

Ordering number:ENN6447

P-Channel Silicon MOSFET



FSS107

Load Switching Applications

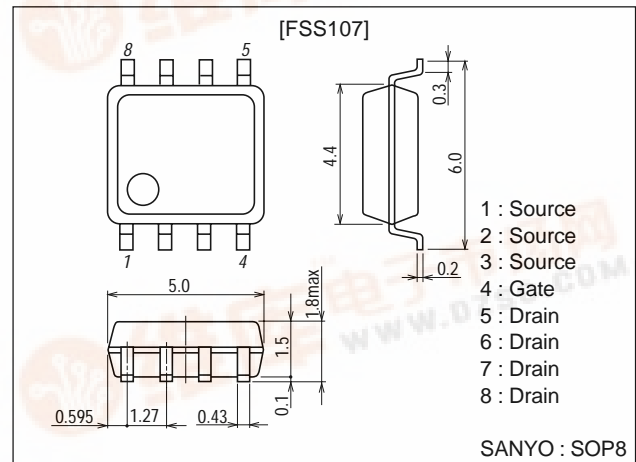
Features

- Low ON resistance.
- 2.5V drive.

Package Dimensions

unit:mm

2116



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 | | -8 | A |
| Drain Current (pulse) | I_{DP} | PW≤10μs, duty cycle≤1% | -48 | A |
| Allowable Power Dissipation | P_D | Mounted on a ceramic board (1000mm²×0.8mm) | 2.0 | W |
| Channel Temperature | Tch | | 150 | °C |
| Storage Temperature | Tstg | | -55 to +150 | °C |

Electrical Characteristics at Ta = 25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|---------------|---------------------------|---------|-----|------|------|
| | | | min | typ | max | |
| Drain-to-Source Breakdown Voltage | $V_{(BR)DSS}$ | $I_D=-1mA, V_{GS}=0$ | -20 | | | V |
| Zero-Gate Voltage Drain Current | I_{DSS} | $V_{DS}=-20V, V_{GS}=0$ | | | -10 | μA |
| Gate-to-Source Leakage Current | I_{GSS} | $V_{GS}=\pm 8V, V_{DS}=0$ | | | ±10 | μA |
| Cutoff Voltage | $V_{GS(off)}$ | $V_{DS}=-10V, I_D=-1mA$ | -0.4 | | -1.3 | V |
| Forward Transfer Admittance | yfs | $V_{DS}=-10V, I_D=-8A$ | 15 | 25 | | S |
| Static Drain-to-Source On-State Resistance | $R_{DS(on)1}$ | $I_D=-8A, V_{GS}=-4V$ | | 18 | 23 | mΩ |
| | $R_{DS(on)2}$ | $I_D=-5A, V_{GS}=-2.5V$ | | 26 | 37 | mΩ |

Marking : S107

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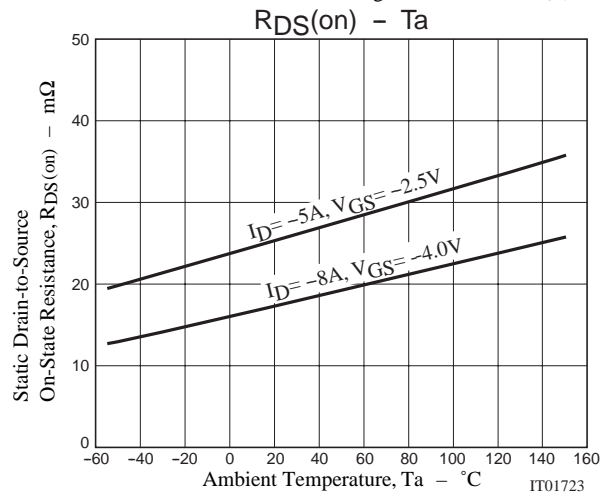
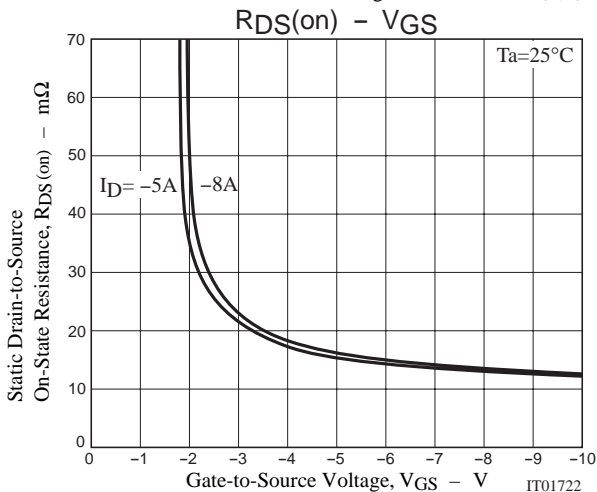
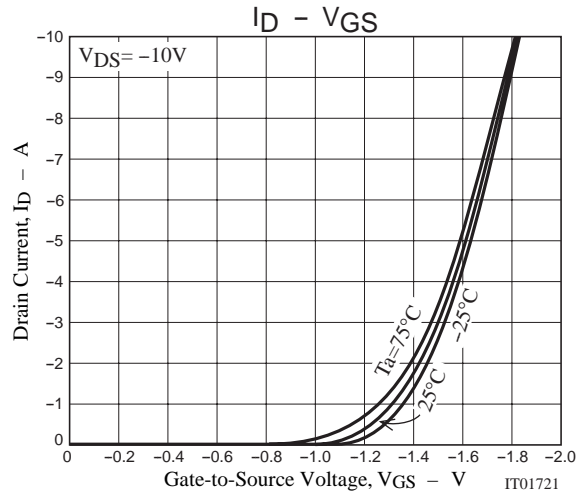
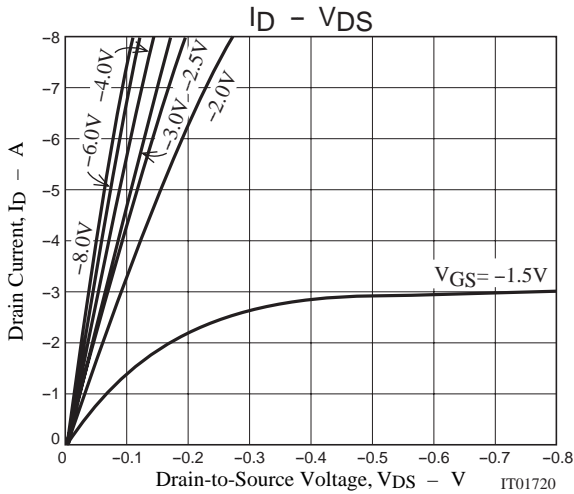
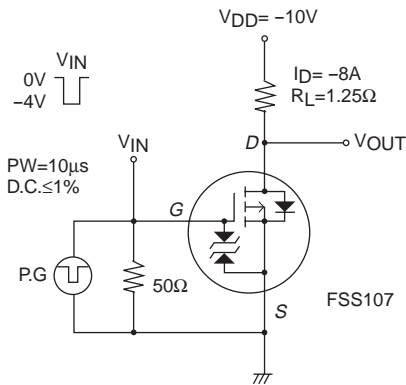


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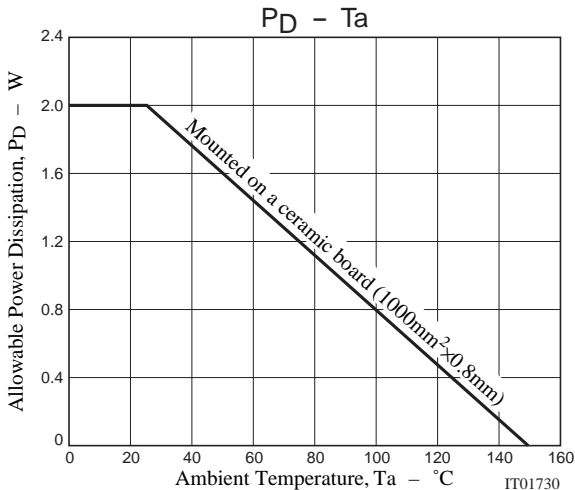
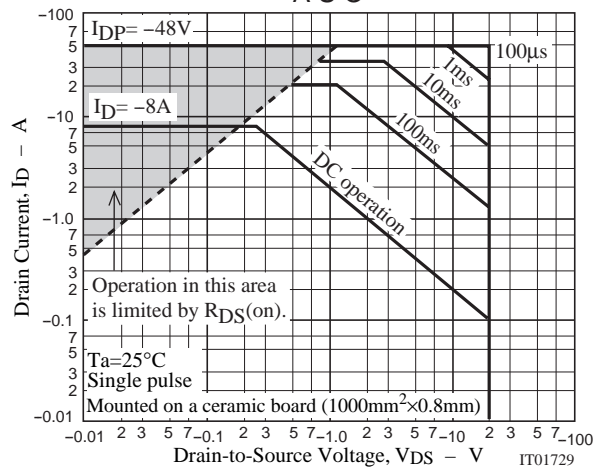
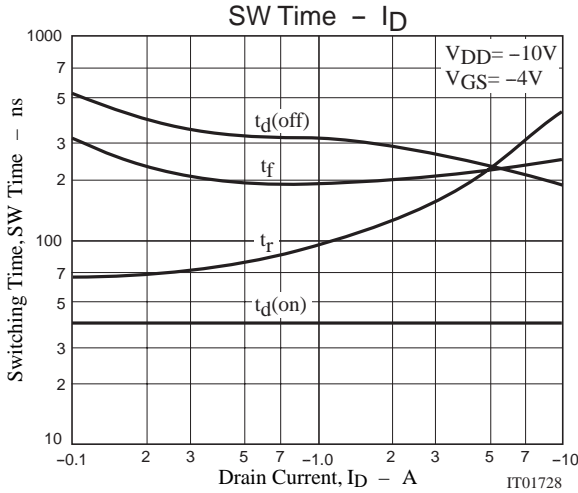
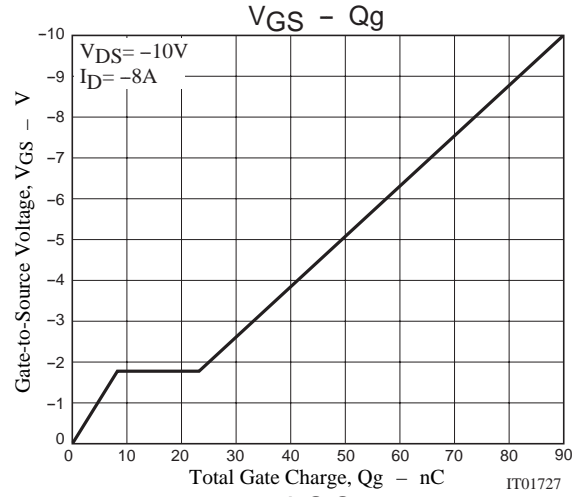
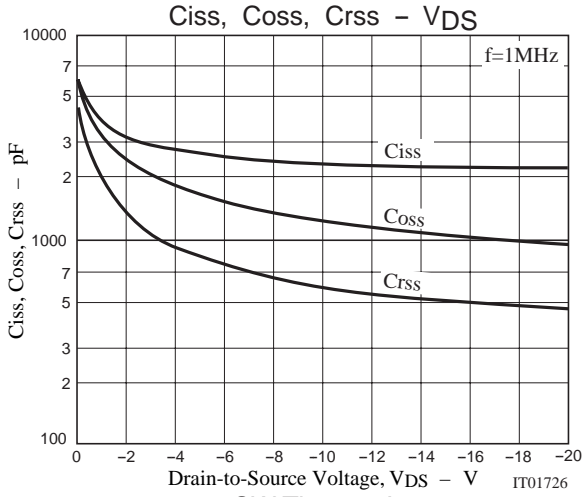
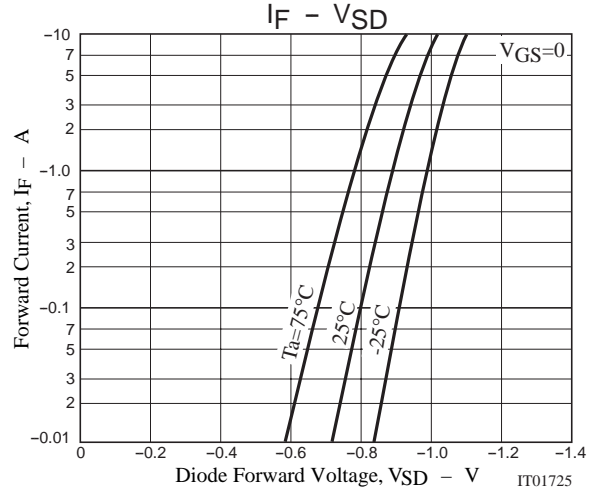
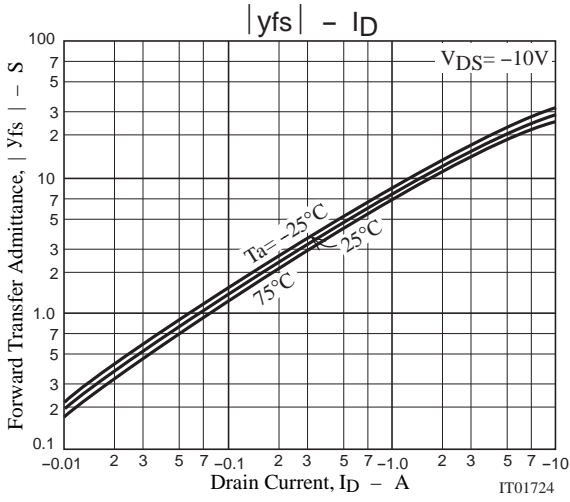
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|-------------------------------|--------------|-------------------------------------|---------|------|------|------|
| | | | min | typ | max | |
| Input Capacitance | C_{iss} | $V_{DS}=-10V, f=1MHz$ | | 2400 | | pF |
| Output Capacitance | C_{oss} | $V_{DS}=-10V, f=1MHz$ | | 1200 | | pF |
| Reverse Transfer Capacitance | C_{rss} | $V_{DS}=-10V, f=1MHz$ | | 600 | | pF |
| Turn-ON Delay Time | $t_{d(on)}$ | See specified Test Circuit | | 40 | | ns |
| Rise Time | t_r | See specified Test Circuit | | 350 | | ns |
| Turn-OFF Delay Time | $t_{d(off)}$ | See specified Test Circuit | | 200 | | ns |
| Fall Time | t_f | See specified Test Circuit | | 240 | | ns |
| Total Gate Charge | Q_g | $V_{DS}=-10V, V_{GS}=-10V, I_D=-8A$ | | 90 | | nC |
| Gate-to-Source Charge | Q_{gs} | $V_{DS}=-10V, V_{GS}=-10V, I_D=-8A$ | | 8 | | nC |
| Gate-to-Drain "Miller" Charge | Q_{gd} | $V_{DS}=-10V, V_{GS}=-10V, I_D=-8A$ | | 16 | | nC |
| Diode Forward Voltage | V_{SD} | $I_S=-8A, V_{GS}=0$ | | -1.0 | -1.5 | V |

Switching Time Test Circuit



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