



SANYO Semiconductors

DATA SHEET

FSS172

P-Channel Silicon MOSFET

General-Purpose Switching Device

Applications

Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 4V drive.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-30	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		-4.5	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-18	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (1200mm ² ×0.8mm)	1.4	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-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 _D =-1mA, V _{GS} =0V	-30			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30V, V _{GS} =0V			-1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} = ±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 =-4.5A	3.9	6.6		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-4.5A, V _{GS} =-10V		48	63	mΩ
	R _{DS(on)2}	I _D =-4A, V _{GS} =-4.5V		82	115	mΩ
	R _{DS(on)3}	I _D =-4A, V _{GS} =-4V		95	135	mΩ

Marking : S172

Continued on next page.

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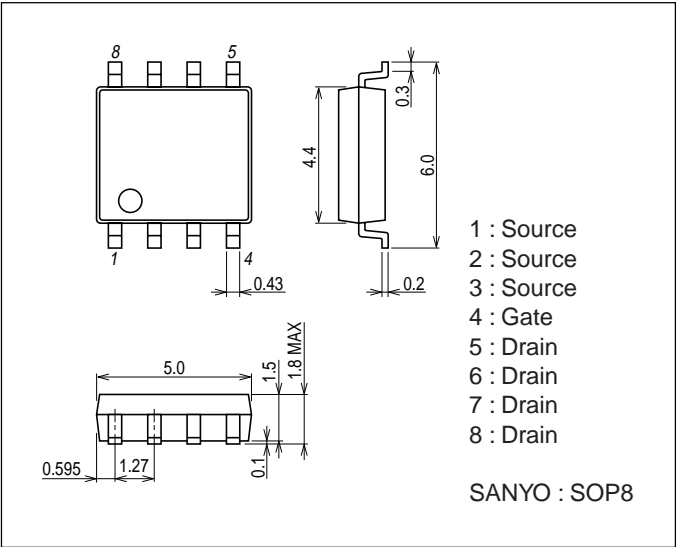
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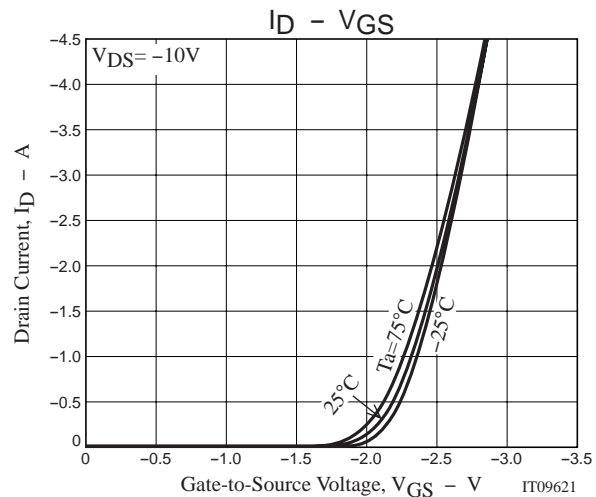
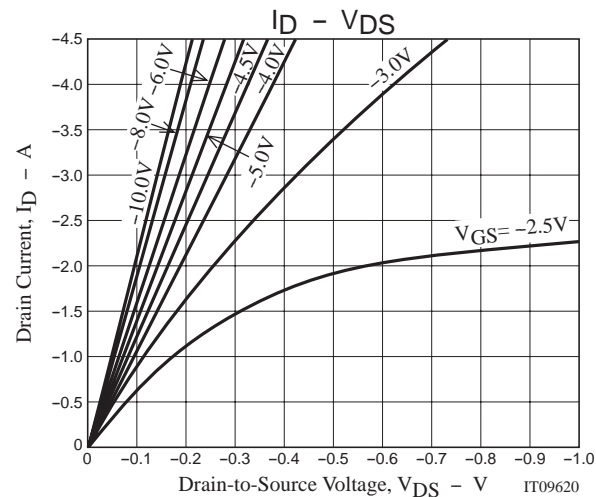
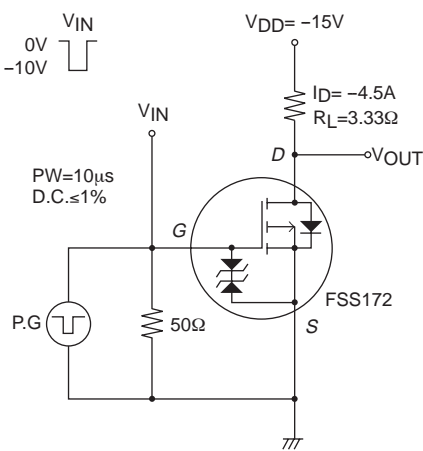
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	VDS=-10V, f=1MHz		590		pF
Output Capacitance	Coss	VDS=-10V, f=1MHz		120		pF
Reverse Transfer Capacitance	Crss	VDS=-10V, f=1MHz		115		pF
Turn-ON Delay Time	td(on)	See specified Test Circuit.		8		ns
Rise Time	tr	See specified Test Circuit.		80		ns
Turn-OFF Delay Time	td(off)	See specified Test Circuit.		55		ns
Fall Time	tf	See specified Test Circuit.		62		ns
Total Gate Charge	Qg	VDS=-10V, VGS=-10V, ID=-4.5A		12.8		nC
Gate-to-Source Charge	Qgs	VDS=-10V, VGS=-10V, ID=-4.5A		1.5		nC
Gate-to-Drain "Miller" Charge	Qgd	VDS=-10V, VGS=-10V, ID=-4.5A		4.3		nC
Diode Forward Voltage	VSD	IS=-4.5A, VGS=0V		-0.87	-1.5	V

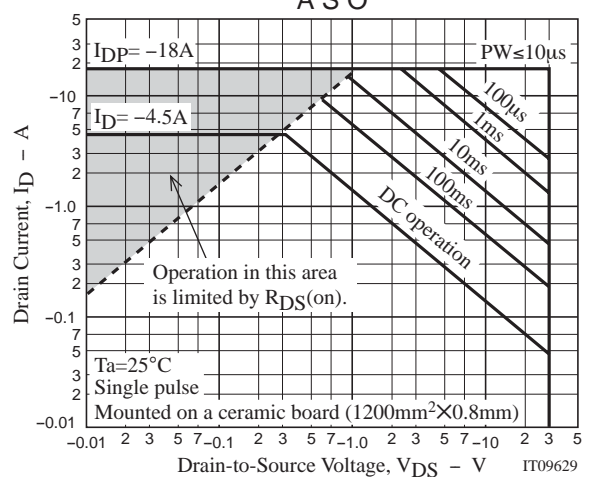
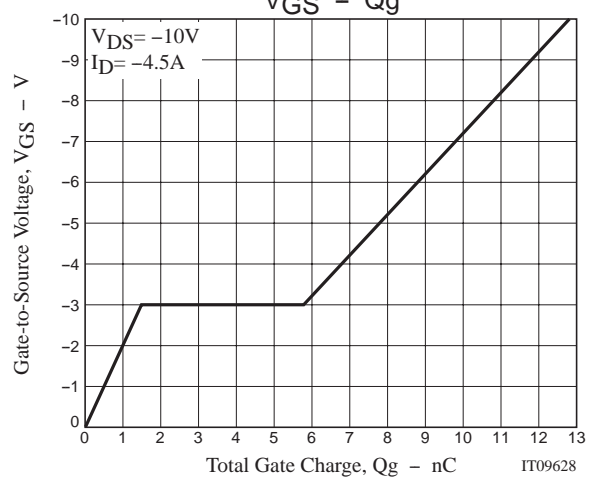
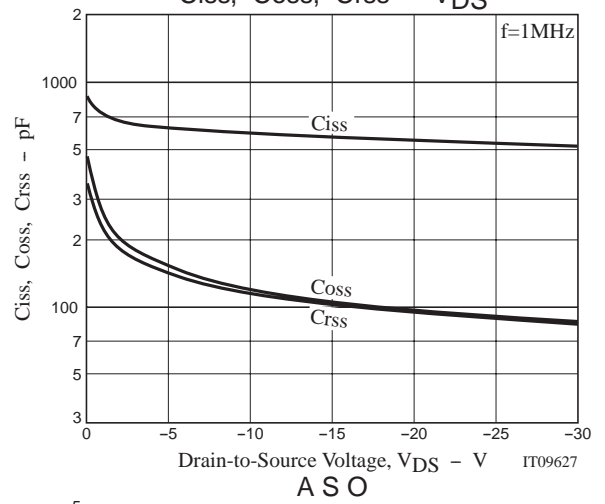
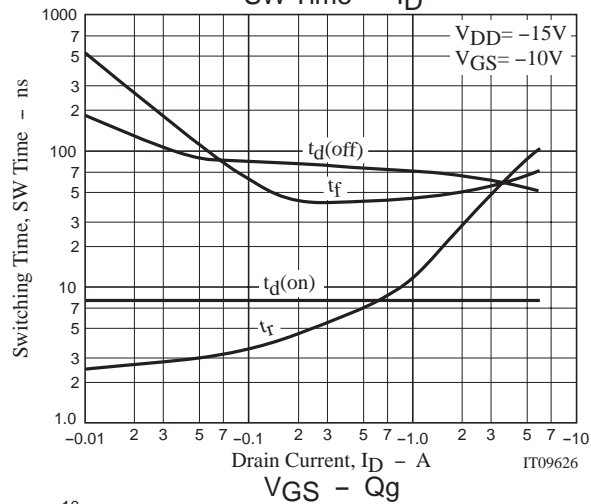
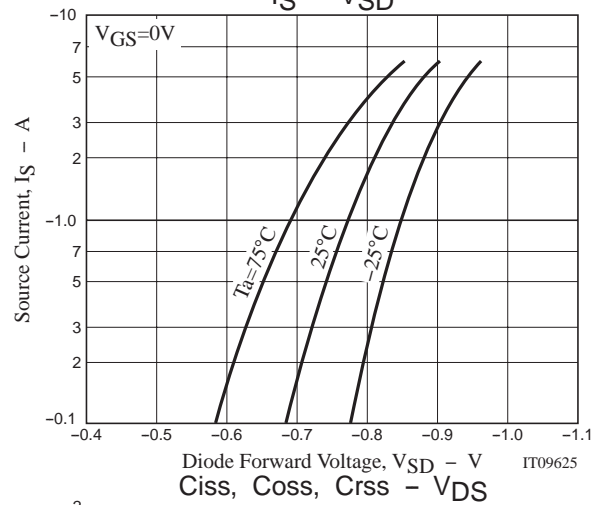
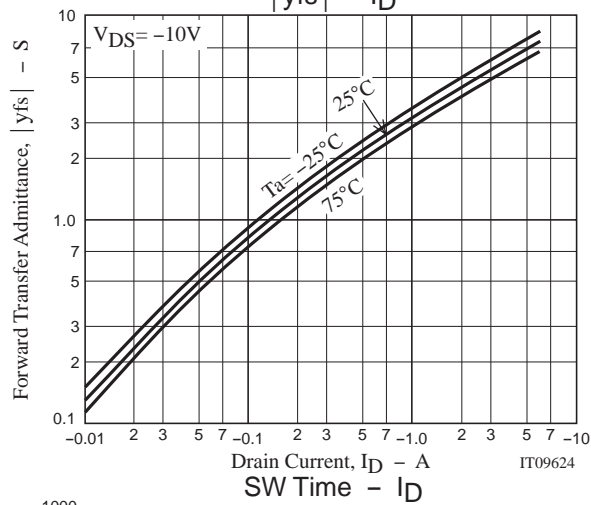
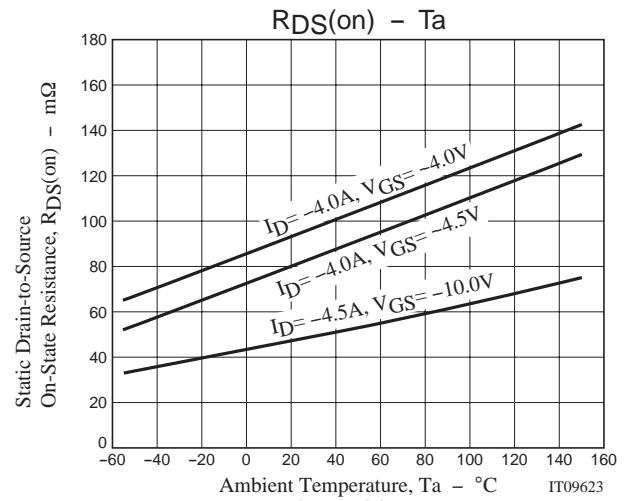
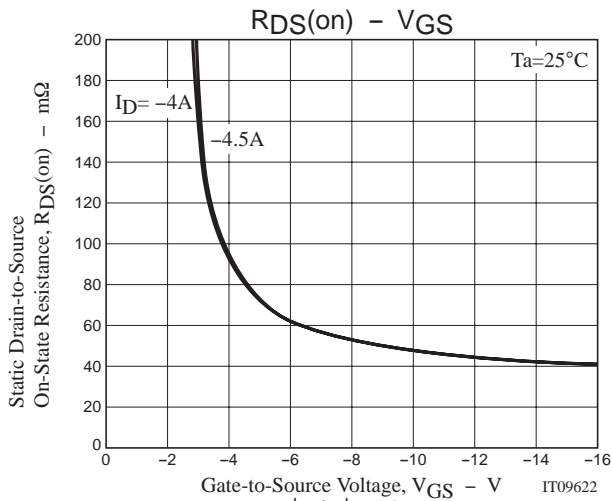
Package Dimensions

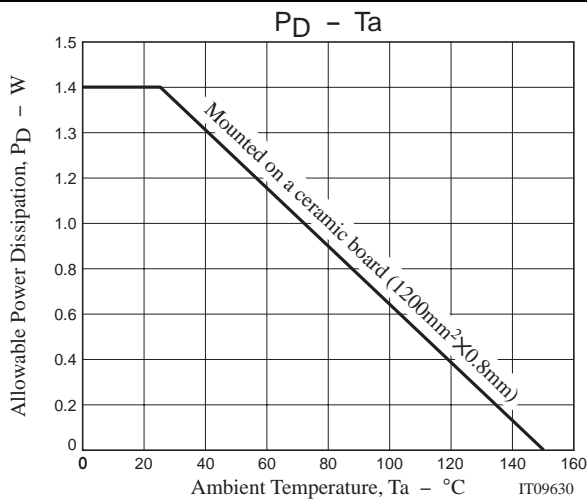
unit : mm (typ)
7005-002



Switching Time Test Circuit







Note on usage : Since the FSS172 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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