

Ordering number : ENA0189A



SANYO Semiconductors

DATA SHEET

N-Channel Silicon MOSFET  
**FSS218** — General-Purpose Switching Device  
 Applications

Features

- Motor drive applications.
- Inverter drive applications.
- 4V drive.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		35	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±20	V
Drain Current (DC)	I <sub>D</sub>		8	A
Drain Current (PW≤10s)	I <sub>D</sub>	Duty cycle≤1%	8.5	A
Drain Current (PW≤10μs)	I <sub>DP</sub>	Duty cycle≤1%	32	A
Allowable Power Dissipation	P <sub>D</sub>	Mounted on a ceramic board (2000mm²X0.8mm), PW≤10s	1.8	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-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 <sub>D</sub> =1mA, V <sub>GS</sub> =0V	35			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =35V, V <sub>GS</sub> =0V			1	μA
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±16V, V <sub>DS</sub> =0V			±10	μA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =1mA	1.5		2.5	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =8A	5.4	9		S
Static Drain-to-Source On-State Resistance	R <sub>DS(on)1</sub>	I <sub>D</sub> =8A, V <sub>GS</sub> =10V		20	26	mΩ
	R <sub>DS(on)2</sub>	I <sub>D</sub> =4A, V <sub>GS</sub> =4V		38	54	mΩ
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =10V, f=1MHz		1050		pF
Output Capacitance	C <sub>oss</sub>	V <sub>DS</sub> =10V, f=1MHz		200		pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> =10V, f=1MHz		140		pF
Turn-ON Delay Time	t <sub>d(on)</sub>	See specified Test Circuit.		17		ns
Rise Time	t <sub>r</sub>	See specified Test Circuit.		65		ns
Turn-OFF Delay Time	t <sub>d(off)</sub>	See specified Test Circuit.		75		ns
Fall Time	t <sub>f</sub>	See specified Test Circuit.		45		ns

Marking : S218

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# FSS218

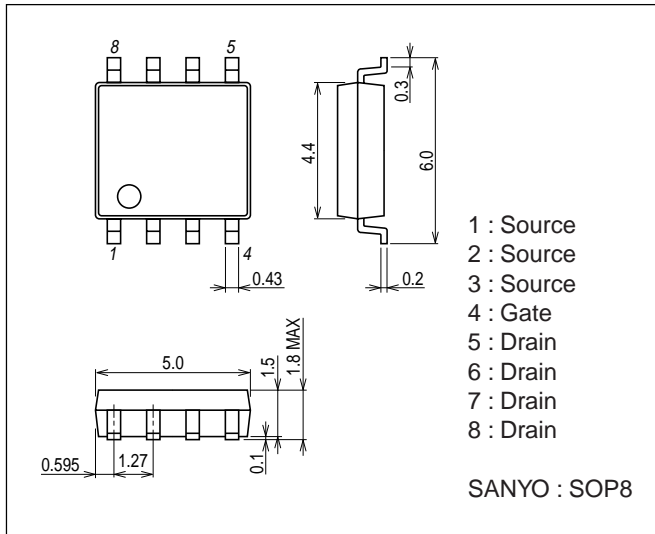
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	V <sub>DS</sub> =10V, V <sub>GS</sub> =10V, I <sub>D</sub> =8A		19		nC
Gate-to-Source Charge	Qgs	V <sub>DS</sub> =10V, V <sub>GS</sub> =10V, I <sub>D</sub> =8A		3.3		nC
Gate-to-Drain "Miller" Charge	Qgd	V <sub>DS</sub> =10V, V <sub>GS</sub> =10V, I <sub>D</sub> =8A		3.5		nC
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =8A, V <sub>GS</sub> =0V		0.85	1.2	V

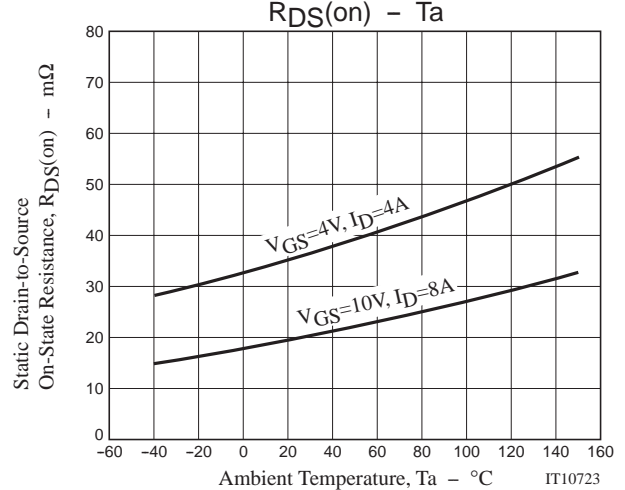
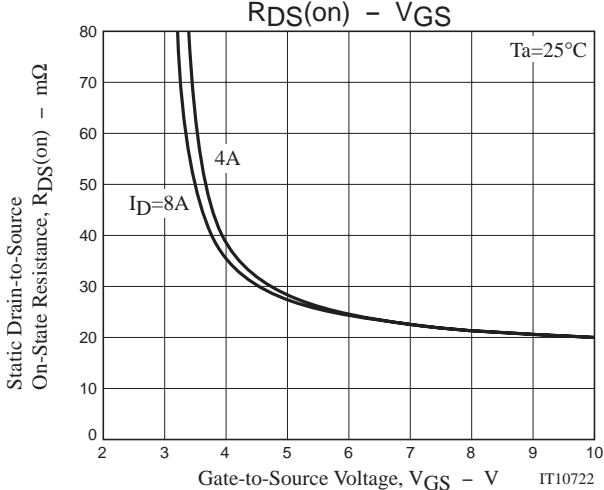
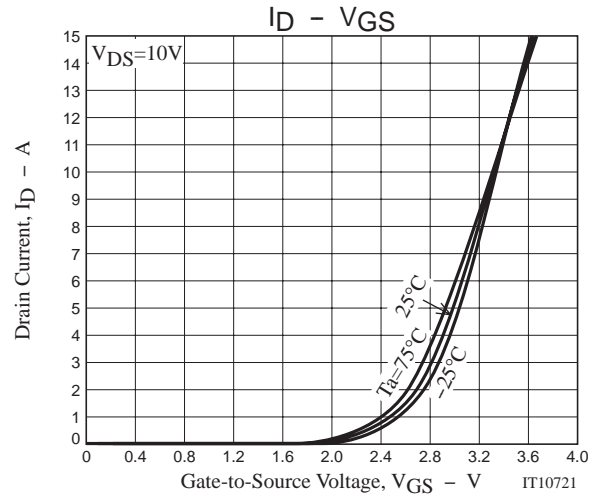
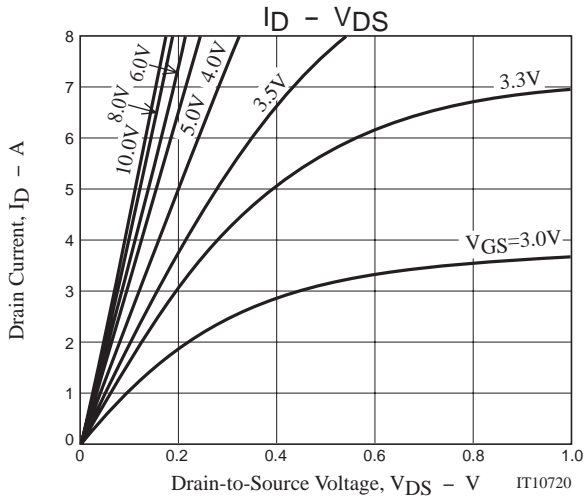
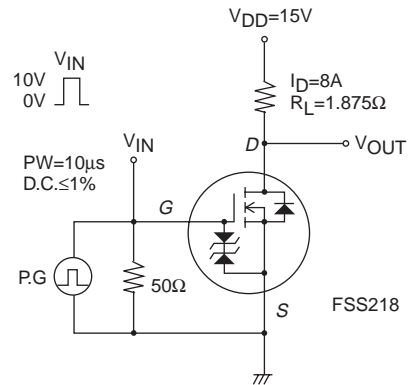
## Package Dimensions

unit : mm

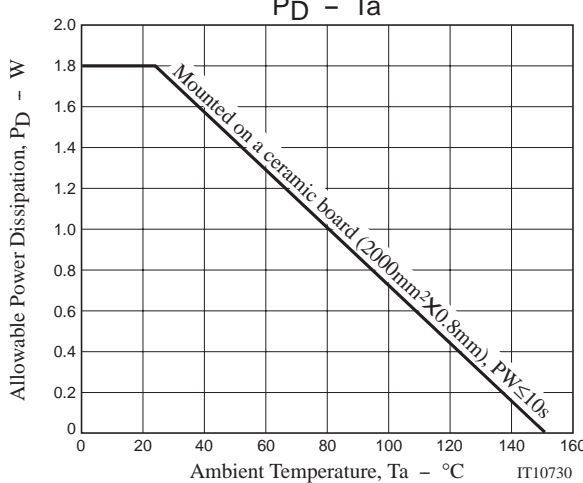
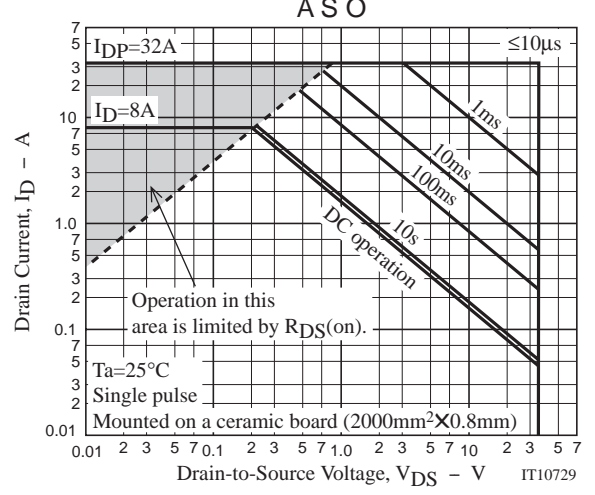
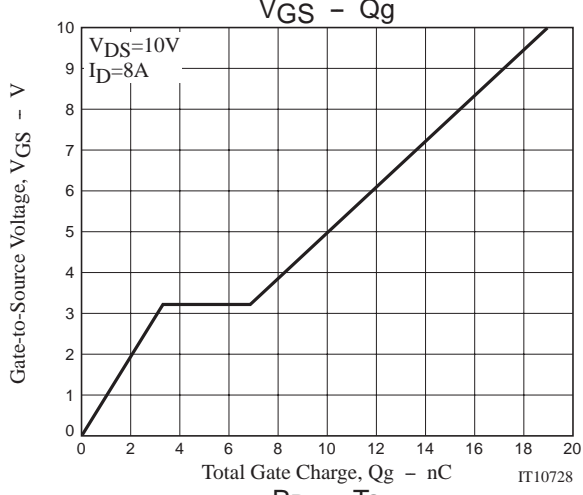
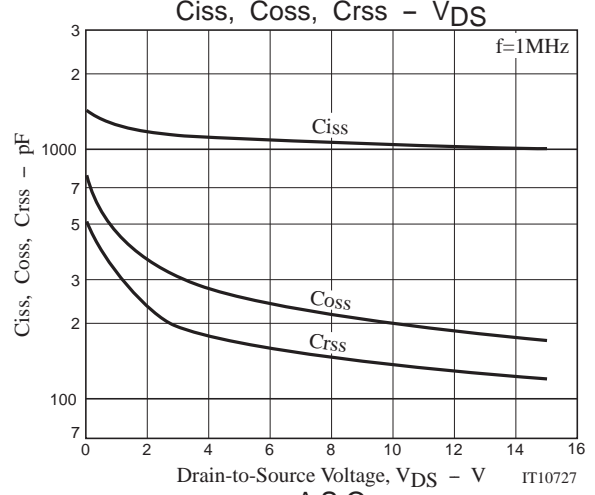
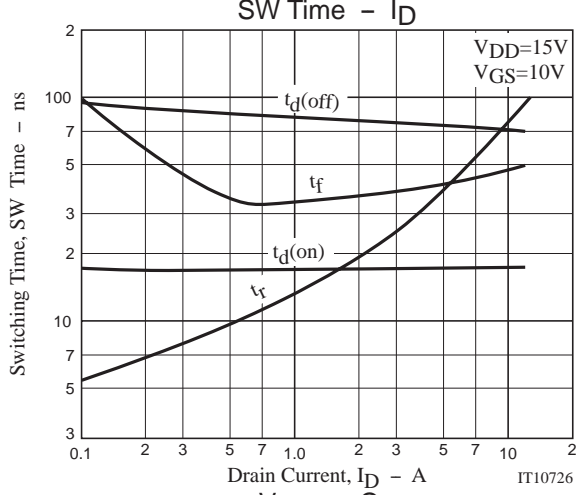
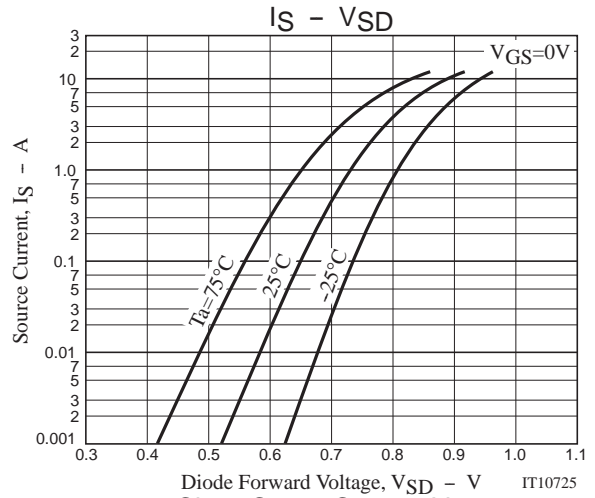
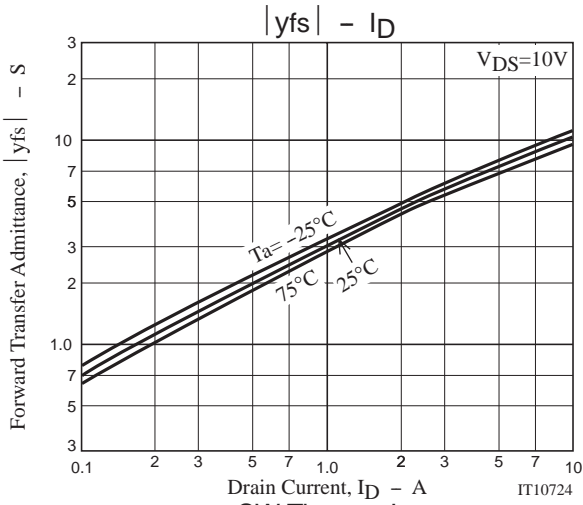
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## Switching Time Test Circuit



# FSS218



## FSS218

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Note on usage : Since the FSS218 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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