



FSS273 — 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}		45	V
Gate-to-Source Voltage	V_{GSS}		± 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 (1200mm 2 X0.8mm), $PW \leq 10s$	2.4	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	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0V$	45			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=45V, V_{GS}=0V$			1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 16V, V_{DS}=0V$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	1.2		2.6	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=8A$	6	10		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=8A, V_{GS}=10V$		16	22	$m\Omega$
	$R_{DS(on)2}$	$I_D=4A, V_{GS}=4V$		24	34	$m\Omega$
Input Capacitance	C_{iss}	$V_{DS}=20V, f=1MHz$		2225		pF
Output Capacitance	C_{oss}	$V_{DS}=20V, f=1MHz$		260		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=20V, f=1MHz$		190		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		27		ns
Rise Time	t_r	See specified Test Circuit.		55		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		150		ns
Fall Time	t_f	See specified Test Circuit.		80		ns

Marking : S273

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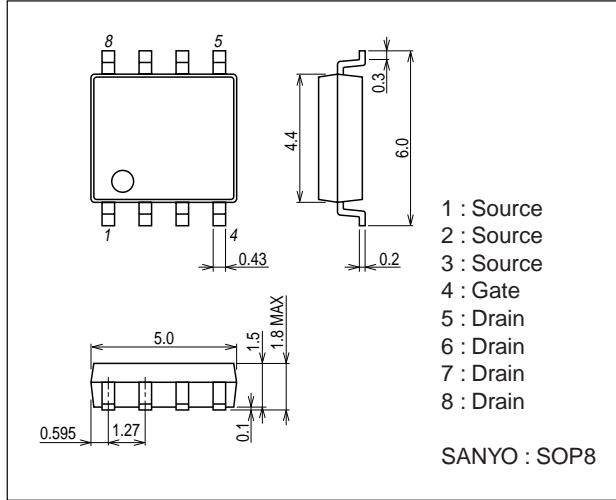
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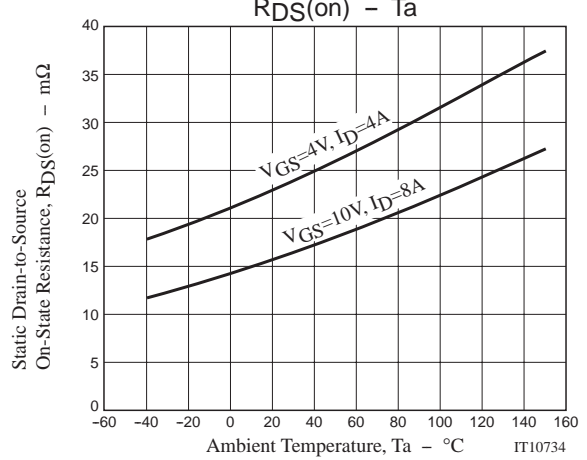
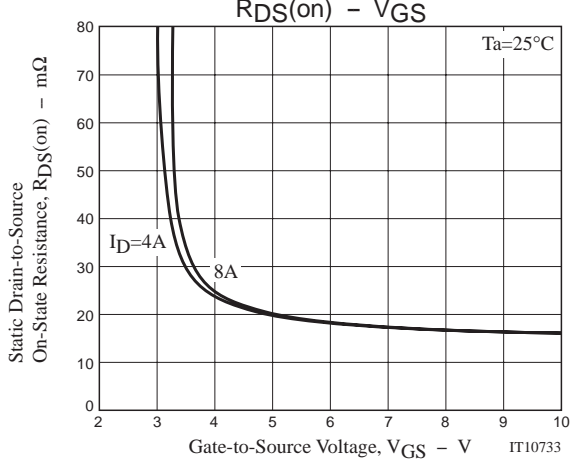
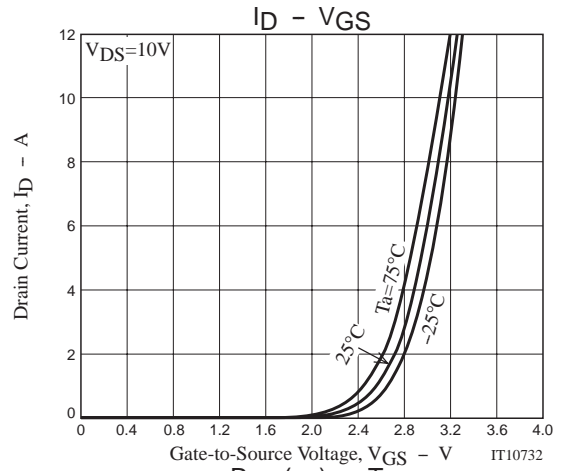
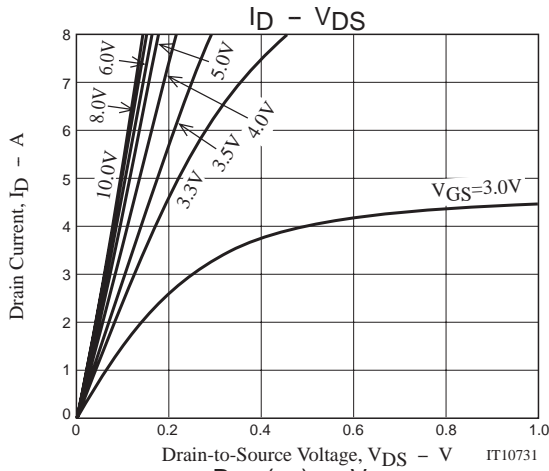
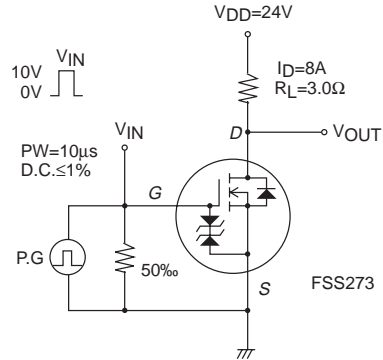
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	V _{DS} =24V, V _{GS} =10V, I _D =8A		40		nC
Gate-to-Source Charge	Qgs	V _{DS} =24V, V _{GS} =10V, I _D =8A		6		nC
Gate-to-Drain "Miller" Charge	Qgd	V _{DS} =24V, V _{GS} =10V, I _D =8A		8		nC
Diode Forward Voltage	V _{SD}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

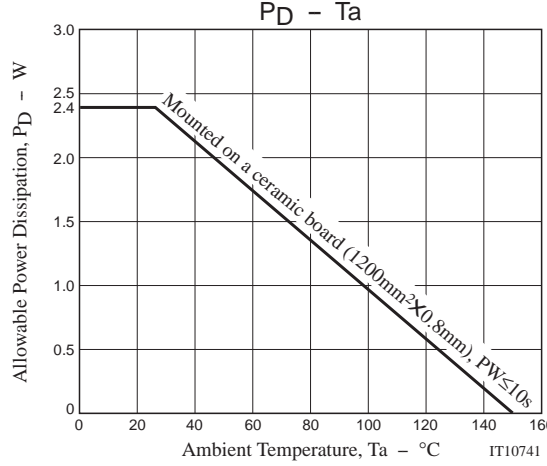
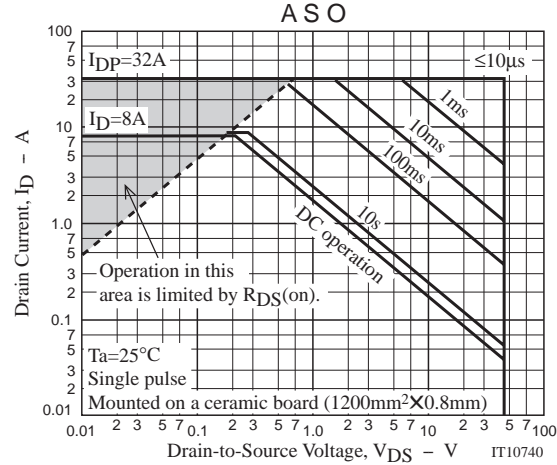
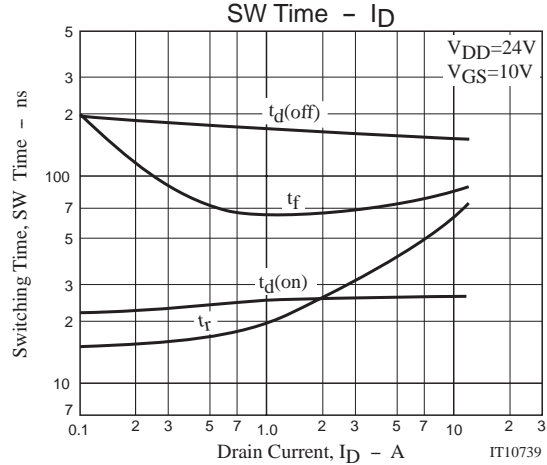
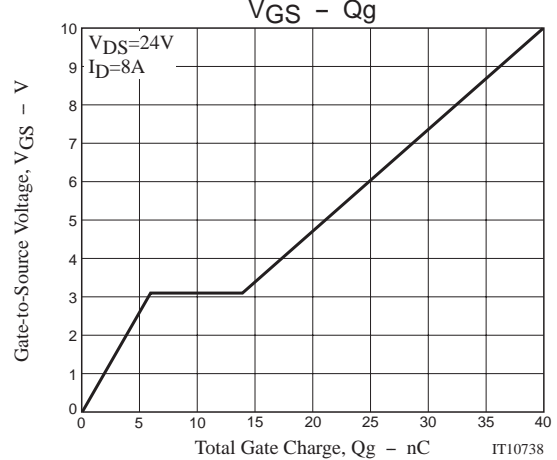
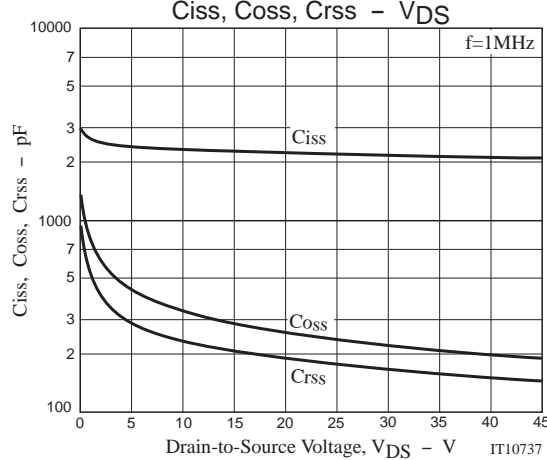
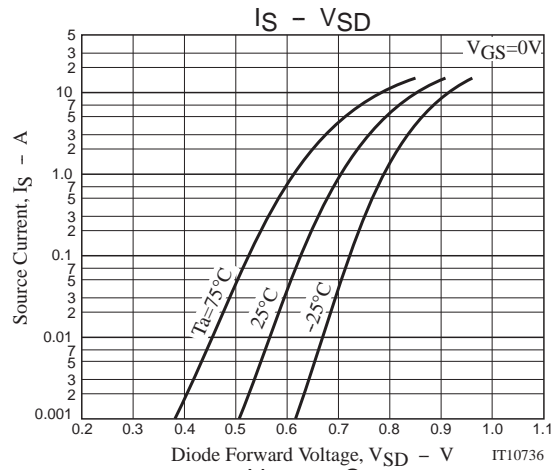
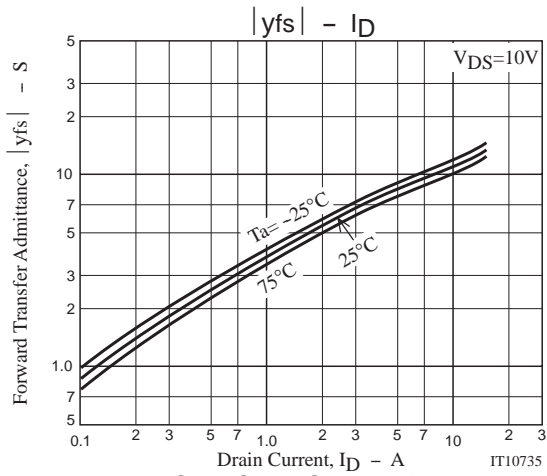
Package Dimensions

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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