



# **Load S/W Applications**

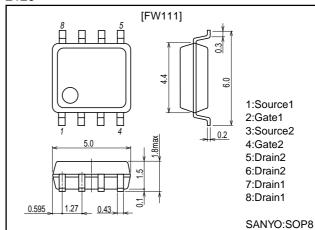
#### **Features**

- · 2.5V drive.
- · Low ON resistance.

# **Package Dimensions**

unit:mm

2129



## **Specifications**

**Absolute Maximum Ratings** at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		-20	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±10	V
Drain Current (DC)	I <sub>D</sub>		-5	Α
Drain Current (pulse)	I <sub>DP</sub>	PW≤10µs, duty cycle≤1%	-32	Α
Allowable Power Dissipation	PD	Mounted on a ceramic board (1000mm <sup>2</sup> ×0.8mm) 1unit	1.7	W
Total Dissipation	PT	Mounted on a ceramic board (1000mm²×0.8mm)	2.0	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Unit
Drain-to-Source Breakdown Voltage	V(BR)DSS	I <sub>D</sub> =-1mA, V <sub>GS</sub> =0	-20			V
Zero-Gate Voltage Drain Current	IDSS	V <sub>DS</sub> =-20V, V <sub>GS</sub> =0			-100	μA
Gate-to-Source Leakage Current	IGSS	$V_{GS}=\pm 8V$ , $V_{DS}=0$			±10	μA
Cutoff Voltage	VGS(off)	V <sub>DS</sub> =-10V, I <sub>D</sub> =-1mA	-0.4		-1.4	V
Forward Transfer Admittance	yfs	V <sub>DS</sub> =-10V, I <sub>D</sub> =-5A	8	12		S
Static Drain-to-Source On-State Resistance	R <sub>DS(on)</sub> 1	I <sub>D</sub> =-5A, V <sub>GS</sub> =-4V		44	58	mΩ
	R <sub>DS(on)</sub> 2	I <sub>D</sub> =-2A, V <sub>GS</sub> =-2.5V		65	98	mΩ
Input Capacitance	Ciss	V <sub>DS</sub> =-10V, f=1MHz		980		pF
Output Capacitance	Coss	V <sub>DS</sub> =-10V, f=1MHz		500		pF
Reverse Transfer Capacitance	Crss	V <sub>DS</sub> =–10V, f=1MHz		210		pF

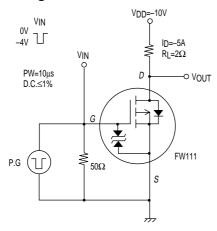
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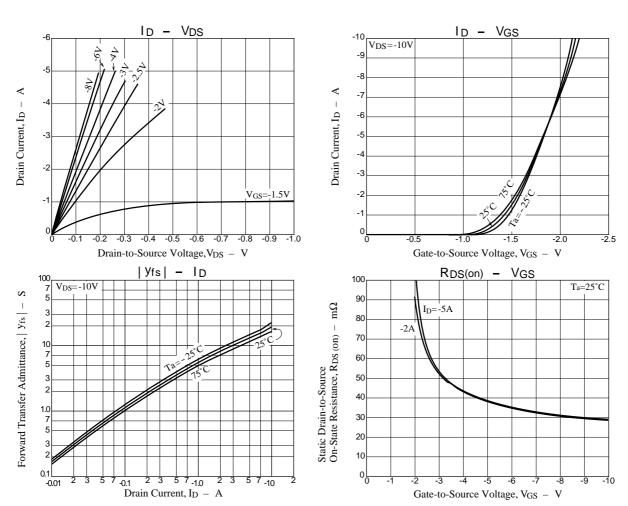
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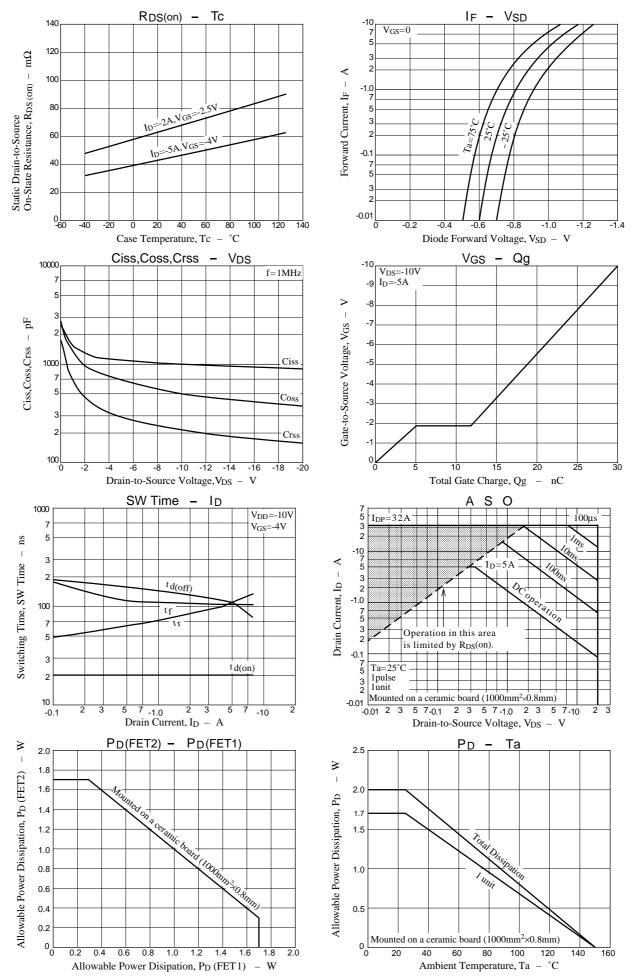
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Offic
Turn-ON Delay Time	t <sub>d(on)</sub>	See Specified Test Circuit		20		ns
Rise Time	t <sub>r</sub>	See Specified Test Circuit		115		ns
Turn-OFF Delay Time	t <sub>d(off)</sub>	See Specified Test Circuit		110		ns
Fall Time	t <sub>f</sub>	See Specified Test Circuit		105		ns
Total Gate Charge	Qg	V <sub>DS</sub> =-10V, V <sub>GS</sub> =-10V, I <sub>D</sub> =-5A		30		nC
Gate-to-Source Charge	Qgs			5		nC
Gate-to-Drain "Miller" Charge	Qgd			7		nC
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =-5A, V <sub>GS</sub> =0		-1.0	-1.5	V

### **Switching Time Test Circuit**







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