



FTD1028 — P-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- 2.5V drive.
- Mounting height 1.1mm.
- 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} | | -20 | V |
| Gate-to-Source Voltage | V _{GSS} | | ±10 | V |
| Drain Current (DC) | I _D | | -3 | A |
| Drain Current (Pulse) | I _{DP} | PW≤10μs, duty cycle≤1% | -15 | A |
| Allowable Power Dissipation | P _D | Mounted on a ceramic board (1000mm ² X0.8mm) 1unit | 0.8 | W |
| Total Power Dissipation | P _T | Mounted on a ceramic board (1000mm ² X0.8mm) | 1.0 | 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 | -20 | | | V |
| Zero-Gate Voltage Drain Current | I _{DSS} | V _{DS} =-20V, V _{GS} =0V | | | -1 | μA |
| Gate-to-Source Leakage Current | I _{GSS} | V _{GS} =±8V, V _{DS} =0V | | | ±10 | μA |
| Cutoff Voltage | V _{GS(off)} | V _{DS} =-10V, I _D =-1mA | -0.4 | | -1.4 | V |
| Forward Transfer Admittance | y _{fs} | V _{DS} =-10V, I _D =-2A | 3.8 | 6.3 | | S |
| Static Drain-to-Source On-State Resistance | R _{DS(on)1} | I _D =-2A, V _{GS} =-4V | | 55 | 77 | mΩ |
| | R _{DS(on)2} | I _D =-1A, V _{GS} =-2.5V | | 81 | 113 | mΩ |
| Input Capacitance | C _{iss} | V _{DS} =-10V, f=1MHz | | 900 | | pF |
| Output Capacitance | C _{oss} | V _{DS} =-10V, f=1MHz | | 125 | | pF |
| Reverse Transfer Capacitance | C _{rss} | V _{DS} =-10V, f=1MHz | | 115 | | pF |
| Turn-ON Delay Time | t _{d(on)} | See specified Test Circuit. | | 16 | | ns |
| Rise Time | t _r | See specified Test Circuit. | | 54 | | ns |
| Turn-OFF Delay Time | t _{d(off)} | See specified Test Circuit. | | 107 | | ns |
| Fall Time | t _f | See specified Test Circuit. | | 82 | | ns |

Marking : D1028

Continued on next page.

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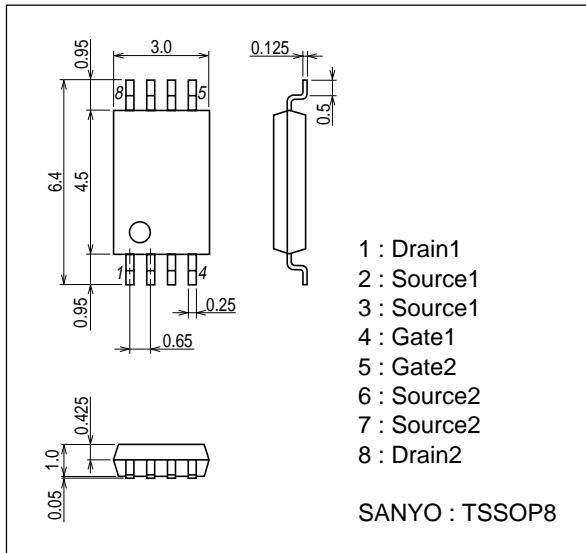
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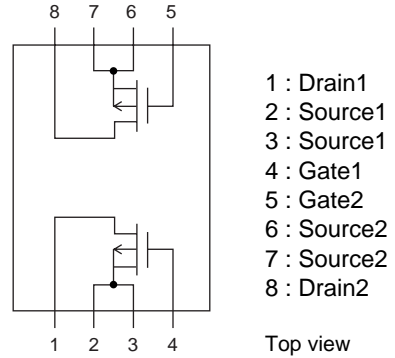
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|-------------------------------|--------|------------------------------------|---------|-------|------|------|
| | | | min | typ | max | |
| Total Gate Charge | Qg | $V_{DS}=-10V, V_{GS}=-4V, I_D=-3A$ | | 9.3 | | nC |
| Gate-to-Source Charge | Qgs | $V_{DS}=-10V, V_{GS}=-4V, I_D=-3A$ | | 2.5 | | nC |
| Gate-to-Drain "Miller" Charge | Qgd | $V_{DS}=-10V, V_{GS}=-4V, I_D=-3A$ | | 1.9 | | nC |
| Diode Forward Voltage | VSD | $I_S=-3A, V_{GS}=0V$ | | -0.84 | -1.2 | V |

Package Dimensions

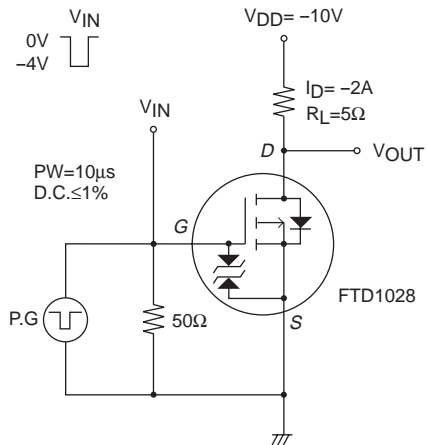
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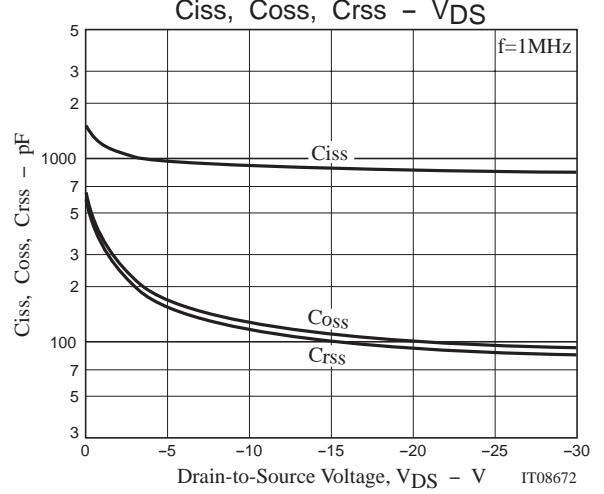
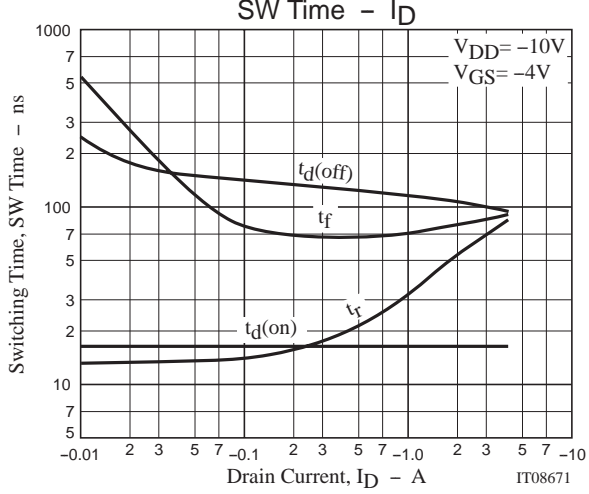
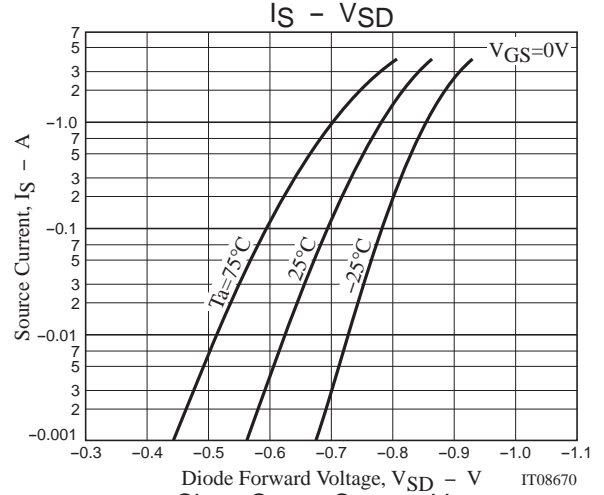
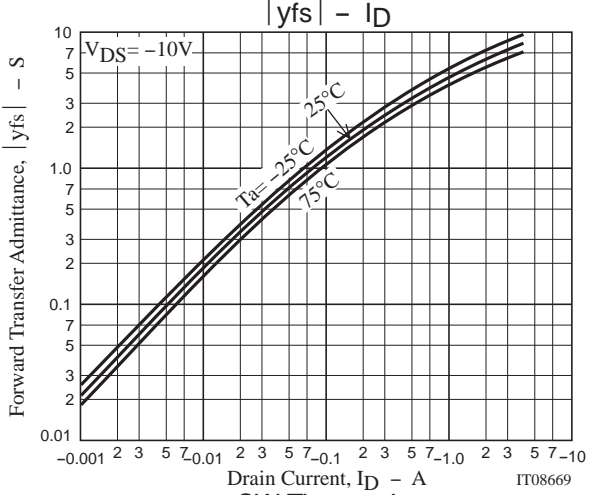
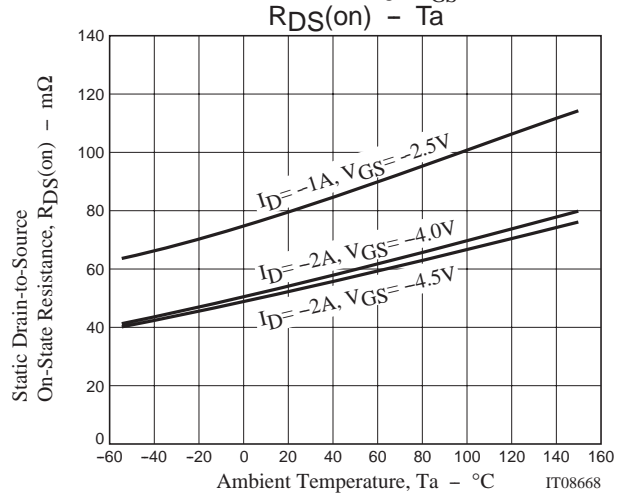
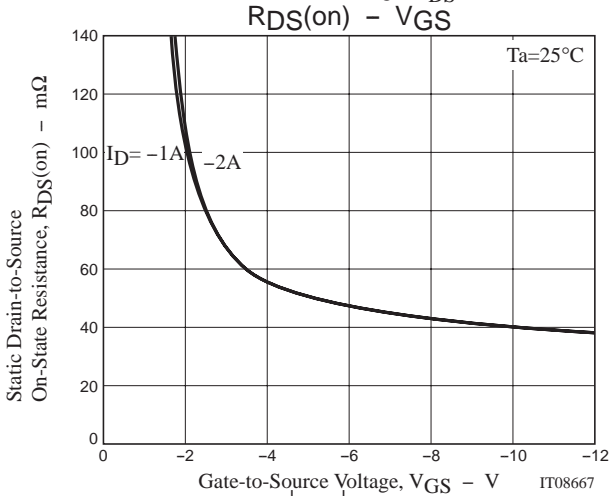
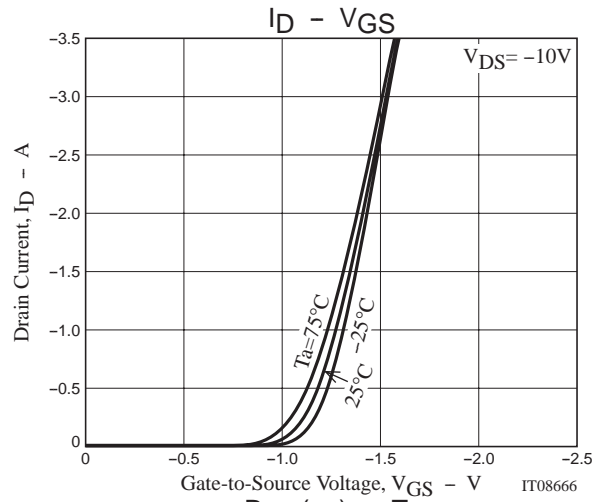
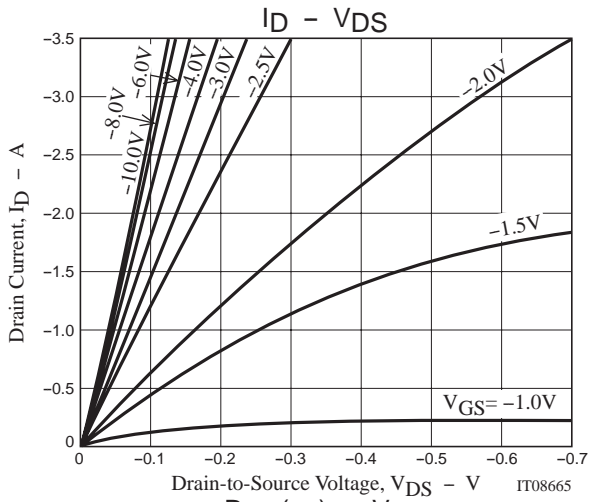


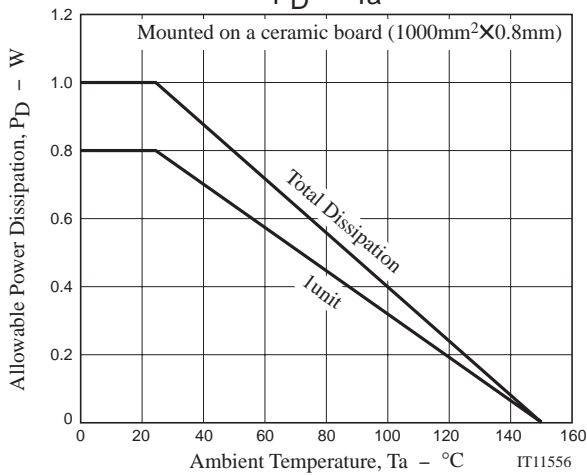
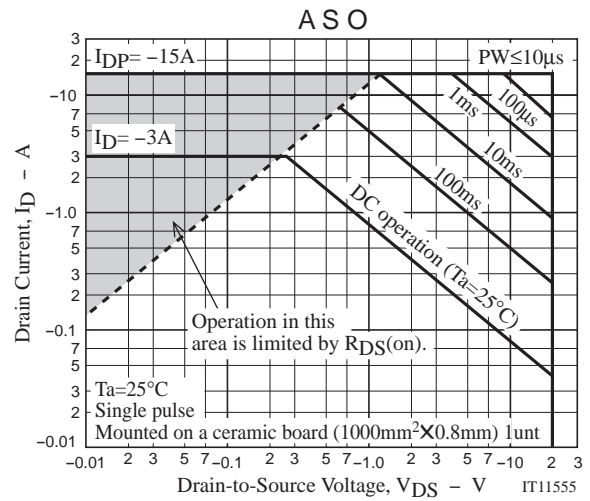
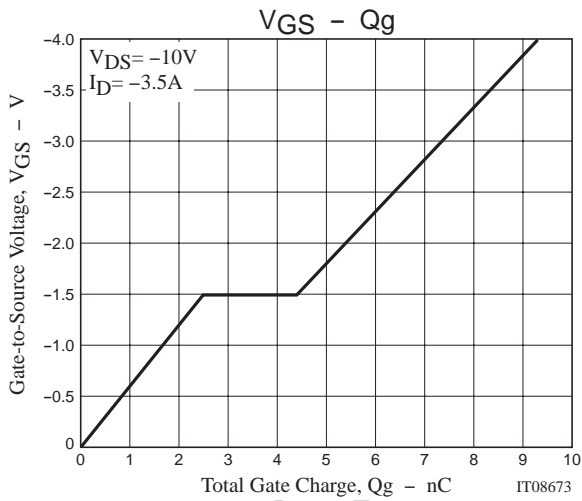
Electrical Connection



Switching Time Test Circuit







Note on usage : Since the FTD1028 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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