



# FSS273 — N-Channel Silicon MOSFET

## 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>		45	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 (1200mm <sup>2</sup> ×0.8mm), PW≤10s	2.4	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	45			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =45V, 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> =8A	6	10		S
Static Drain-to-Source On-State Resistance	R <sub>DS(on)1</sub>	I <sub>D</sub> =8A, V <sub>GS</sub> =10V		16	22	mΩ
	R <sub>DS(on)2</sub>	I <sub>D</sub> =4A, V <sub>GS</sub> =4V		24	34	mΩ
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =20V, f=1MHz		2225		pF
Output Capacitance	C <sub>oss</sub>	V <sub>DS</sub> =20V, f=1MHz		260		pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> =20V, f=1MHz		190		pF
Turn-ON Delay Time	t <sub>d(on)</sub>	See specified Test Circuit.		27		ns
Rise Time	t <sub>r</sub>	See specified Test Circuit.		55		ns
Turn-OFF Delay Time	t <sub>d(off)</sub>	See specified Test Circuit.		150		ns
Fall Time	t <sub>f</sub>	See specified Test Circuit.		80		ns

Marking : S273

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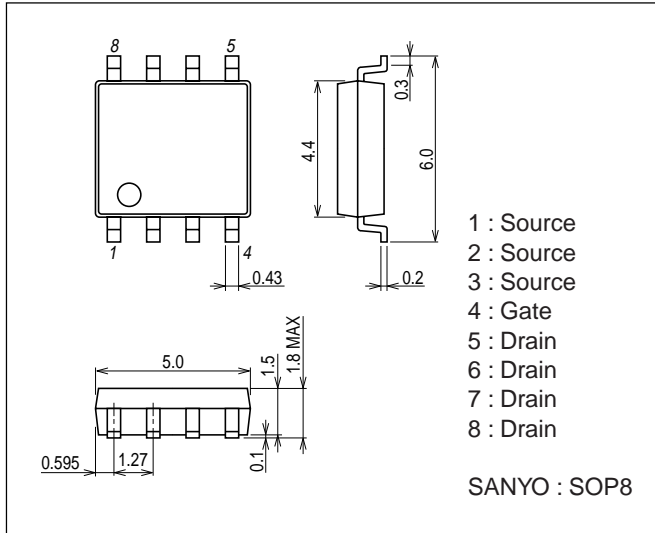
# FSS273

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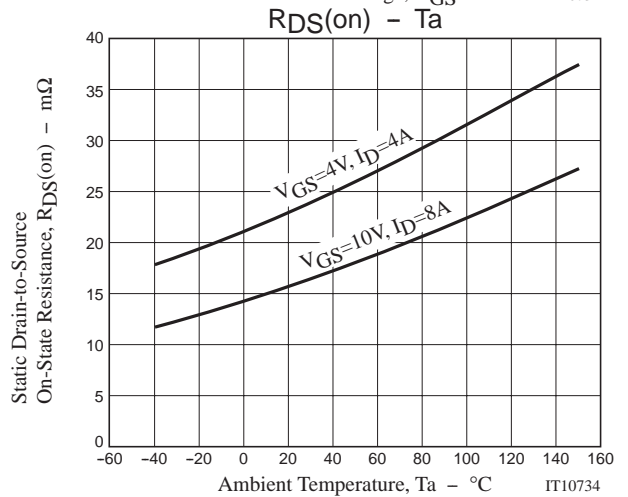
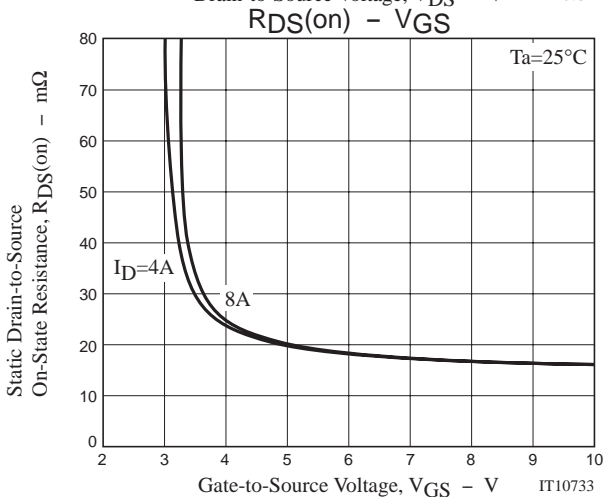
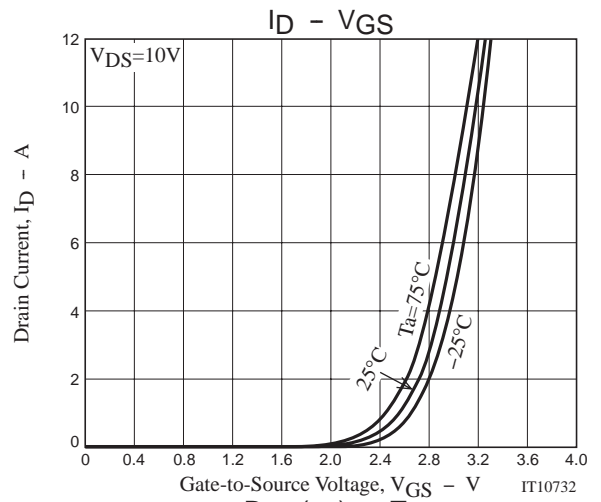
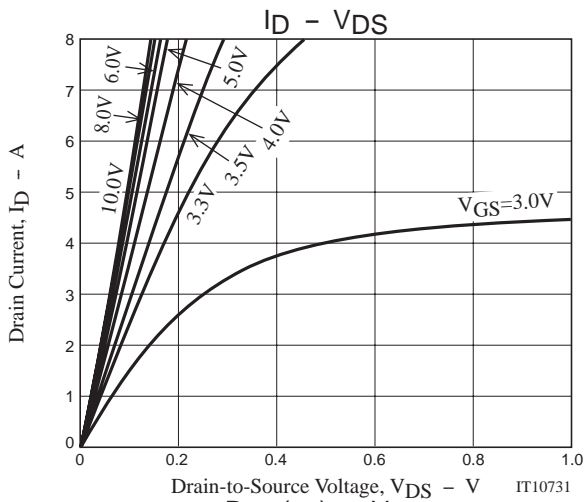
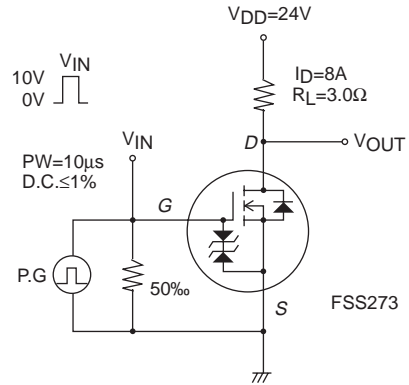
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	$V_{DS}=24V, V_{GS}=10V, I_D=8A$		40		nC
Gate-to-Source Charge	Qgs	$V_{DS}=24V, V_{GS}=10V, I_D=8A$		6		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=24V, V_{GS}=10V, I_D=8A$		8		nC
Diode Forward Voltage	$V_{SD}$	$I_S=8A, V_{GS}=0V$		0.82	1.2	V

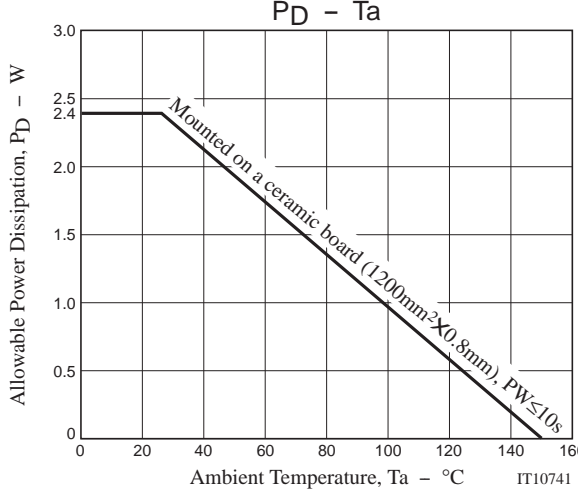
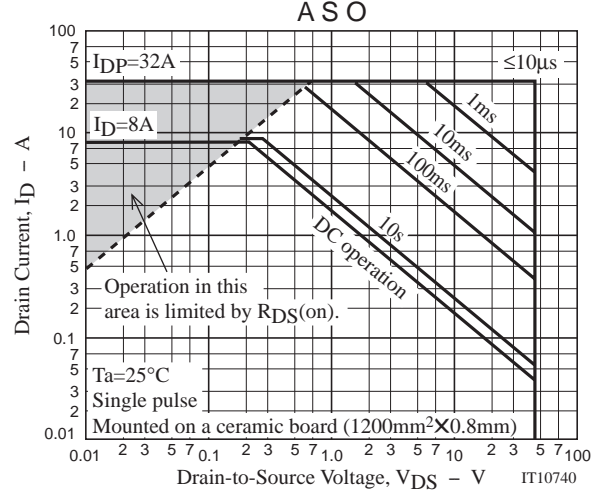
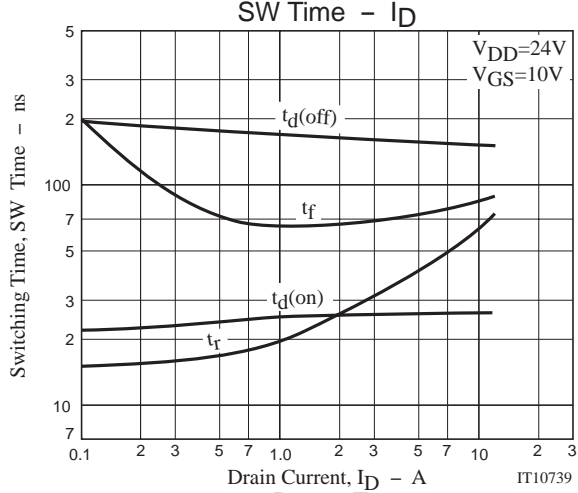
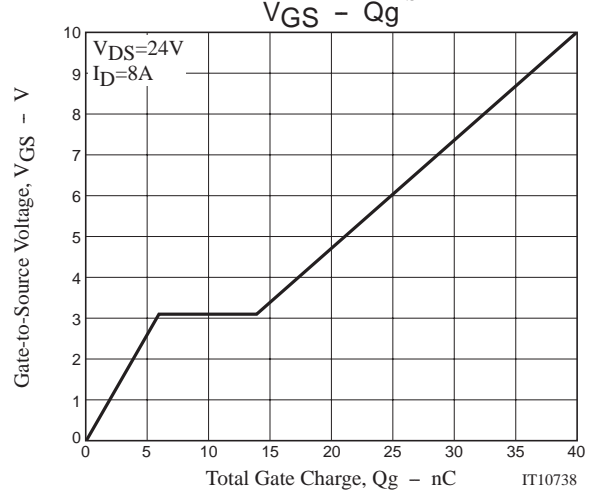
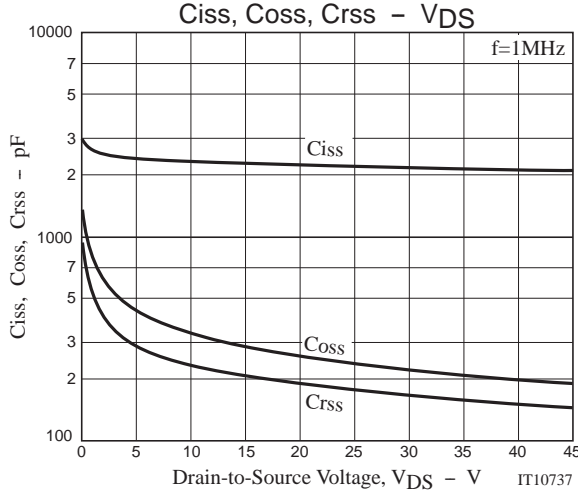
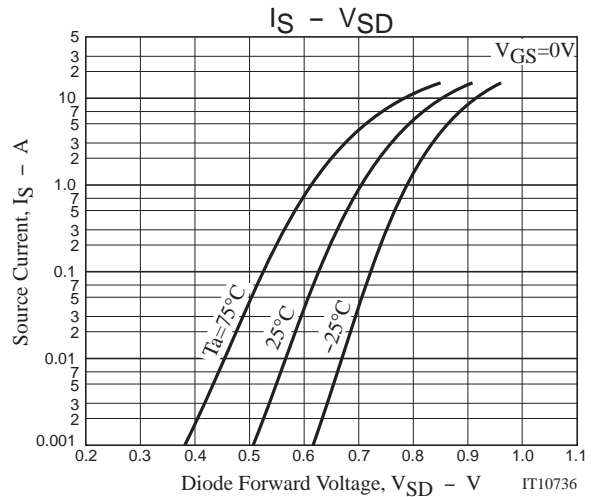
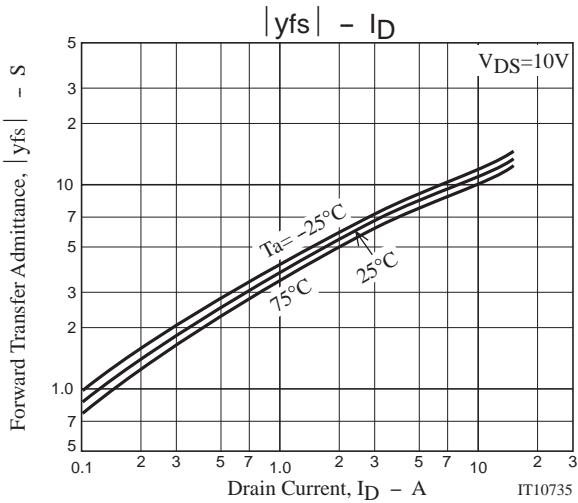
## Package Dimensions

unit : mm  
7005-002



## Switching Time Test Circuit





Note on usage : Since the FSS273 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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