



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

N-Channel Silicon MOSFET FW216A — General-Purpose Switching Device Applications

Features

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

Specifications

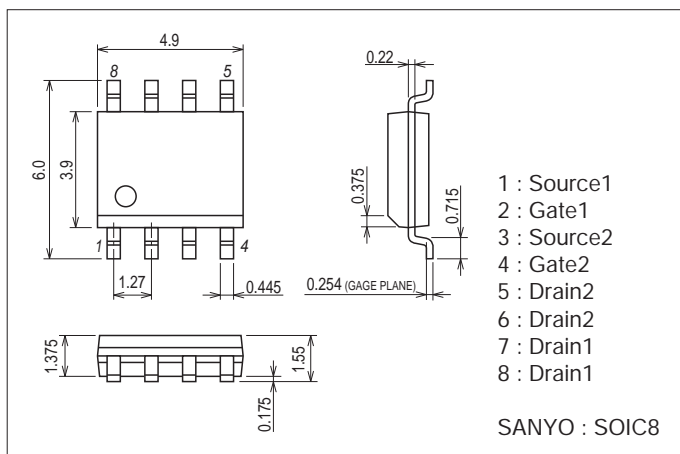
Absolute Maximum Ratings at $T_a = 25^\circ C$

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 ($PW \leq 10\mu s$)	I_{DP}	Duty cycle $\leq 1\%$	18	A
Allowable Power Dissipation	P_D	When mounted on ceramic substrate ($2000mm^2 \times 0.8mm$) 1unit, $PW \leq 10s$	1.6	W
Total Dissipation	P_T	When mounted on ceramic substrate ($2000mm^2 \times 0.8mm$), $PW \leq 10s$	2.2	W
Channel Temperature	T_{ch}		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$

Package Dimensions

unit : mm (typ)

7072-001

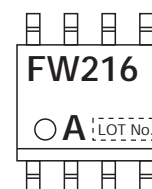
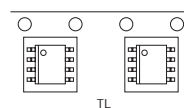


Product & Package Information

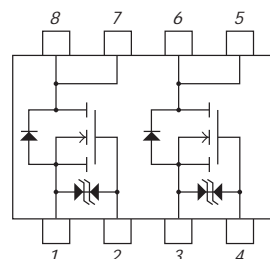
- Package : SOIC8
- JEITA, JEDEC : SC-87, SOT96
- Minimum Packing Quantity : 2,500 pcs./reel

Packing Type : TL

Marking



Electrical Connection

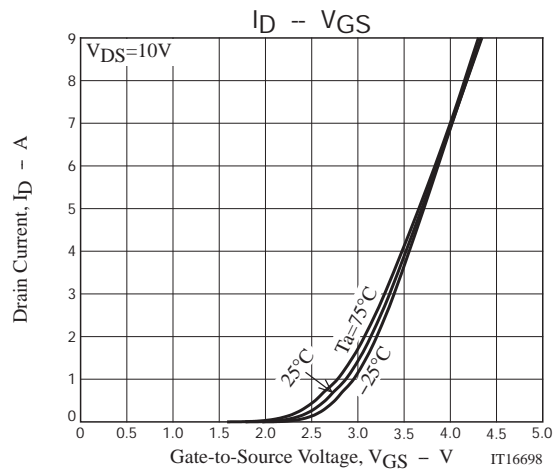
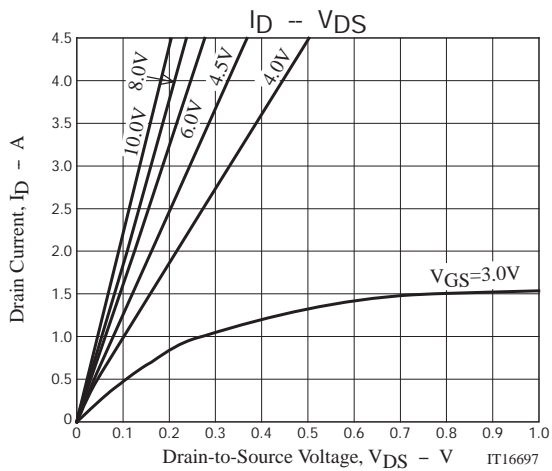
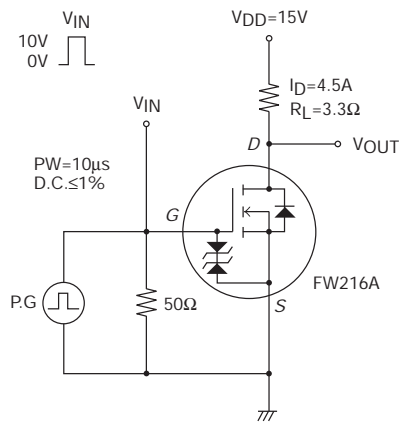


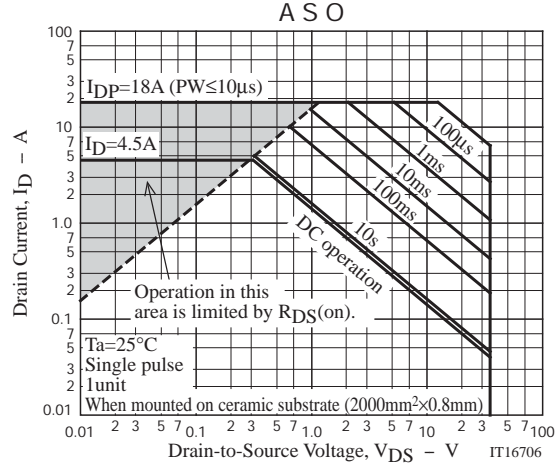
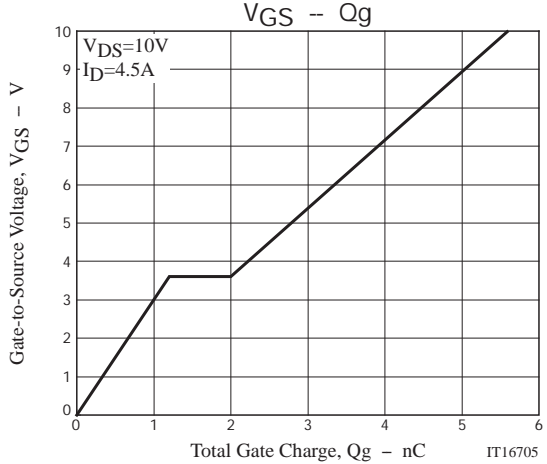
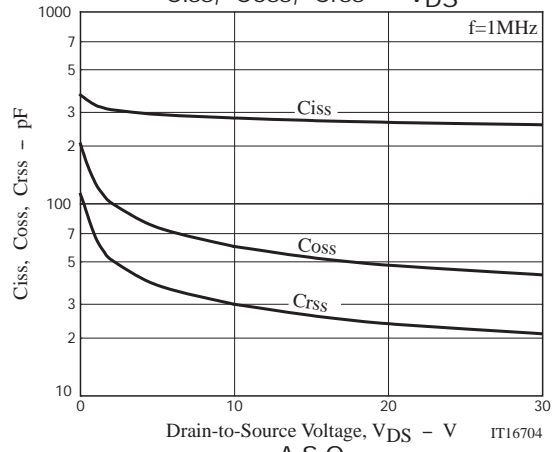
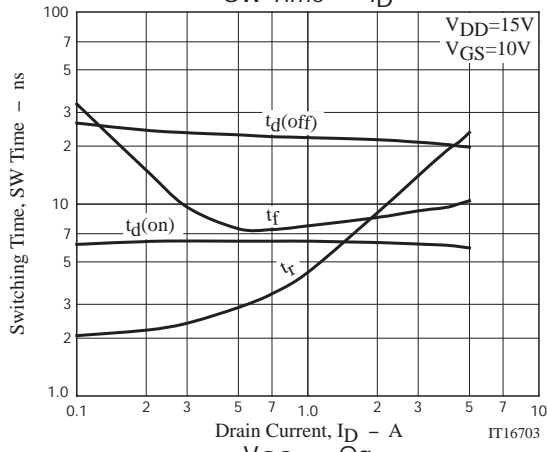
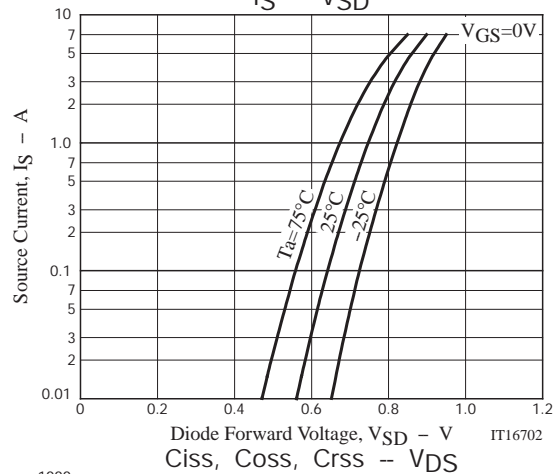
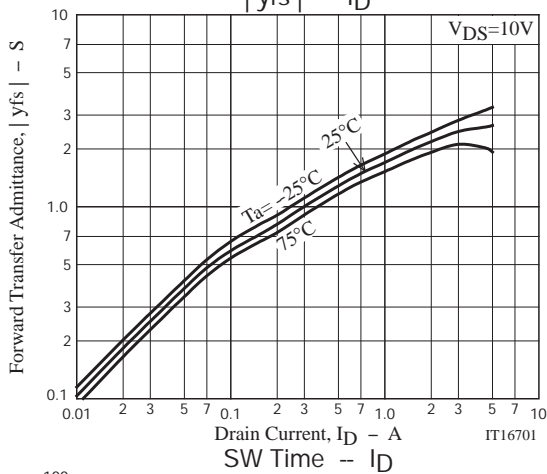
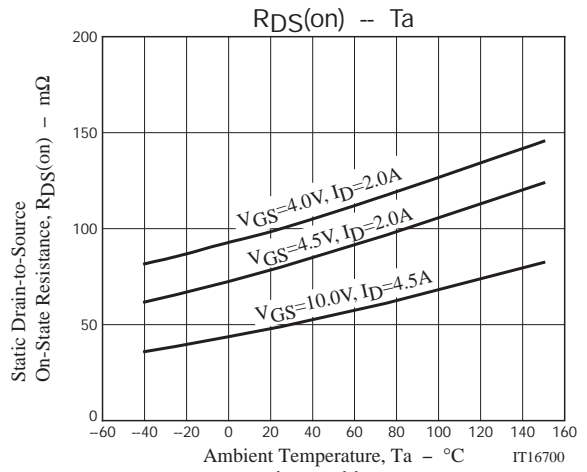
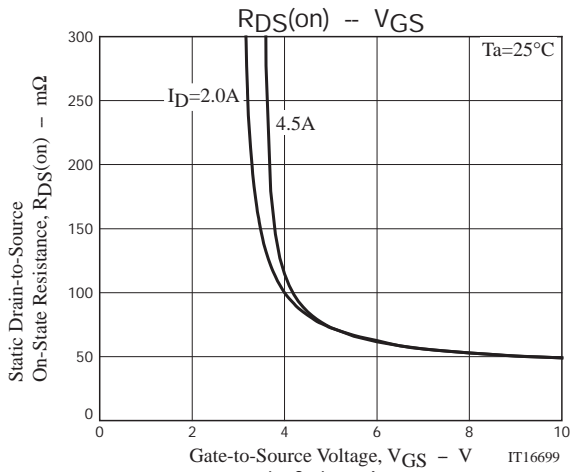
FW216A

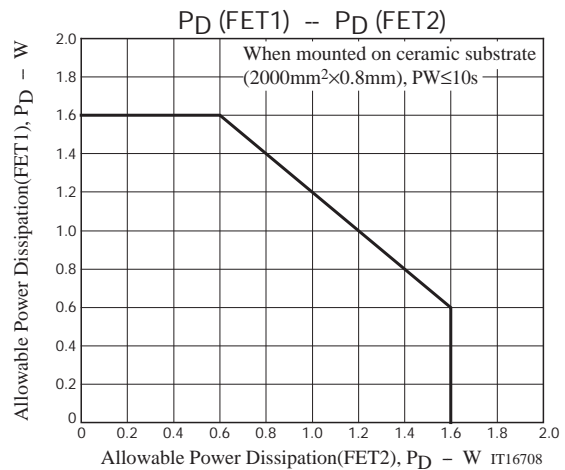
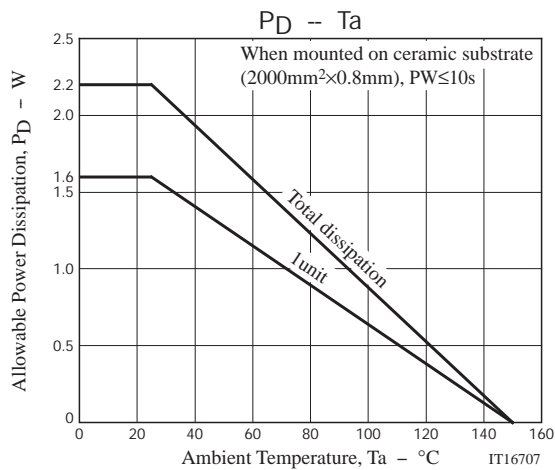
Electrical Characteristics at $T_a=25^\circ\text{C}$

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

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