



# FSS275 — N-Channel Silicon MOSFET

## General-Purpose Switching Device Applications

### Features

- Low ON-resistance.
- 4V drive.

### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		60	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±20	V
Drain Current (DC)	I <sub>D</sub>		6	A
Drain Current (PW≤10s)	I <sub>D</sub>	Duty cycle≤1%	6.5	A
Drain Current (PW≤10μs)	I <sub>DP</sub>	Duty cycle≤1%	24	A
Allowable Power Dissipation	P <sub>D</sub>	Mounted on a ceramic board (2000mm <sup>2</sup> ×0.8mm), PW≤10s	1.9	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 <sub>(BR)DSS</sub>	I <sub>D</sub> =1mA, V <sub>GS</sub> =0V	60			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =60V, 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	1.2		2.6	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =3A	3.4	5.8		S
Static Drain-to-Source On-State Resistance	R <sub>DS(on)1</sub>	I <sub>D</sub> =3A, V <sub>GS</sub> =10V		33	43	mΩ
	R <sub>DS(on)2</sub>	I <sub>D</sub> =3A, V <sub>GS</sub> =4V		44	62	mΩ

Marking : S275

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# FSS275

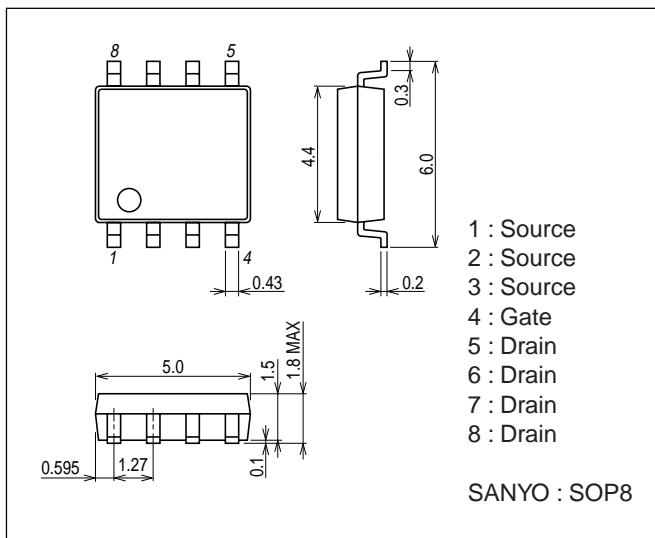
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V <sub>DS</sub> =20V, f=1MHz		1100		pF
Output Capacitance	Coss	V <sub>DS</sub> =20V, f=1MHz		110		pF
Reverse Transfer Capacitance	Crss	V <sub>DS</sub> =20V, f=1MHz		70		pF
Turn-ON Delay Time	t <sub>d(on)</sub>	See specified Test Circuit.		16		ns
Rise Time	t <sub>r</sub>	See specified Test Circuit.		27		ns
Turn-OFF Delay Time	t <sub>d(off)</sub>	See specified Test Circuit.		90		ns
Fall Time	t <sub>f</sub>	See specified Test Circuit.		50		ns
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> =30V, V <sub>GS</sub> =10V, I <sub>D</sub> =6A		21		nC
Gate-to-Source Charge	Q <sub>gs</sub>	V <sub>DS</sub> =30V, V <sub>GS</sub> =10V, I <sub>D</sub> =6A		3.1		nC
Gate-to-Drain "Miller" Charge	Q <sub>gd</sub>	V <sub>DS</sub> =30V, V <sub>GS</sub> =10V, I <sub>D</sub> =6A		3.7		nC
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =6A, V <sub>GS</sub> =0V		0.82	1.2	V

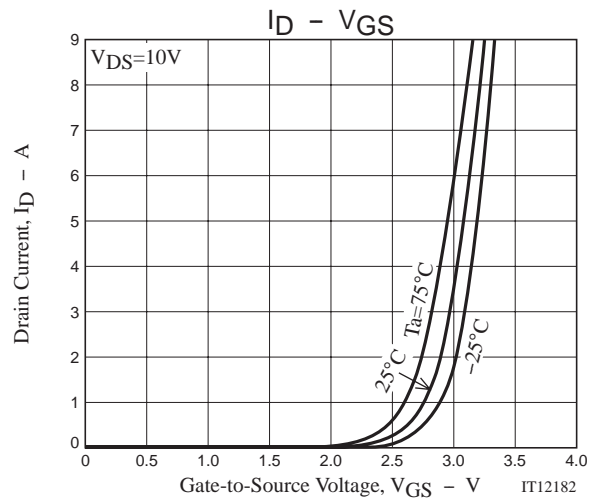
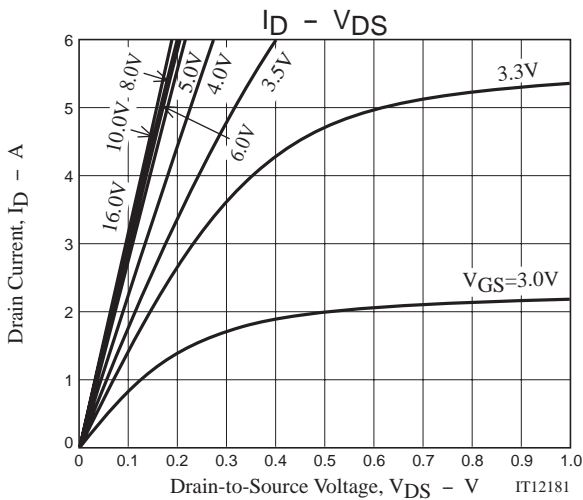
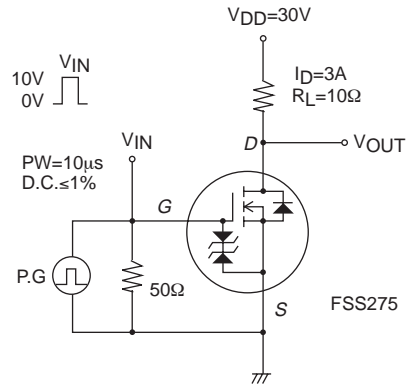
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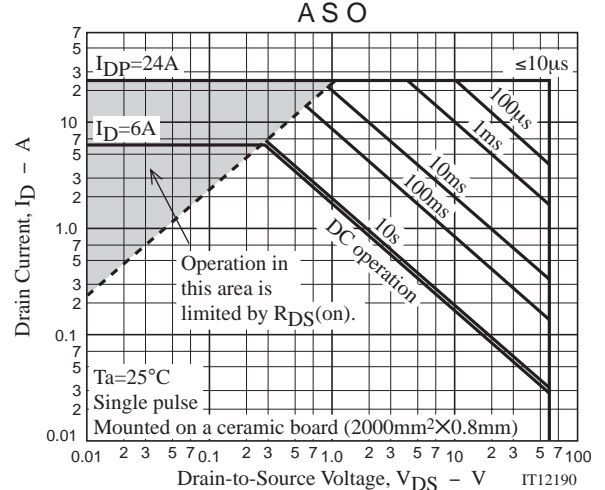
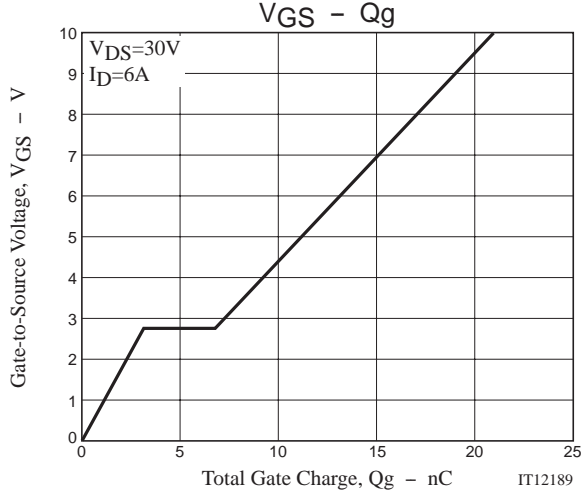
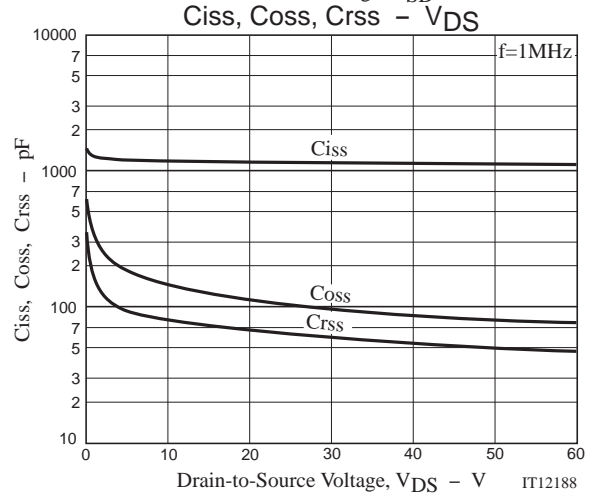
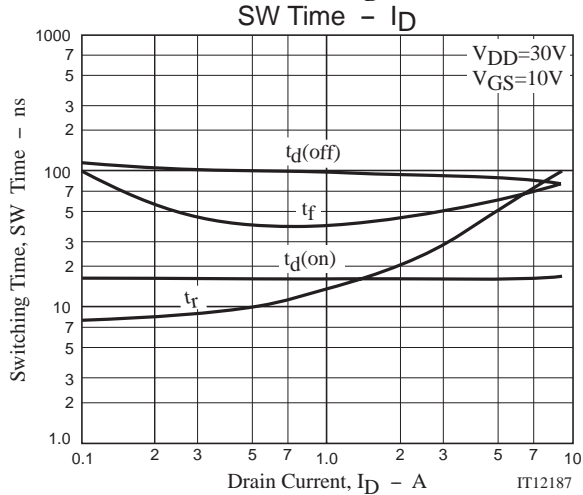
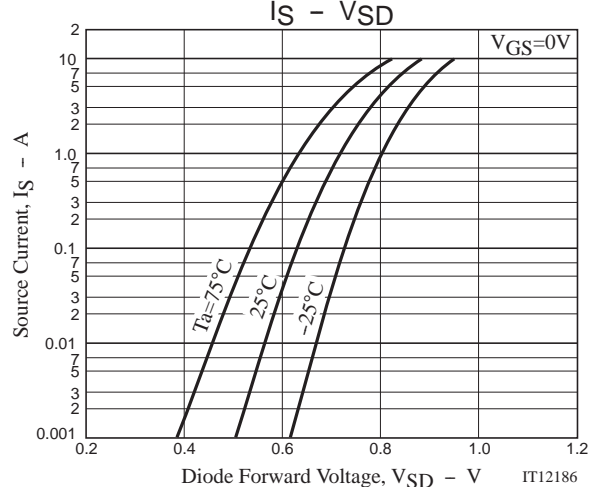
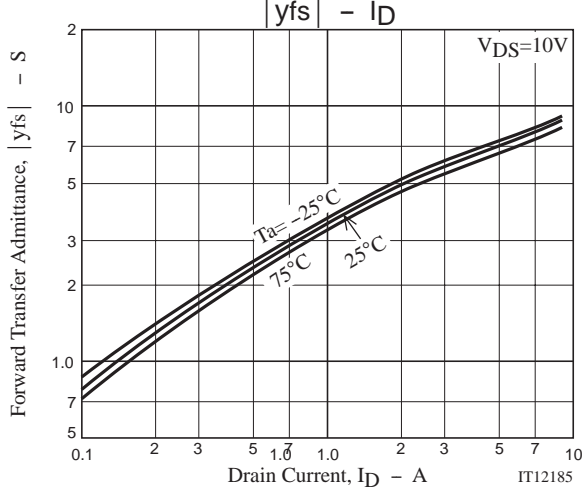
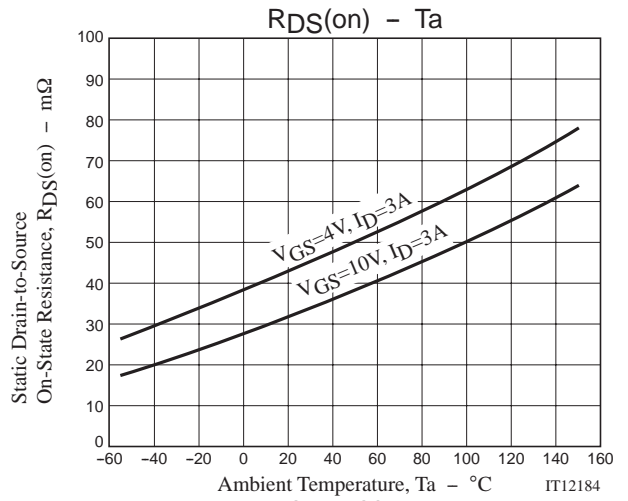
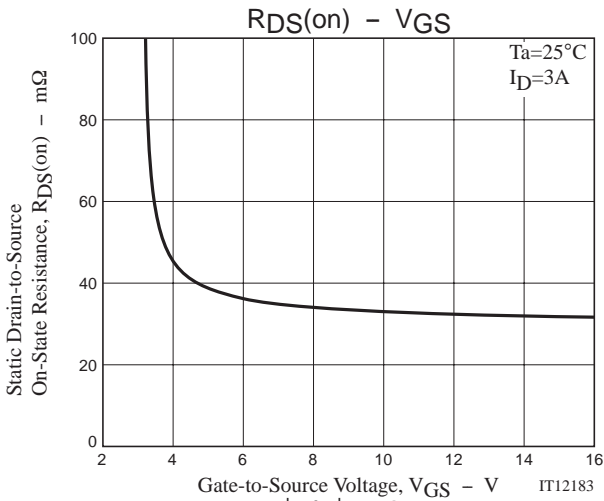
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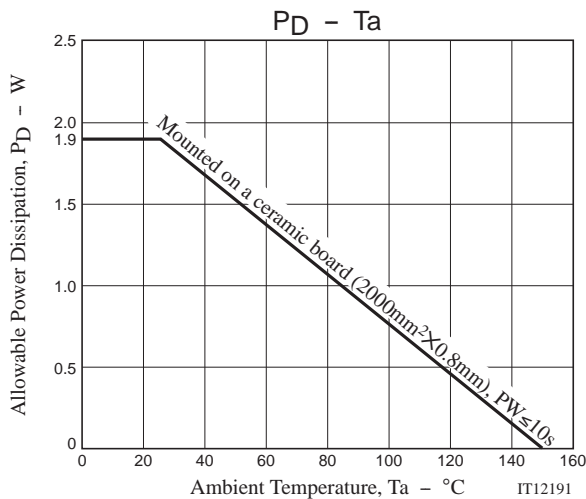
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## Switching Time Test Circuit







Note on usage : Since the FSS275 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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