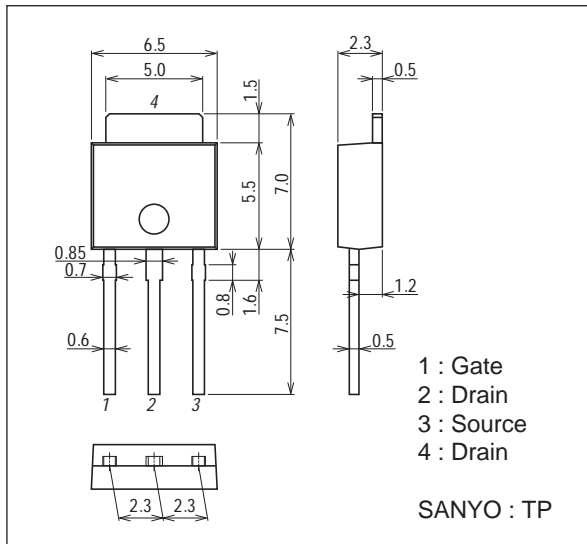
Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

| Parameter | Symbol | Conditions | Ratings | Unit |
|-------------------------------------|-----------|---|-------------|------------------|
| Drain-to-Source Voltage | V_{DSS} | | -100 | V |
| Gate-to-Source Voltage | V_{GSS} | | ± 20 | V |
| Drain Current (DC) | I_D | | -11 | A |
| Drain Current ($PW \leq 10\mu s$) | I_{DP} | $PW \leq 10\mu s, \text{ duty cycles} \leq 1\%$ | -44 | A |
| Allowable Power Dissipation | P_D | | 1.0 | W |
| | | $T_c=25^\circ\text{C}$ | 35 | W |
| Channel Temperature | T_{ch} | | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | | -55 to +150 | $^\circ\text{C}$ |

Package Dimensions

unit : mm (typ)

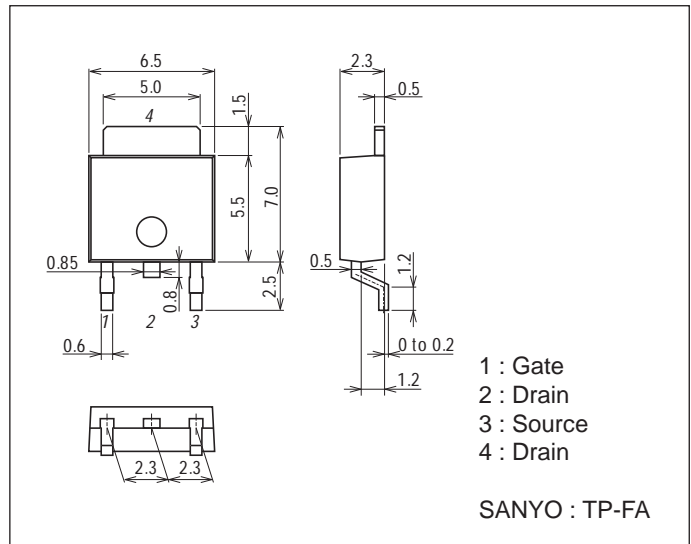
7518-004



Package Dimensions

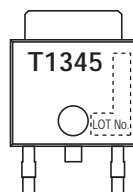
unit : mm (typ)

7003-004



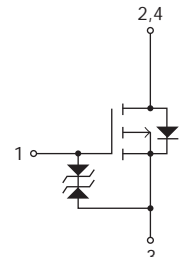
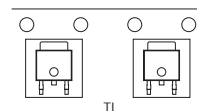
Product & Package Information

- Package : TP
 - JEITA, JEDEC : SC-64, TO-251, SOT-553
 - Minimum Packing Quantity : 500 pcs./bag
- Marking(TP, TP-FA)



Product & Package Information Electrical Connection

- Package : TP-FA
 - JEITA, JEDEC : SC-63, TO-252, SOT-428
 - Minimum Packing Quantity : 700 pcs./reel
- Packing Type(TP-FA) : TL



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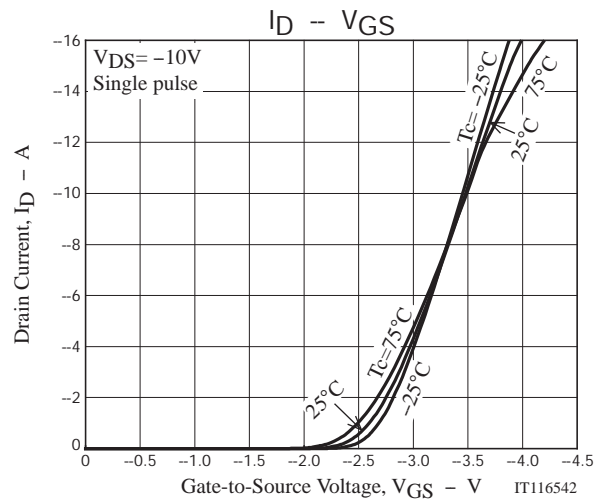
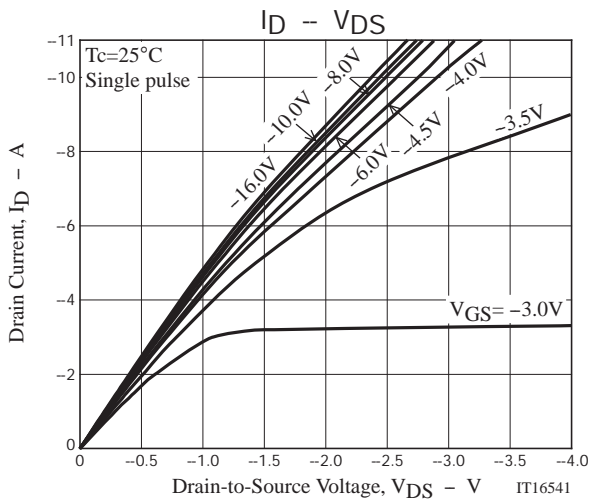
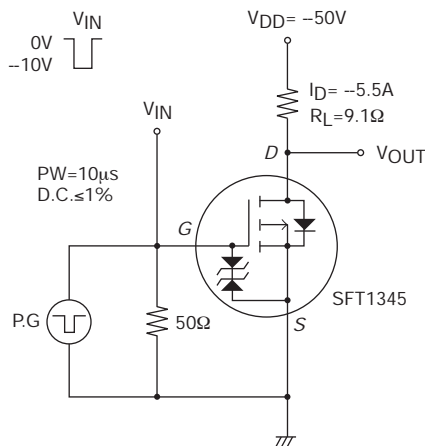
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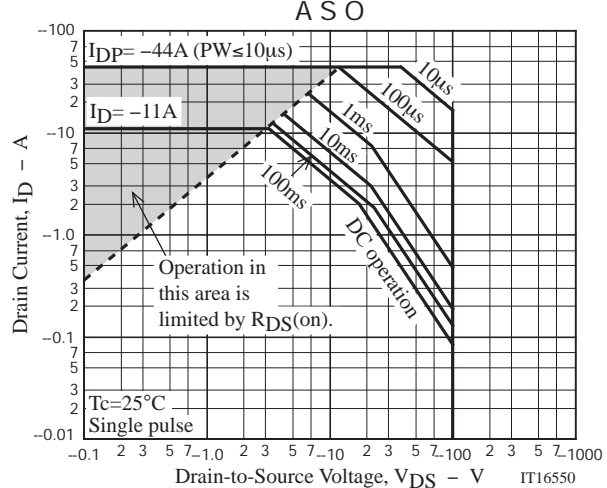
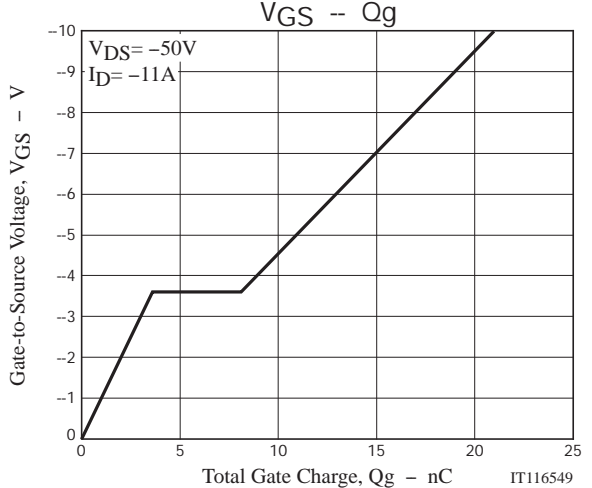
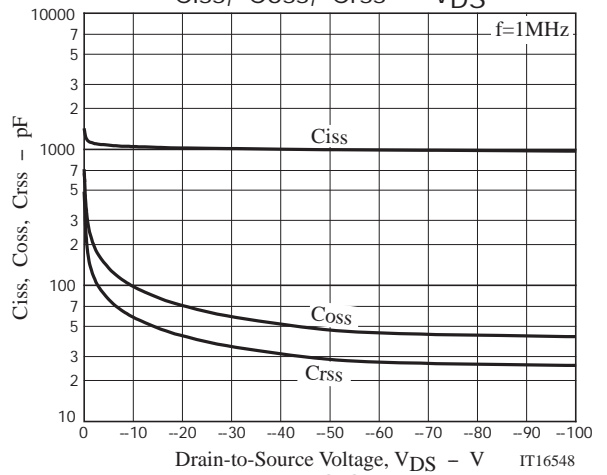
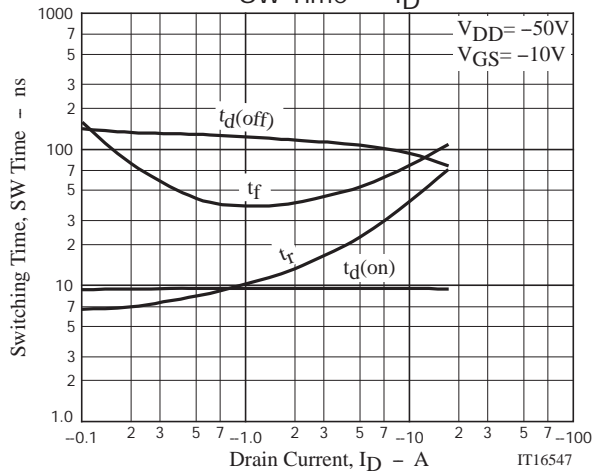
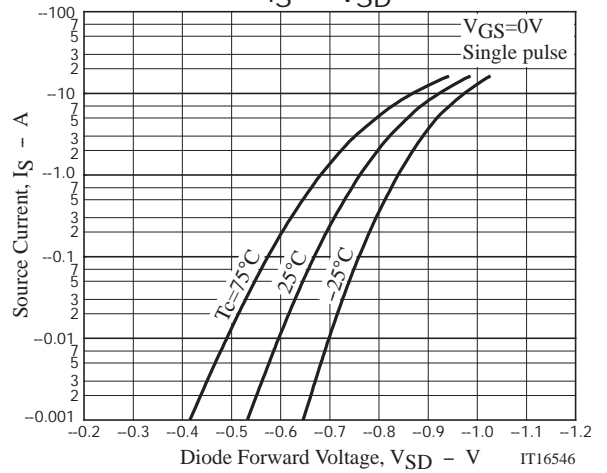
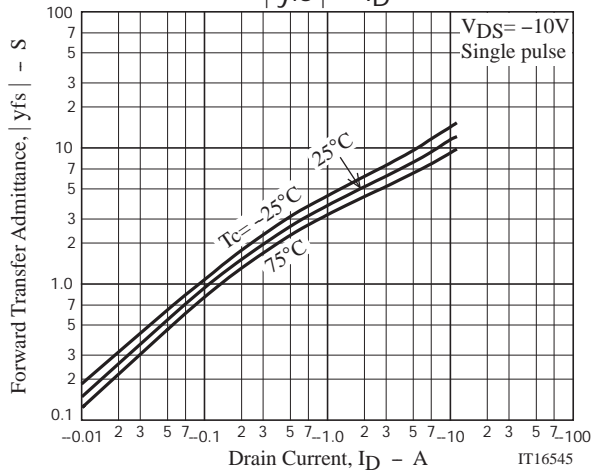
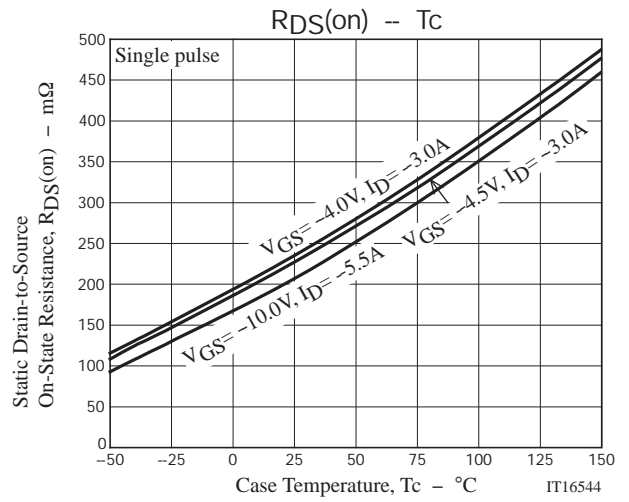
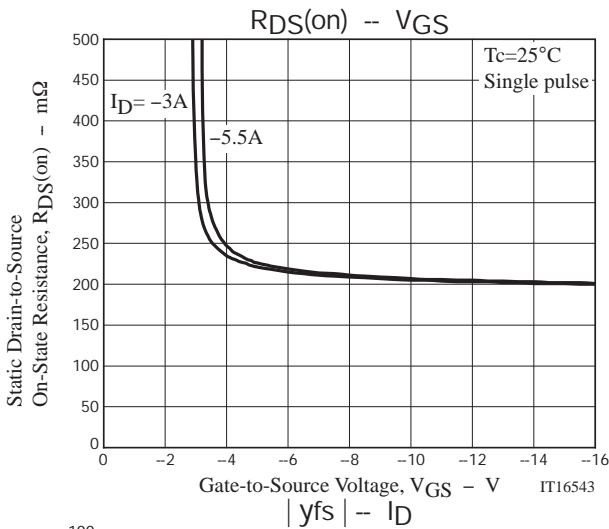
SFT1345

Electrical Characteristics at Ta=25°C

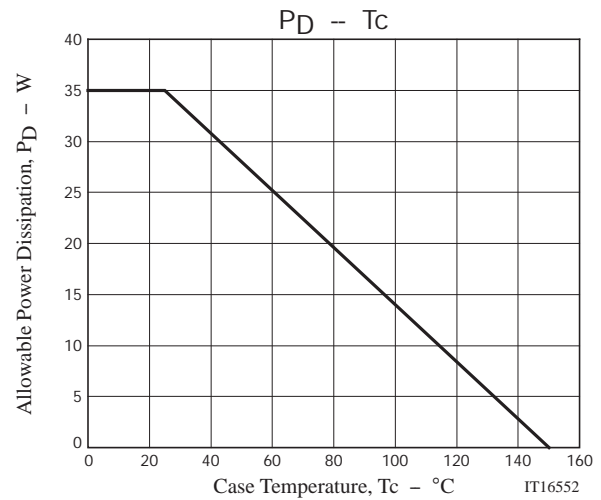
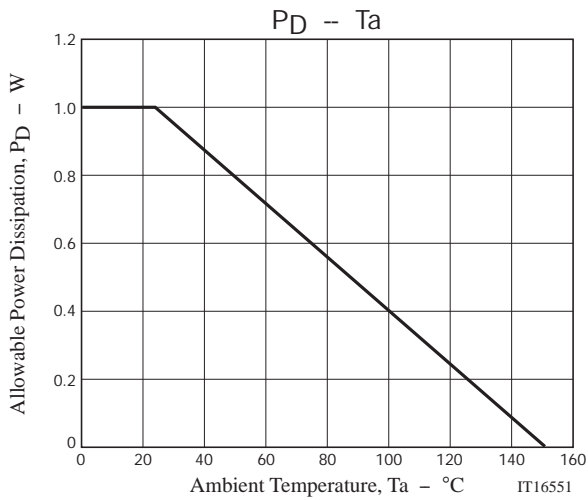
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|---------------|---|---------|-------|----------|------------------|
| | | | min | typ | max | |
| Drain-to-Source Breakdown Voltage | $V_{(BR)DSS}$ | $I_D = -1\text{mA}, V_{GS} = 0\text{V}$ | -100 | | | V |
| Zero-Gate Voltage Drain Current | I_{DSS} | $V_{DS} = -100\text{V}, V_{GS} = 0\text{V}$ | | | -1 | μA |
| Gate-to-Source Leakage Current | I_{GSS} | $V_{GS} = \pm 16\text{V}, V_{DS} = 0\text{V}$ | | | ± 10 | μA |
| Cutoff Voltage | $V_{GS(off)}$ | $V_{DS} = -10\text{V}, I_D = -1\text{mA}$ | -1.2 | | -2.6 | V |
| Forward Transfer Admittance | $ y_{fs} $ | $V_{DS} = -10\text{V}, I_D = -5.5\text{A}$ | | 8.5 | | S |
| Static Drain-to-Source On-State Resistance | $R_{DS(on)1}$ | $I_D = -5.5\text{A}, V_{GS} = -10\text{V}$ | | 210 | 275 | $\text{m}\Omega$ |
| | $R_{DS(on)2}$ | $I_D = -3\text{A}, V_{GS} = -4.5\text{V}$ | | 225 | 315 | $\text{m}\Omega$ |
| | $R_{DS(on)3}$ | $I_D = -3\text{A}, V_{GS} = -4\text{V}$ | | 235 | 330 | $\text{m}\Omega$ |
| Input Capacitance | C_{iss} | $V_{DS} = -20\text{V}, f = 1\text{MHz}$ | | 1020 | | pF |
| Output Capacitance | C_{oss} | $V_{DS} = -20\text{V}, f = 1\text{MHz}$ | | 72 | | pF |
| Reverse Transfer Capacitance | C_{rss} | $V_{DS} = -20\text{V}, f = 1\text{MHz}$ | | 43 | | pF |
| Turn-ON Delay Time | $t_d(on)$ | See specified Test Circuit. | | 9.5 | | ns |
| Rise Time | t_r | See specified Test Circuit. | | 25 | | ns |
| Turn-OFF Delay Time | $t_d(off)$ | See specified Test Circuit. | | 105 | | ns |
| Fall Time | t_f | See specified Test Circuit. | | 55 | | ns |
| Total Gate Charge | Q_g | $V_{DS} = -50\text{V}, V_{GS} = -10\text{V}, I_D = -11\text{A}$ | | 21 | | nC |
| Gate-to-Source Charge | Q_{gs} | $V_{DS} = -50\text{V}, V_{GS} = -10\text{V}, I_D = -11\text{A}$ | | 3.6 | | nC |
| Gate-to-Drain "Miller" Charge | Q_{gd} | $V_{DS} = -50\text{V}, V_{GS} = -10\text{V}, I_D = -11\text{A}$ | | 4.5 | | nC |
| Diode Forward Voltage | V_{SD} | $I_S = -11\text{A}, V_{GS} = 0\text{V}$ | | -0.93 | -1.5 | V |

Switching Time Test Circuit





SFT1345



Note on usage : Since the SFT1345 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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