

# SANYO Semiconductors DATA SHEET

N-Channel Silicon MOSFET

# **FW812** — General-Purpose Switching Device Applications

#### **Features**

- · Low ON-resistance
- · 4V drive
- · Composite type with 2 MOSFETs contained in a single package, facilitating high-density mounting

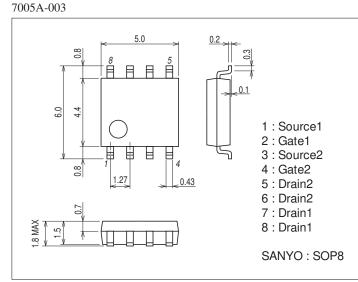
## **Specifications**

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		35	V
Gate-to-Source Voltage	VGSS		±20	V
Drain Current (DC)	ID		10	Α
Drain Current (PW=10s)	ID	Duty cycle≤1%	11.5	Α
Drain Current (PW≤10μs)	IDP	Duty cycle≤1%	52	Α
Allowable Power Dissipation	PD	When mounted on ceramic substrate (2000mm²x0.8mm) 1unit, PW≤10s	2.3	W
Total Dissipation	PT	When mounted on ceramic substrate (2000mm²×0.8mm), PW≤10s	2.5	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

#### **Package Dimensions**

unit: mm (typ)

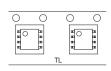


### **Product & Package Information**

• Package : SOP8

JEITA, JEDEC : SC-87, SOT96
 Minimum Packing Quantity : 1,000 pcs./reel

# Packing Type: TL

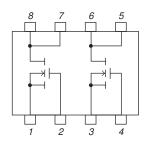


# W812

LOT No.

Marking

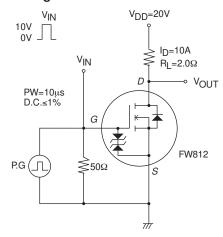
### **Electrical Connection**

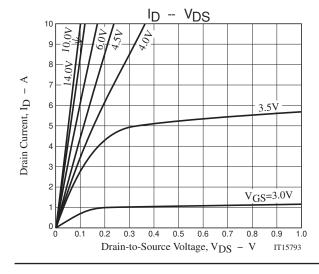


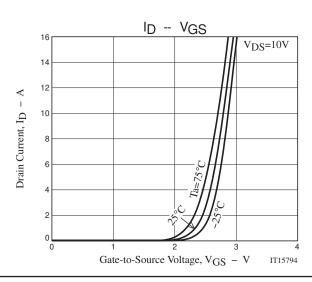
#### **Electrical Characteristics** at Ta=25°C

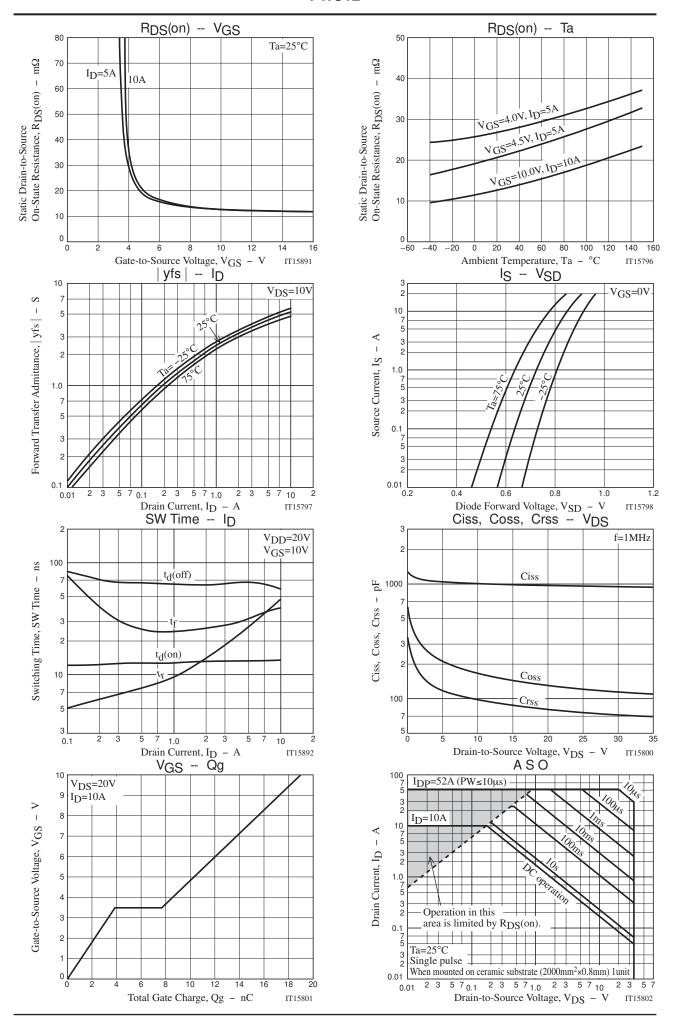
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Uniit
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0V	35			V
Zero-Gate Voltage Drain Current	IDSS	V <sub>DS</sub> =35V, V <sub>GS</sub> =0V			1	μΑ
Gate-to-Source Leakage Current	IGSS	V <sub>GS</sub> =±16V, V <sub>DS</sub> =0V			±10	μΑ
Cutoff Voltage	V <sub>GS</sub> (off)	V <sub>DS</sub> =10V, I <sub>D</sub> =1mA	1.2		2.6	V
Forward Transfer Admittance	yfs	V <sub>DS</sub> =10V, I <sub>D</sub> =10A		5.2		S
Static Drain-to-Source On-State Resistance	R <sub>DS</sub> (on)1	I <sub>D</sub> =10A, V <sub>GS</sub> =10V		13	17	mΩ
	R <sub>DS</sub> (on)2	I <sub>D</sub> =5A, V <sub>GS</sub> =4.5V		21	30	mΩ
	R <sub>DS</sub> (on)3	I <sub>D</sub> =5A, V <sub>GS</sub> =4V		27	38	mΩ
Input Capacitance	Ciss	V <sub>DS</sub> =20V, f=1MHz		960		pF
Output Capacitance	Coss	V <sub>DS</sub> =20V, f=1MHz		130		pF
Reverse Transfer Capacitance	Crss	V <sub>DS</sub> =20V, f=1MHz		80		pF
Turn-ON Delay Time	t <sub>d</sub> (on)	See specified Test Circuit.		13.5		ns
Rise Time	tr	See specified Test Circuit.		46.6		ns
Turn-OFF Delay Time	t <sub>d</sub> (off)	See specified Test Circuit.		57.0		ns
Fall Time	tf	See specified Test Circuit.		38.9		ns
Total Gate Charge	Qg	V <sub>DS</sub> =20V, V <sub>GS</sub> =10V, I <sub>D</sub> =10A		19		nC
Gate-to-Source Charge	Qgs	V <sub>DS</sub> =20V, V <sub>GS</sub> =10V, I <sub>D</sub> =10A		3.9		nC
Gate-to-Drain "Miller" Charge	Qgd	V <sub>DS</sub> =20V, V <sub>GS</sub> =10V, I <sub>D</sub> =10A		3.8		nC
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =10A, V <sub>GS</sub> =0V		0.85	1.2	V

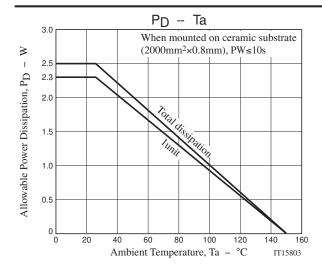
# **Switching Time Test Circuit**

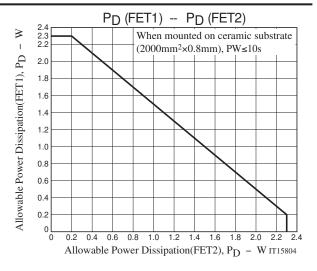












Note on usage: Since the FW812 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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