



# FSS218 — N-Channel Silicon MOSFET

## General-Purpose Switching Device Applications

### Features

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

### Specifications

**Absolute Maximum Ratings** at  $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		35	V
Gate-to-Source Voltage	$V_{GSS}$		$\pm 20$	V
Drain Current (DC)	$I_D$		8	A
Drain Current ( $PW \leq 10s$ )	$I_D$	Duty cycle $\leq 1\%$	8.5	A
Drain Current ( $PW \leq 10\mu s$ )	$I_{DP}$	Duty cycle $\leq 1\%$	32	A
Allowable Power Dissipation	$P_D$	Mounted on a ceramic board (2000mm $^2$ X0.8mm), $PW \leq 10s$	1.8	W
Channel Temperature	$T_{ch}$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0V$	35			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=35V, V_{GS}=0V$			1	$\mu\text{A}$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 16V, V_{DS}=0V$			$\pm 10$	$\mu\text{A}$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	1.5		2.5	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=8A$	5.4	9		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=8A, V_{GS}=10V$		20	26	$m\Omega$
	$R_{DS(on)2}$	$I_D=4A, V_{GS}=4V$		38	54	$m\Omega$
Input Capacitance	$C_{iss}$	$V_{DS}=10V, f=1MHz$		1050		pF
Output Capacitance	$C_{oss}$	$V_{DS}=10V, f=1MHz$		200		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=10V, f=1MHz$		140		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		17		ns
Rise Time	$t_r$	See specified Test Circuit.		65		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		75		ns
Fall Time	$t_f$	See specified Test Circuit.		45		ns

Marking : S218

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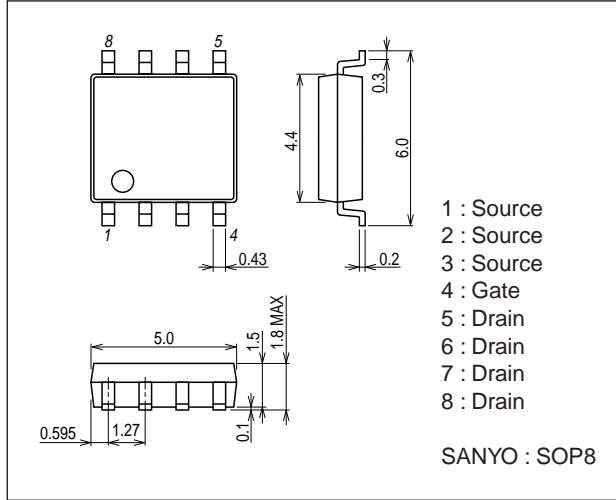
# FSS218

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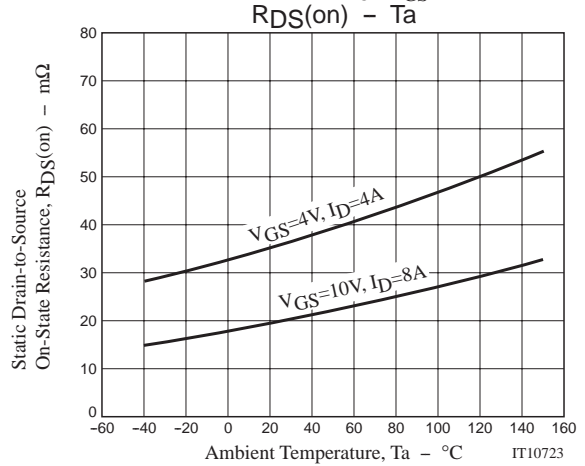
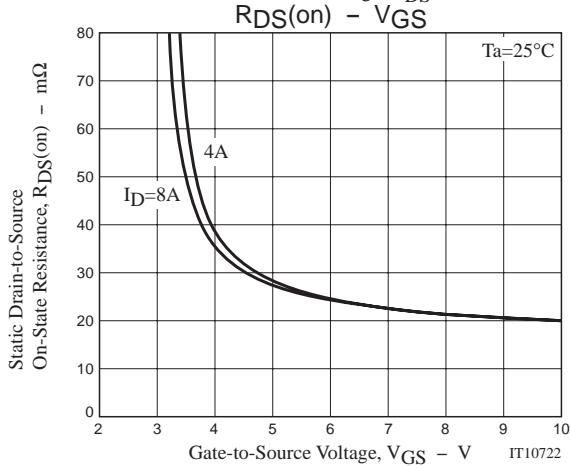
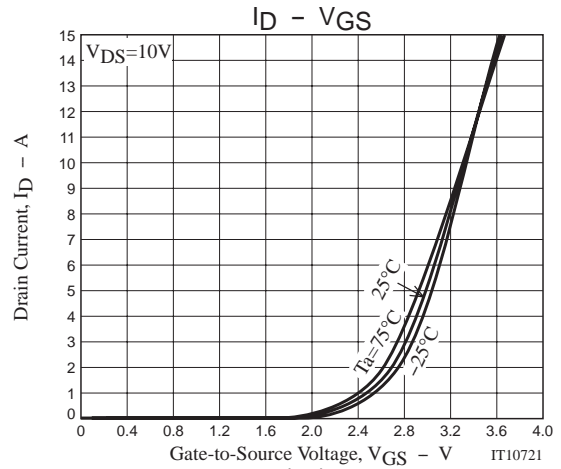
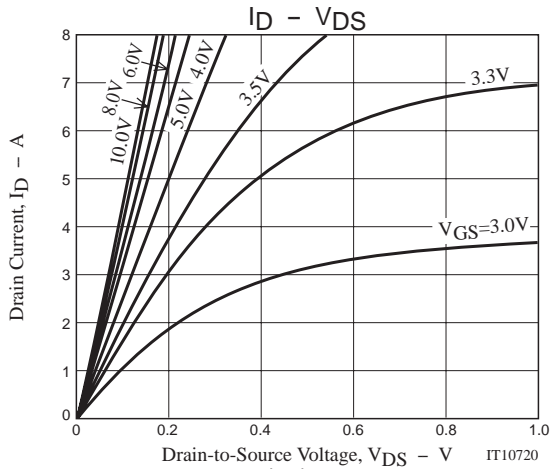
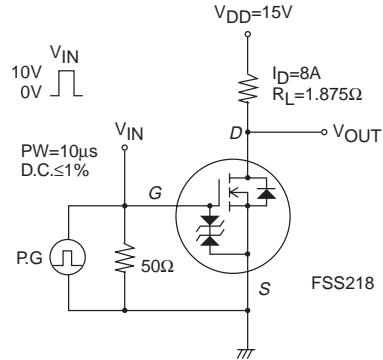
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	$V_{DS}=10V, V_{GS}=10V, I_D=8A$		19		nC
Gate-to-Source Charge	Qgs	$V_{DS}=10V, V_{GS}=10V, I_D=8A$		3.3		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=10V, V_{GS}=10V, I_D=8A$		3.5		nC
Diode Forward Voltage	VSD	$I_S=8A, V_{GS}=0V$		0.85	1.2	V

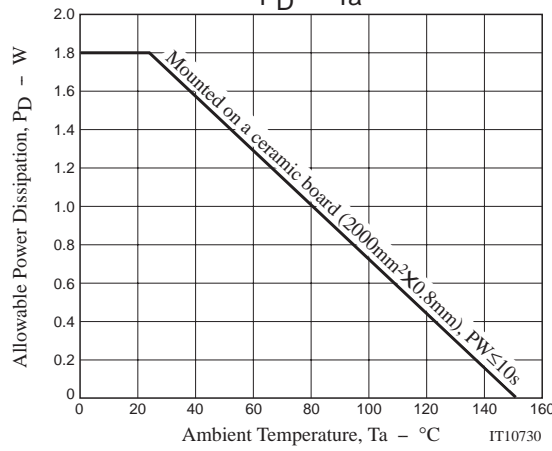
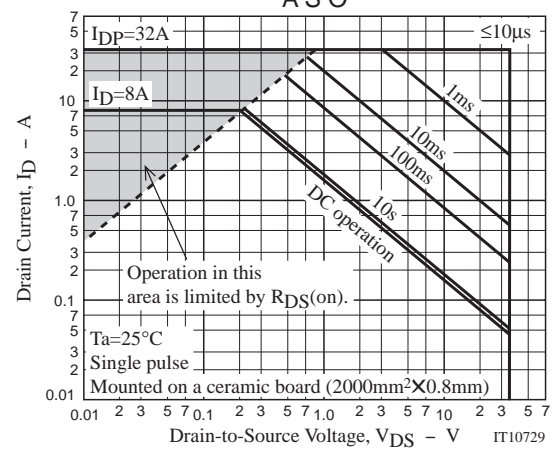
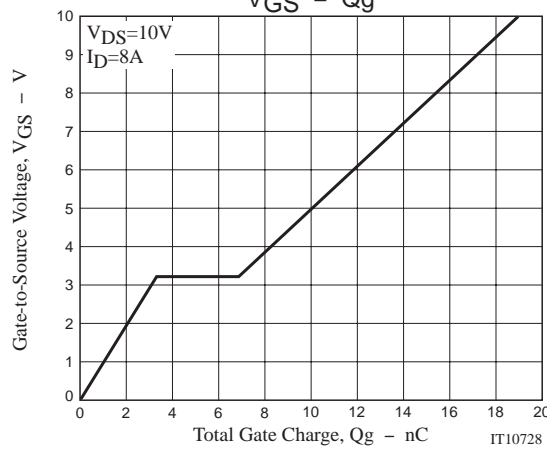
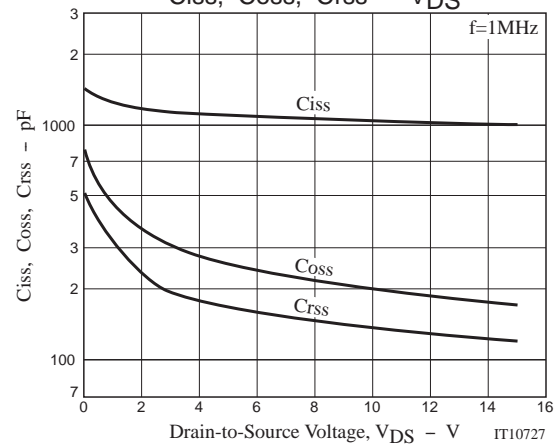
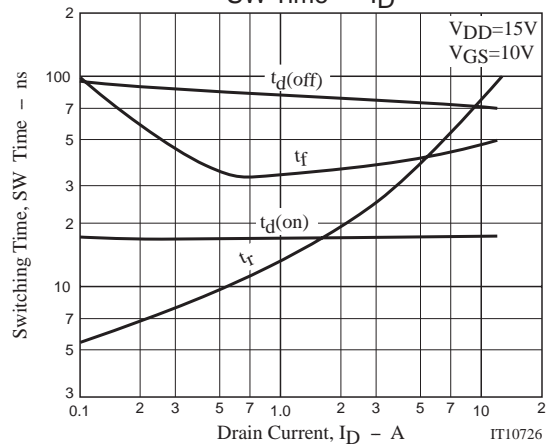
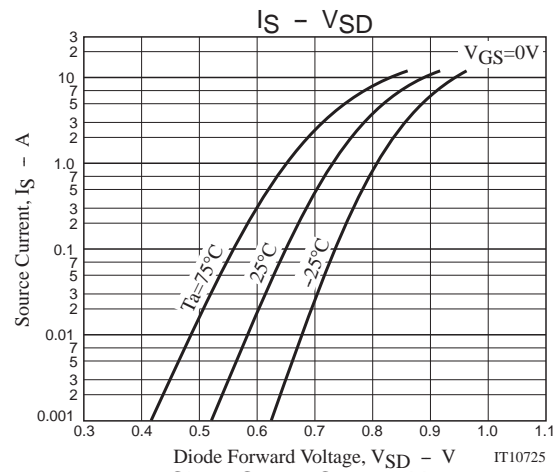
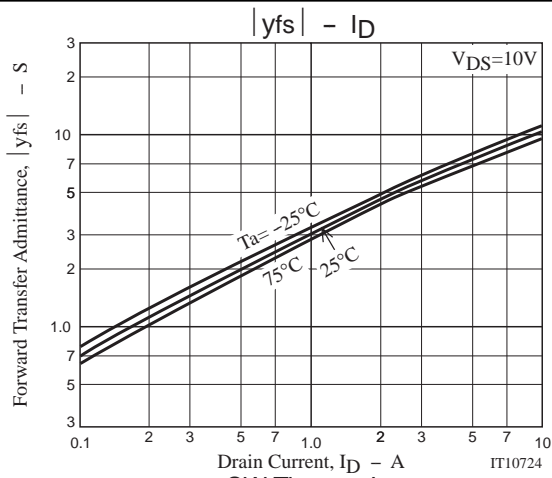
## Package Dimensions

unit : mm  
7005-002



## Switching Time Test Circuit





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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