

Ordering number : ENA0480



SANYO Semiconductors

DATA SHEET

**FSS173** — P-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>		-45	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%	-7	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 (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>D</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>D</sub> =0V			±10	μA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>D</sub> =-10V, I <sub>D</sub> =-1mA	-1.2		-2.6	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>D</sub> =-10V, I <sub>D</sub> =-6A	7.2	12		S
Static Drain-to-Source On-State Resistance	R <sub>DS(on)1</sub>	I <sub>D</sub> =-6A, V <sub>GS</sub> =-10V		26	35	mΩ
	R <sub>DS(on)2</sub>	I <sub>D</sub> =-3A, V <sub>GS</sub> =-4V		40	56	mΩ
Input Capacitance	C <sub>iss</sub>	V <sub>D</sub> =-20V, f=1MHz		2580		pF
Output Capacitance	C <sub>oss</sub>	V <sub>D</sub> =-20V, f=1MHz		265		pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>D</sub> =-20V, f=1MHz		210		pF

Marking : S173

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# FSS173

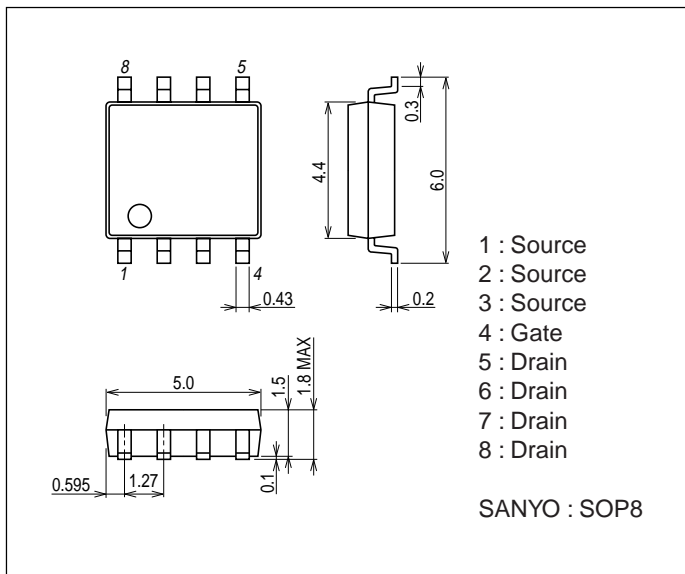
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_d(\text{on})$	See specified Test Circuit.		30		ns
Rise Time	$t_r$	See specified Test Circuit.		48		ns
Turn-OFF Delay Time	$t_d(\text{off})$	See specified Test Circuit.		210		ns
Fall Time	$t_f$	See specified Test Circuit.		95		ns
Total Gate Charge	Qg	$V_{DS}=-24V, V_{GS}=-10V, I_D=-6A$		46		nC
Gate-to-Source Charge	Qgs	$V_{DS}=-24V, V_{GS}=-10V, I_D=-6A$		7		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=-24V, V_{GS}=-10V, I_D=-6A$		8		nC
Diode Forward Voltage	$V_{SD}$	$I_S=-6A, V_{GS}=0V$		-0.82	-1.5	V

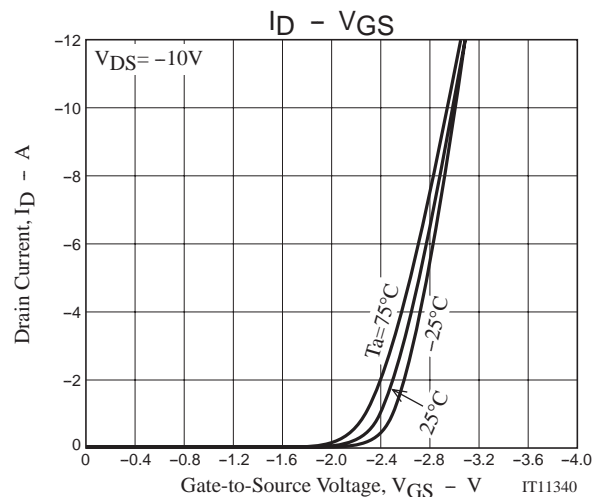
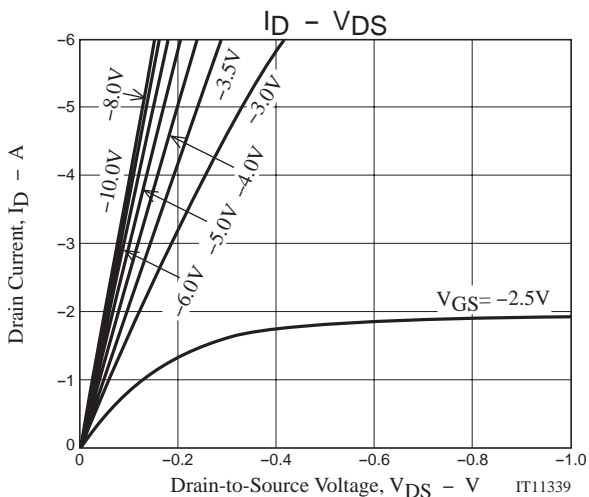
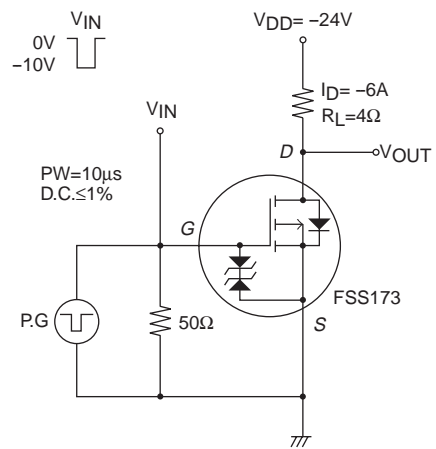
## Package Dimensions

unit : mm (typ)

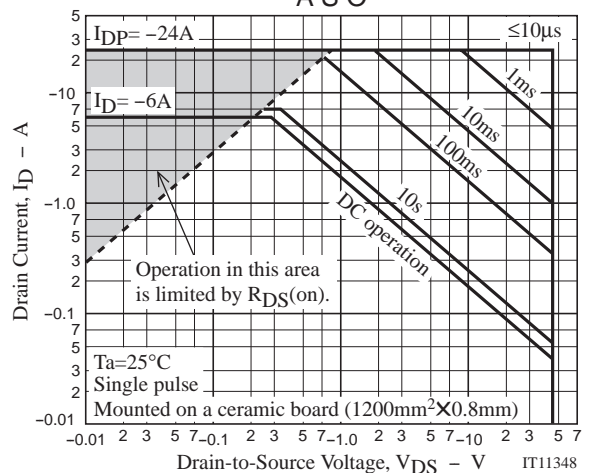
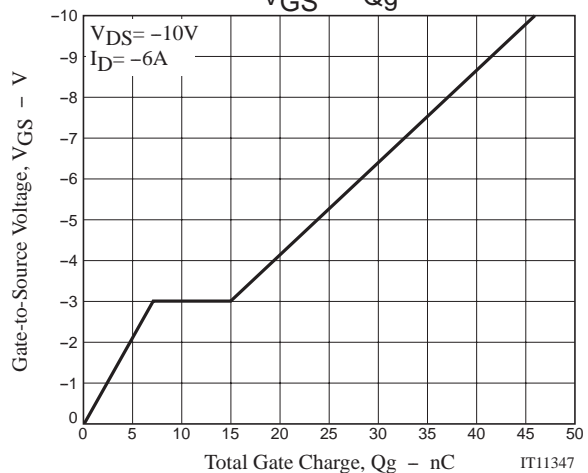
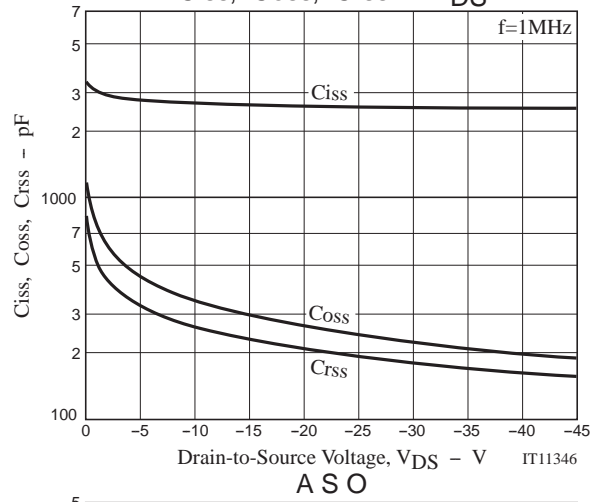
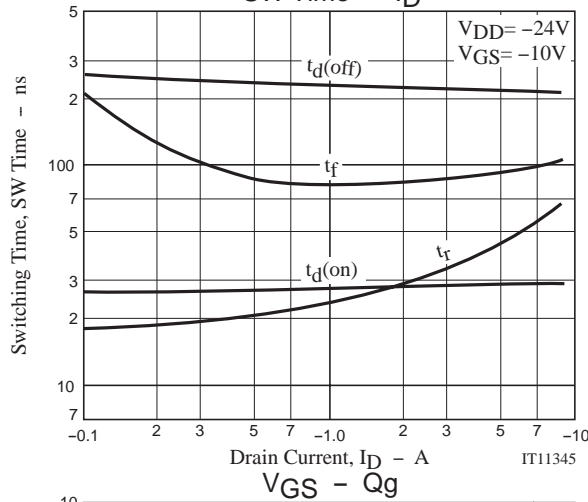
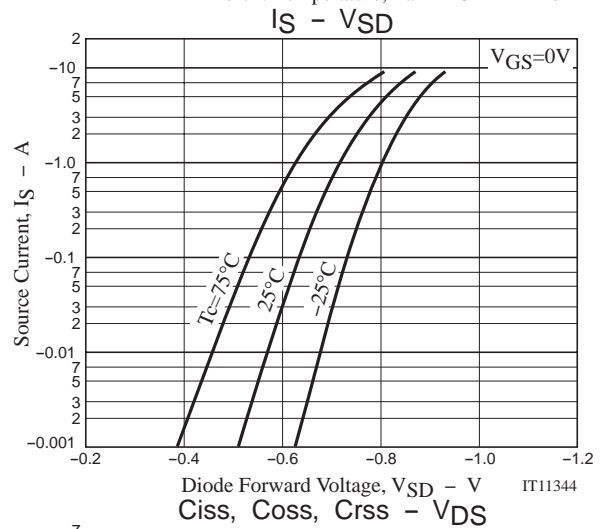
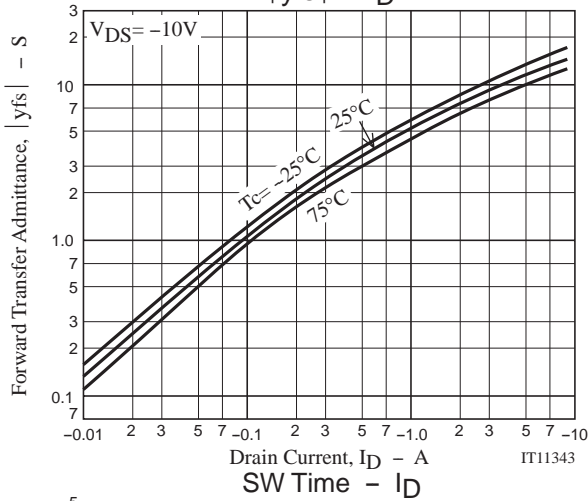
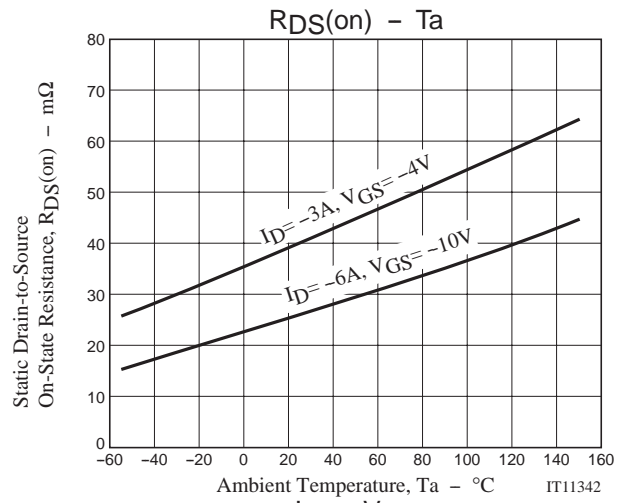
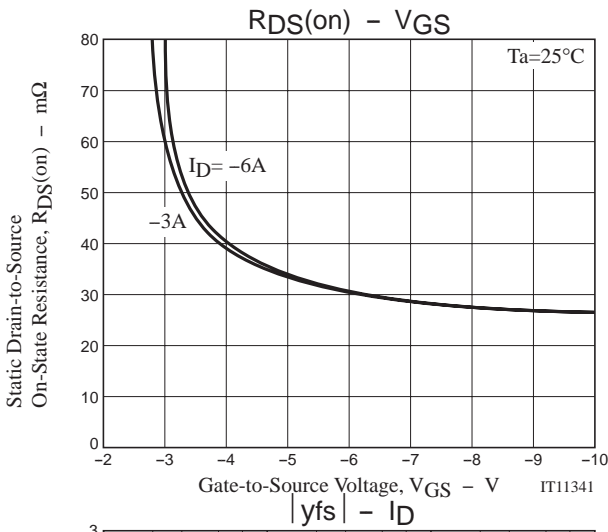
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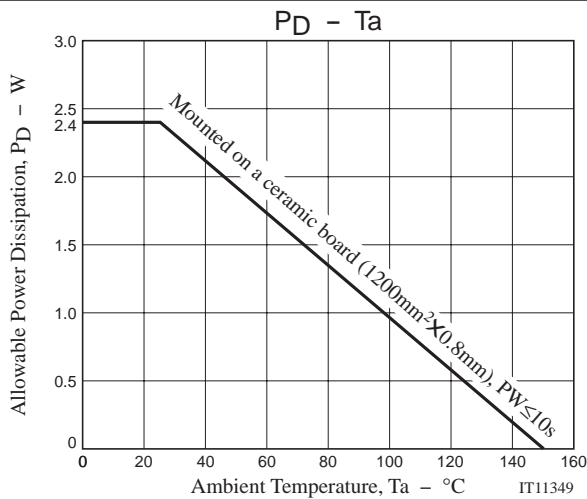
## Switching Time Test Circuit



# FSS173



## FSS173



Note on usage : Since the FSS173 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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