Ordering number : ENA0176A

SANYO Semiconductors
DATA SHEET

An ON Semiconductor Company

N-Channel Silicon MOSFET

# FW216A — General-Purpose Switching Device Applications

## Features

- ON-resistance Nch : $R_{DS}(on)1$=49mΩ (typ.)
- 4.0V drive
- Halogen free compliance

## Specifications

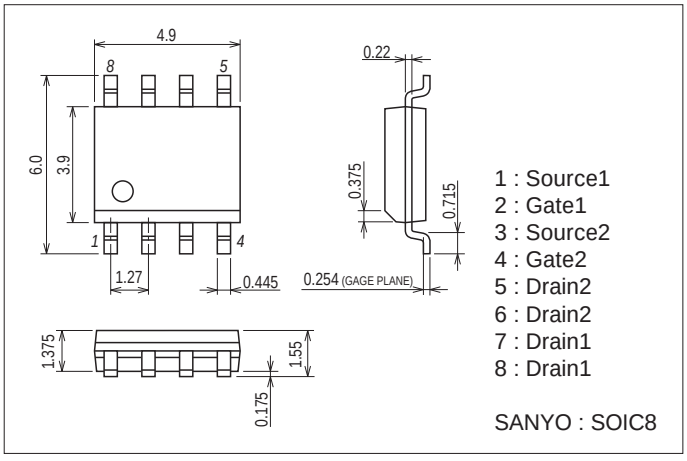
### Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|---|---|---|---|---|
| Drain-to-Source Voltage | $V_{DSS}$ | | 35 | V |
| Gate-to-Source Voltage | $V_{GSS}$ | | ±20 | V |
| Drain Current (DC) | $I_D$ | | 4.5 | A |
| Drain Current (PW≤10μs) | $I_{DP}$ | Duty cycle≤1% | 18 | A |
| Allowable Power Dissipation | $P_D$ | When mounted on ceramic substrate (2000mm²×0.8mm) 1unit, PW≤10s | 1.6 | W |
| Total Dissipation | $P_T$ | When mounted on ceramic substrate (2000mm²×0.8mm), PW≤10s | 2.2 | W |
| Channel Temperature | Tch | | 150 | °C |
| Storage Temperature | Tstg | | −55 to +150 | °C |

### Package Dimensions

unit : mm (typ)

7072-001



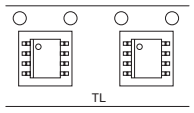

1 : Source1
2 : Gate1
3 : Source2
4 : Gate2
5 : Drain2
6 : Drain2
7 : Drain1
8 : Drain1

SANYO : SOIC8

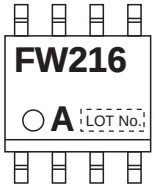
### Product & Package Information

- Package : SOIC8
- JEITA, JEDEC : SC-87, SOT96
- Minimum Packing Quantity : 2,500 pcs./reel

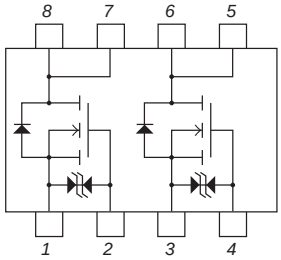
### Packing Type : TL




### Marking



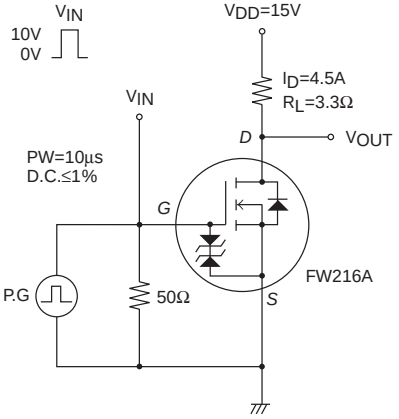

### Electrical Connection

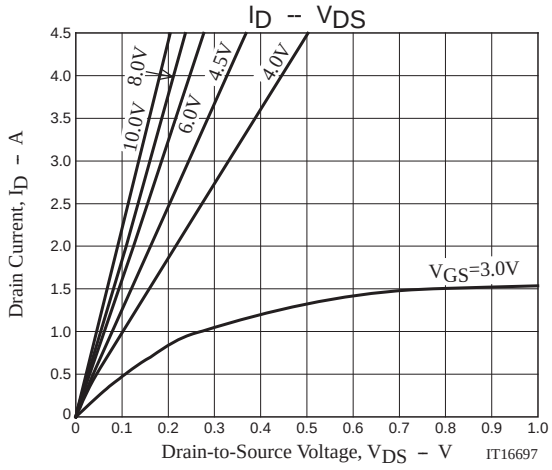


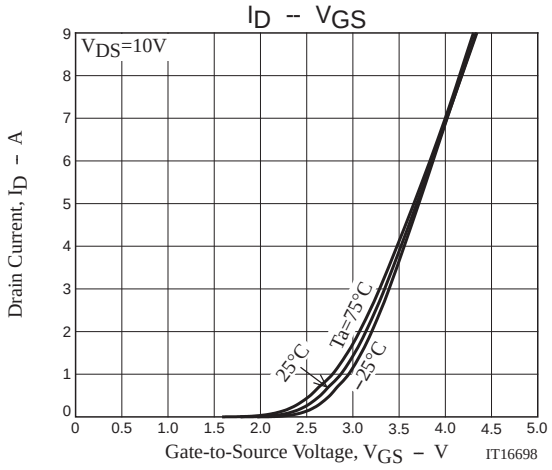
## Electrical Characteristics at Ta=25°C

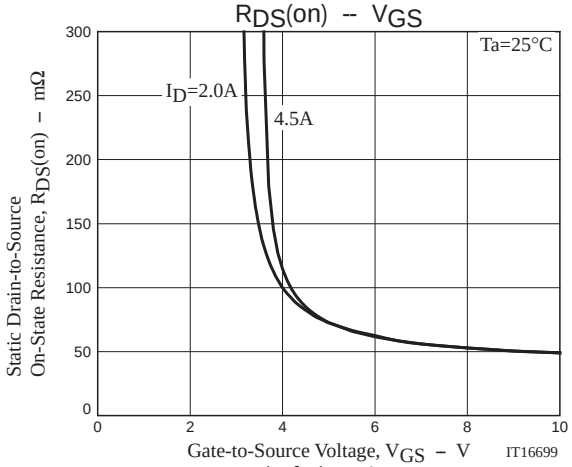
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---|---|---|---|---|---|
| | | | min | typ | max | |
| Drain-to-Source Breakdown Voltage | $V_{(BR)DSS}$ | $I_D$=1mA, $V_{GS}$=0V | 35 | | | V |
| Zero-Gate Voltage Drain Current | $I_{DSS}$ | $V_{DS}$=35V, $V_{GS}$=0V | | | 1 | μA |
| Gate-to-Source Leakage Current | $I_{GSS}$ | $V_{GS}$=±16V, $V_{DS}$=0V | | | ±10 | μA |
| Cutoff Voltage | $V_{GS}(off)$ | $V_{DS}$=10V, $I_D$=1mA | 1.5 | | 2.5 | V |
| Forward Transfer Admittance | \| yfs \| | $V_{DS}$=10V, $I_D$=4.5A | | 2.6 | | S |
| Static Drain-to-Source On-State Resistance | $R_{DS}(on)1$ | $I_D$=4.5A, $V_{GS}$=10V | | 49 | 64 | mΩ |
| | $R_{DS}(on)2$ | $I_D$=2A, $V_{GS}$=4.5V | | 80 | 112 | mΩ |
| | $R_{DS}(on)3$ | $I_D$=2A, $V_{GS}$=4.0V | | 100 | 140 | mΩ |
| Input Capacitance | Ciss | $V_{DS}$=10V, f=1MHz | | 280 | | pF |
| Output Capacitance | Coss | | | 60 | | pF |
| Reverse Transfer Capacitance | Crss | | | 30 | | pF |
| Turn-ON Delay Time | $t_d(on)$ | See specified Test Circuit. | | 6 | | ns |
| Rise Time | $t_r$ | | | 21 | | ns |
| Turn-OFF Delay Time | $t_d(off)$ | | | 20 | | ns |
| Fall Time | $t_f$ | | | 10 | | ns |
| Total Gate Charge | Qg | $V_{DS}$=10V, $V_{GS}$=10V, $I_D$=4.5A | | 5.6 | | nC |
| Gate-to-Source Charge | Qgs | | | 1.2 | | nC |
| Gate-to-Drain "Miller" Charge | Qgd | | | 0.8 | | nC |
| Diode Forward Voltage | $V_{SD}$ | $I_S$=4.5A, $V_{GS}$=0V | | 0.85 | 1.2 | V |

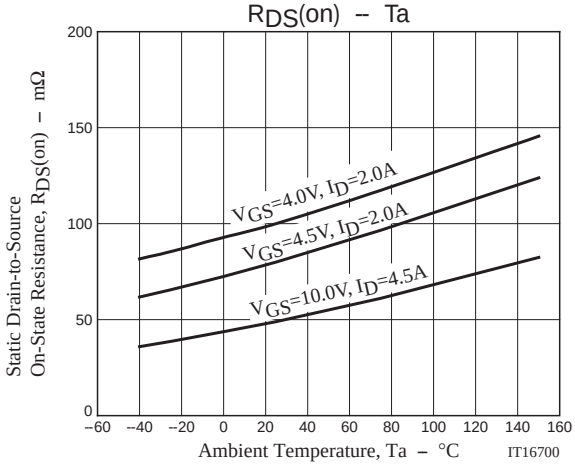
## Switching Time Test Circuit

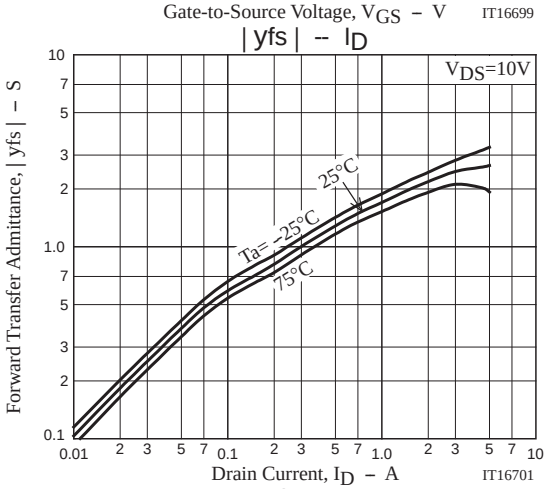


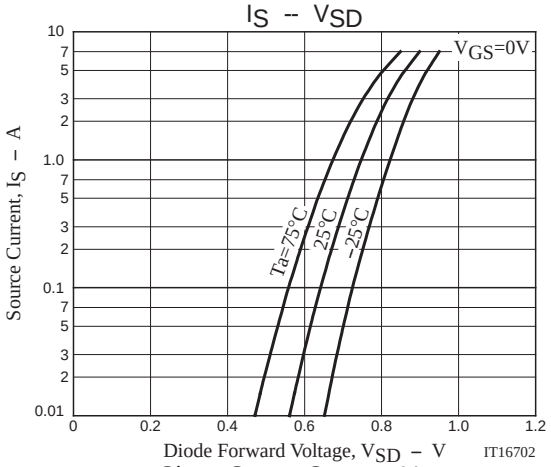



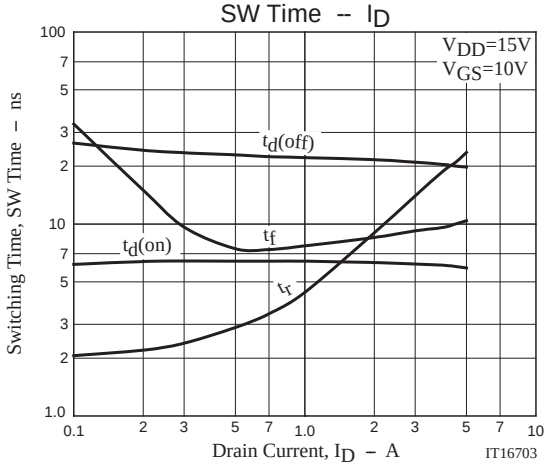



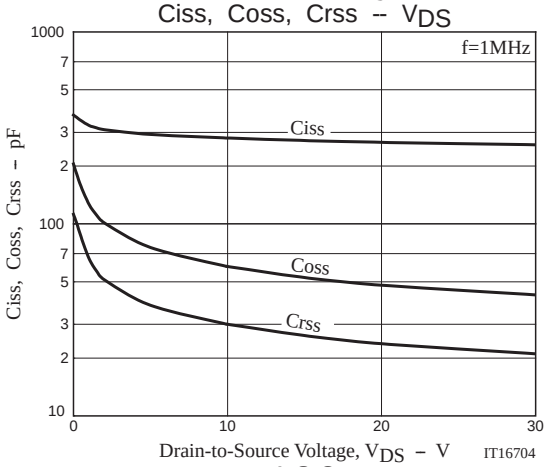


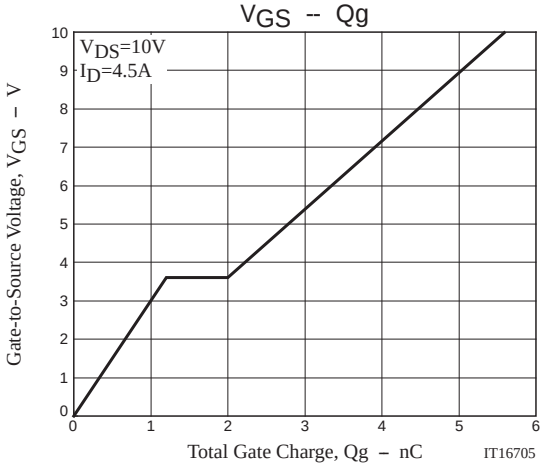



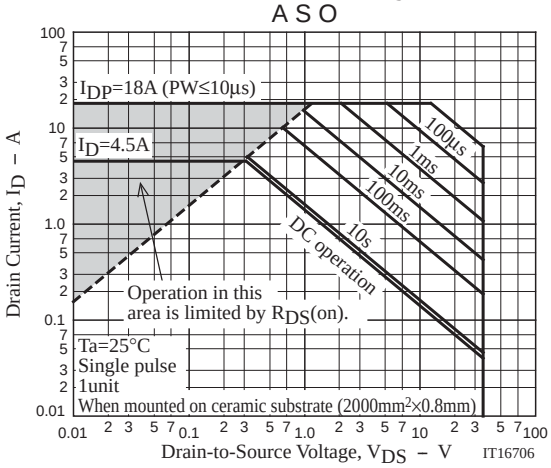



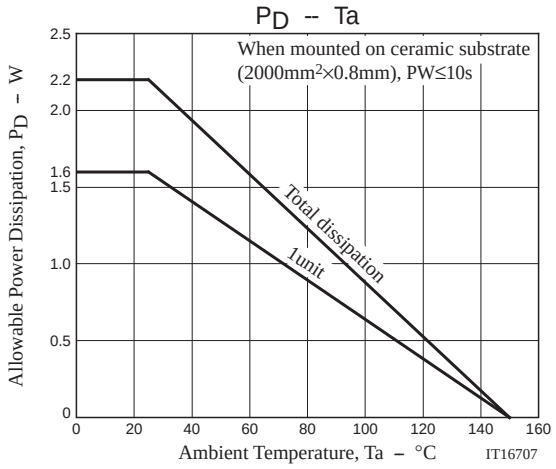



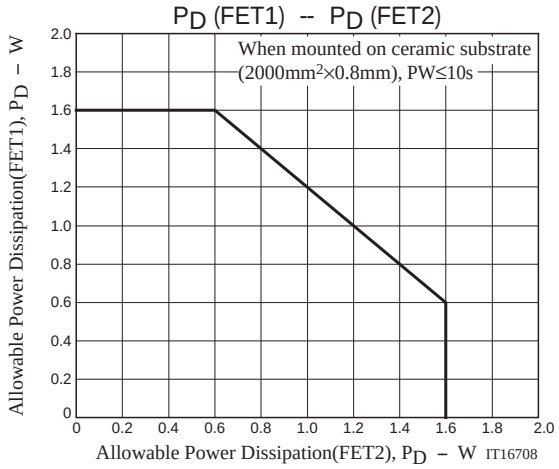






Note on usage : Since the FW216A is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.



This catalog provides information as of March, 2012. Specifications and information herein are subject to change without notice.