

Ordering number : ENA0074



SANYO Semiconductors

DATA SHEET

N-Channel Silicon MOSFET
FW216 — General-Purpose Switching Device
 Applications

Features

- Motor drive applications.
- 4.5V drive.

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		3.5	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	14	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (2000mm²X0.8mm) 1unit, PW≤10s	1.6	W
Allowable Power Dissipation	P _T	Mounted on a ceramic board (2000mm²X0.8mm), PW≤10s	2.2	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	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	y _{fs}	V _{DS} =10V, I _D =3.5A	2.4	4		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =3.5A, V _{GS} =10V		70	90	mΩ
	R _{DS(on)2}	I _D =2A, V _{GS} =4.5V		140	196	mΩ
Input Capacitance	C _{iss}	V _{DS} =10V, f=1MHz		260		pF
Output Capacitance	C _{oss}	V _{DS} =10V, f=1MHz		65		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =10V, f=1MHz		40		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		9		ns
Rise Time	t _r	See specified Test Circuit.		8		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		19		ns
Fall Time	t _f	See specified Test Circuit.		8		ns

Marking : W216

Continued on next page.

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FW216

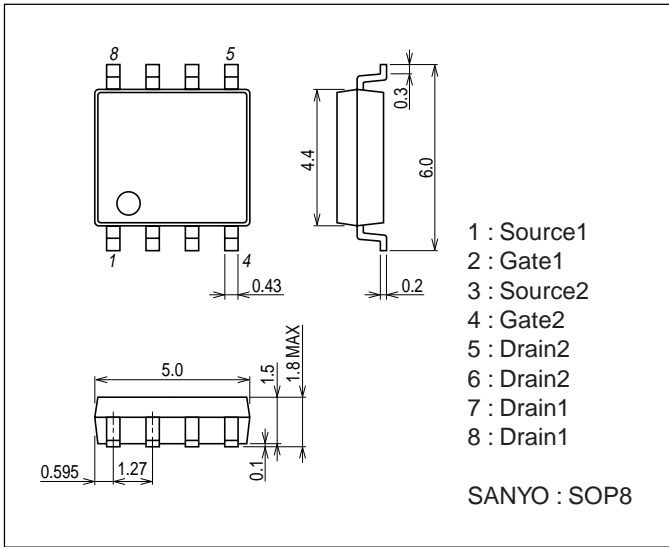
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	V _{DS} =10V, V _{GS} =10V, I _D =3.5A		6		nC
Gate-to-Source Charge	Qgs	V _{DS} =10V, V _{GS} =10V, I _D =3.5A		1.2		nC
Gate-to-Drain "Miller" Charge	Qgd	V _{DS} =10V, V _{GS} =10V, I _D =3.5A		1.0		nC
Diode Forward Voltage	V _{SD}	I _S =3.5A, V _{GS} =0V		0.88	1.2	V

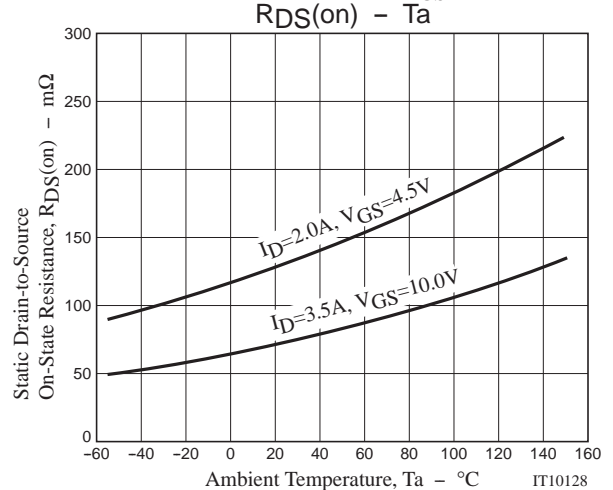
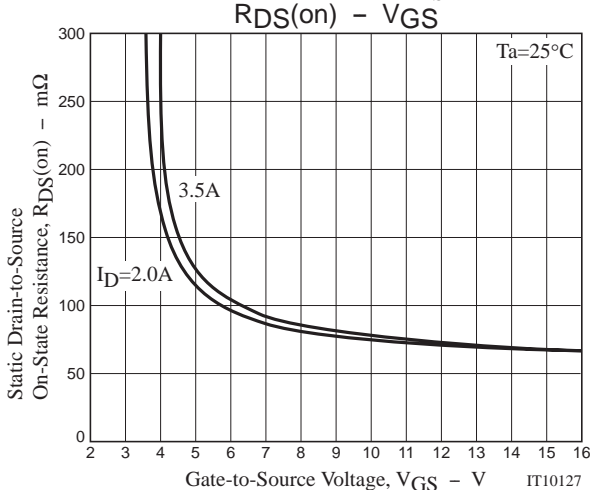
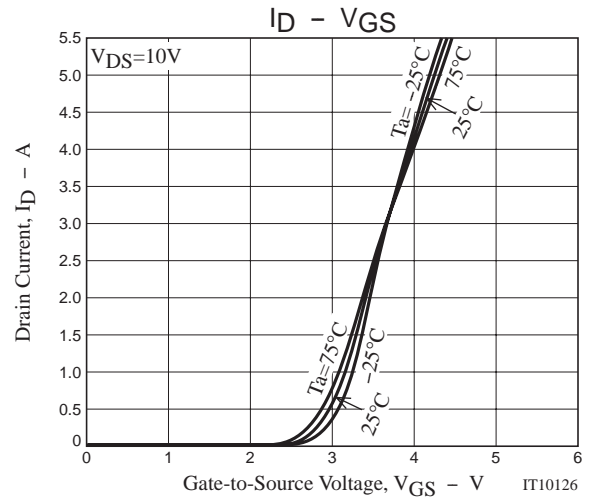
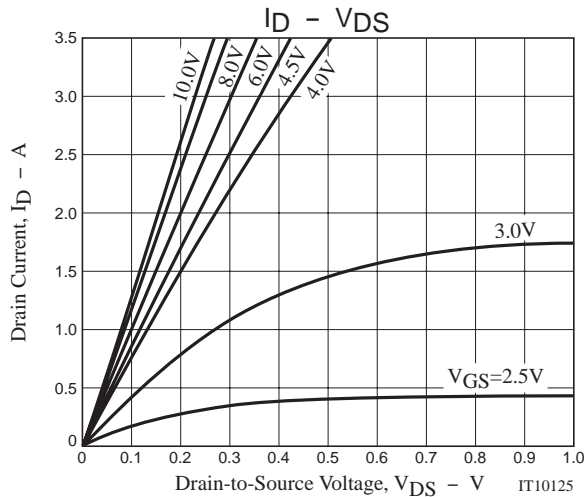
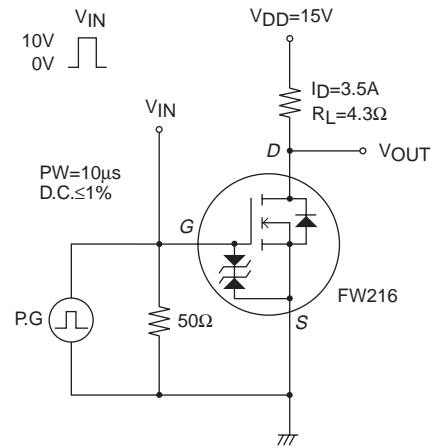
Package Dimensions

unit : mm

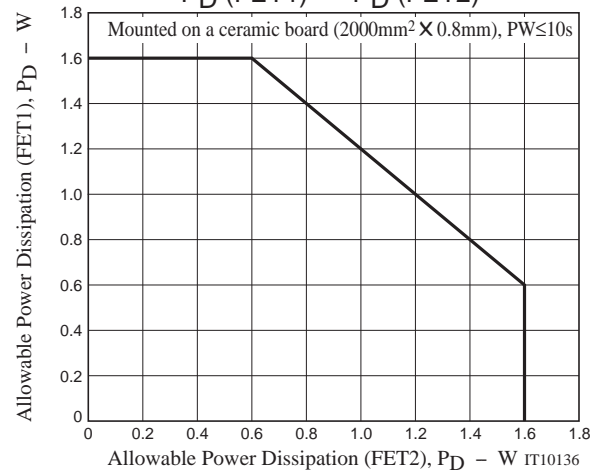
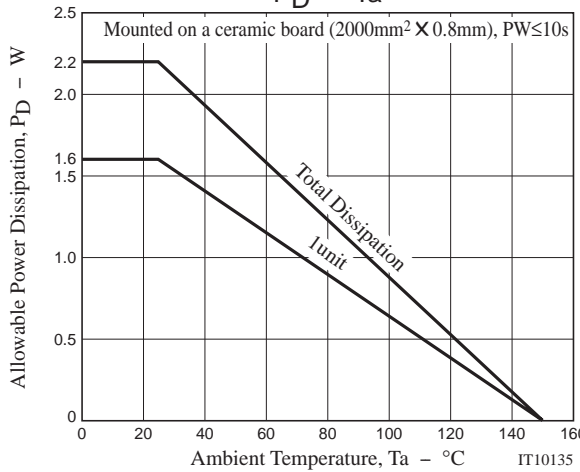
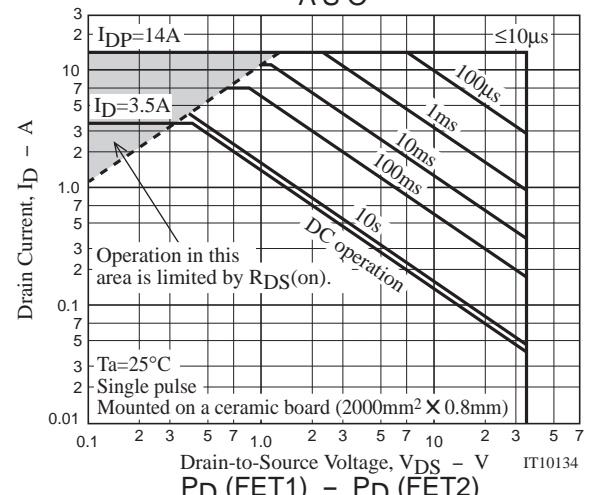
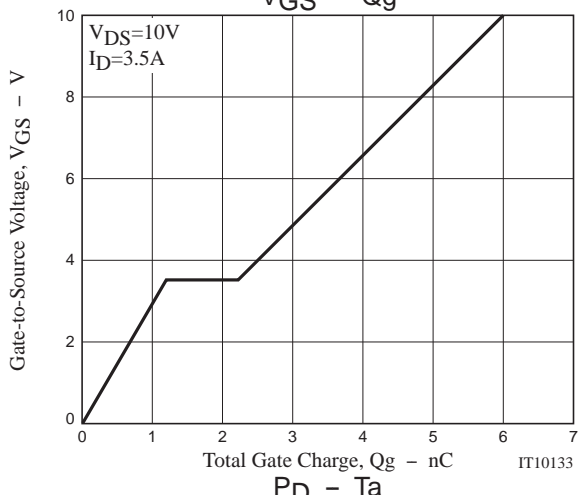
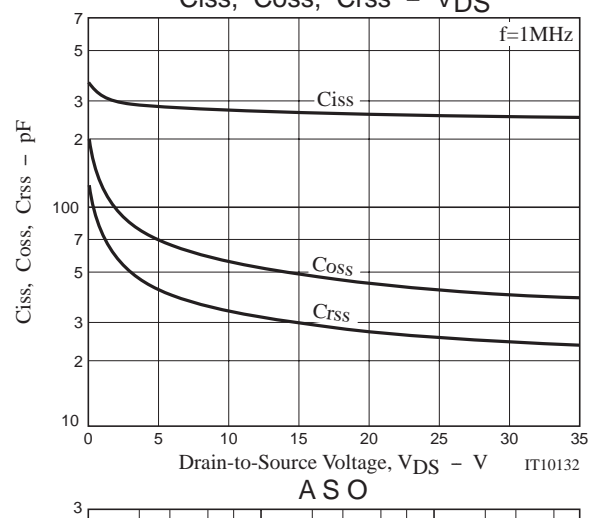
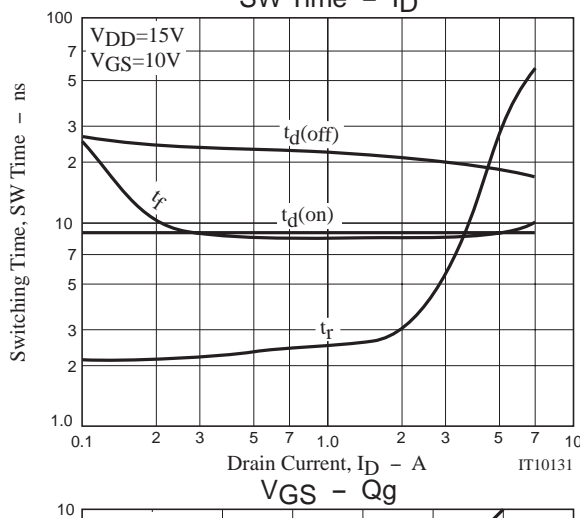
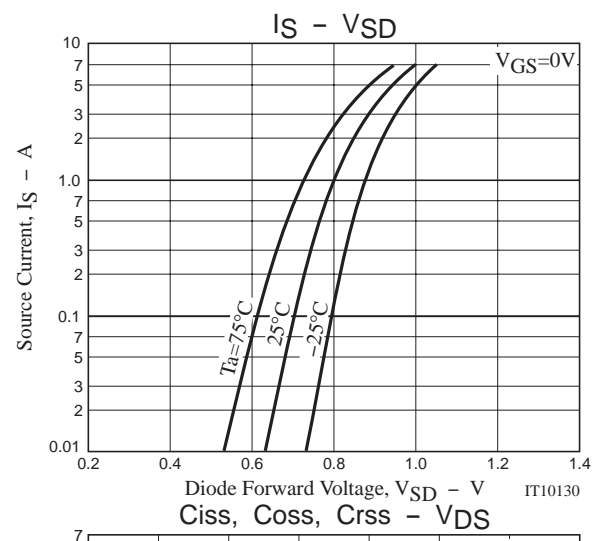
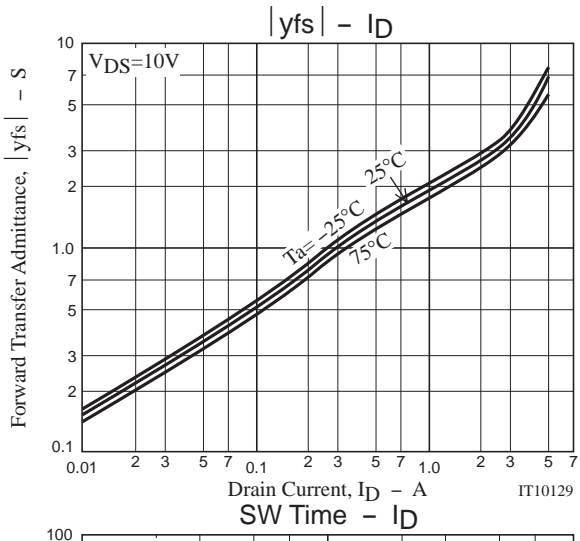
7005-003



Switching Time Test Circuit



FW216



Note on usage : Since the FW216 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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