

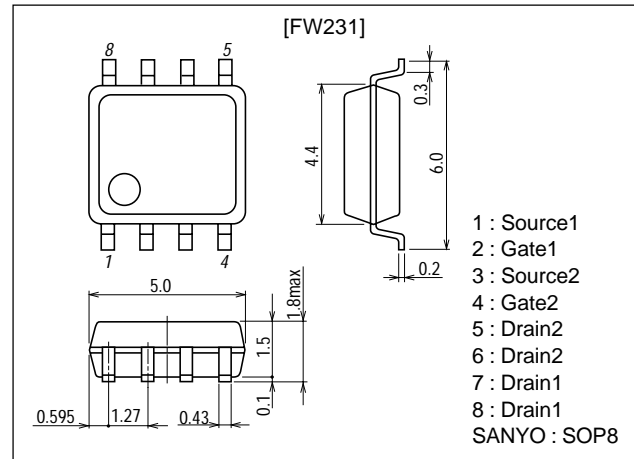
**FW231****Load Switching Applications****Features**

- Low ON resistance.
- 2.5V drive.

Package Dimensions

unit:mm

2129

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

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		20	V
Gate-to-Source Voltage	V_{GSS}		±10	V
Drain Current (DC)	I_D		9	A
Drain Current (pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	52	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (1000mm ² ×0.8mm) 1unit	1.7	W
Total Dissipation	P_T	Mounted on a ceramic board (1000mm ² ×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	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0$	20			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=20V, V_{GS}=0$			1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=±8V, V_{DS}=0$			±10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	0.4		1.3	V
Forward Transfer Admittance	yfs	$V_{DS}=10V, I_D=9A$	16	24		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=9A, V_{GS}=4V$		15	20	mΩ
	$R_{DS(on)2}$	$I_D=2A, V_{GS}=2.5V$		20	27	mΩ

Marking : W231

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■ SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

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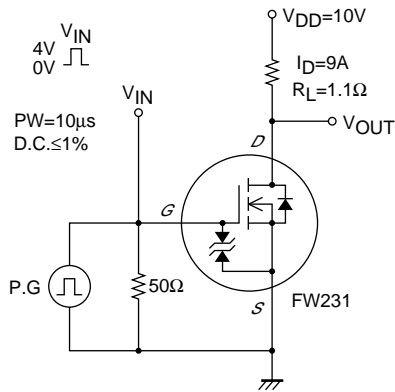
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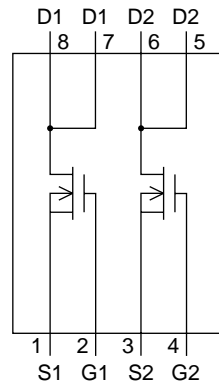
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	$V_{DS}=10V, f=1MHz$		1950		pF
Output Capacitance	Coss	$V_{DS}=10V, f=1MHz$		550		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=10V, f=1MHz$		370		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		24		ns
Rise Time	t_r	See specified Test Circuit		440		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		200		ns
Fall Time	t_f	See specified Test Circuit		300		ns
Total Gate Charge	Qg	$V_{DS}=10V, V_{GS}=10V, I_D=9A$		60		nC
Gate-to-Source Charge	Qgs	$V_{DS}=10V, V_{GS}=10V, I_D=9A$		2.8		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=10V, V_{GS}=10V, I_D=9A$		10		nC
Diode Forward Voltage	VSD	$I_S=9A, V_{GS}=0$	0.82	1.2		V

Switching Time Test Circuit

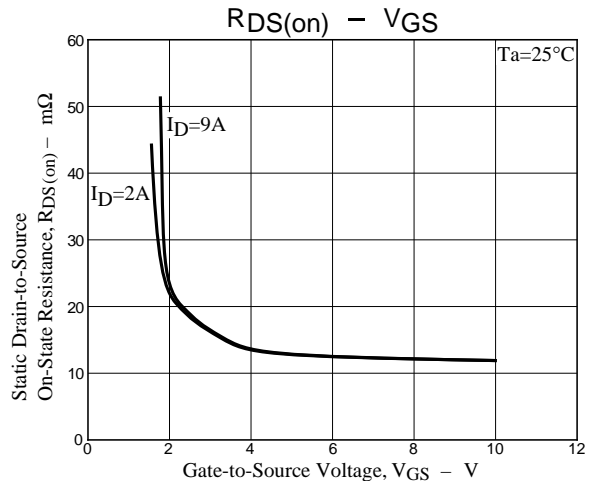
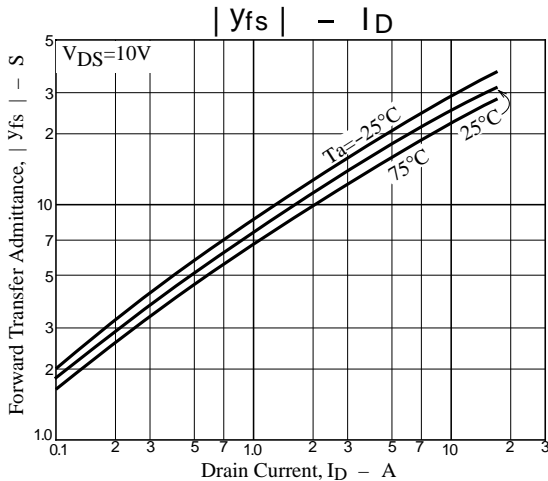
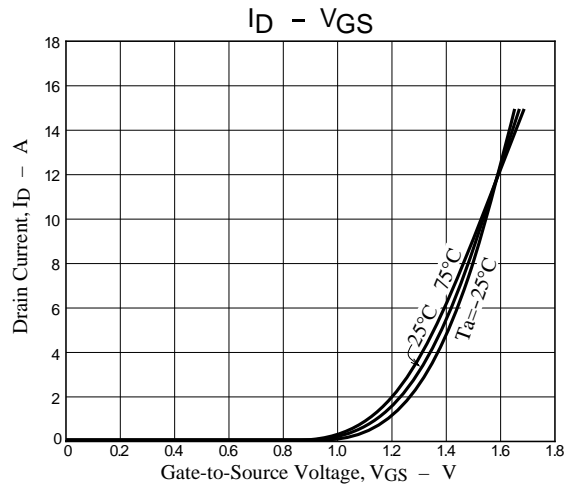
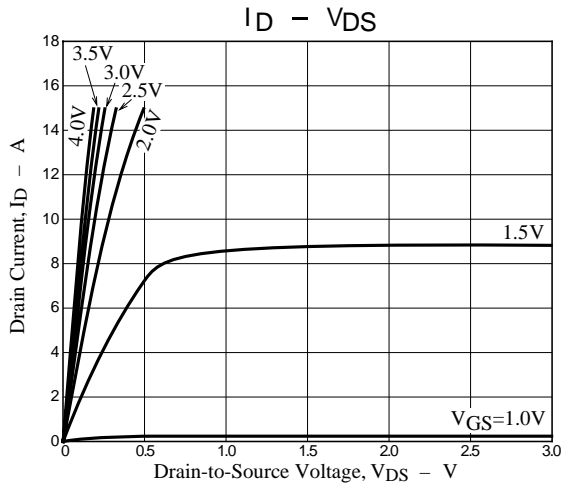


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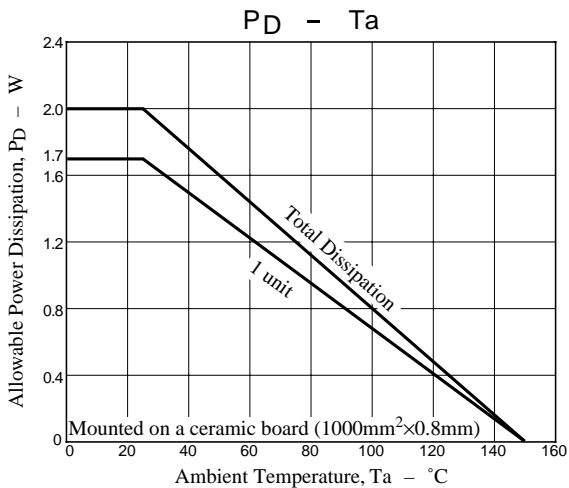
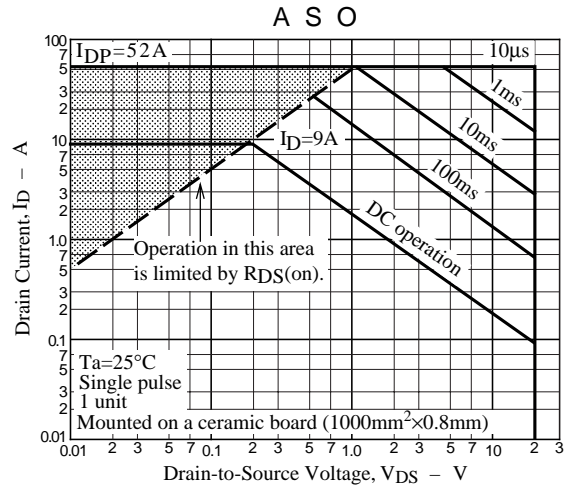
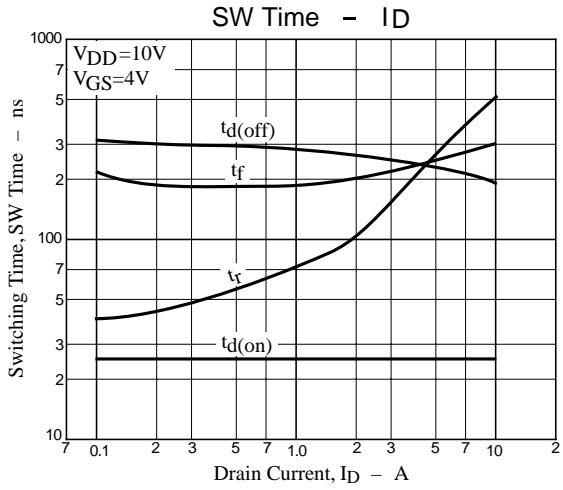
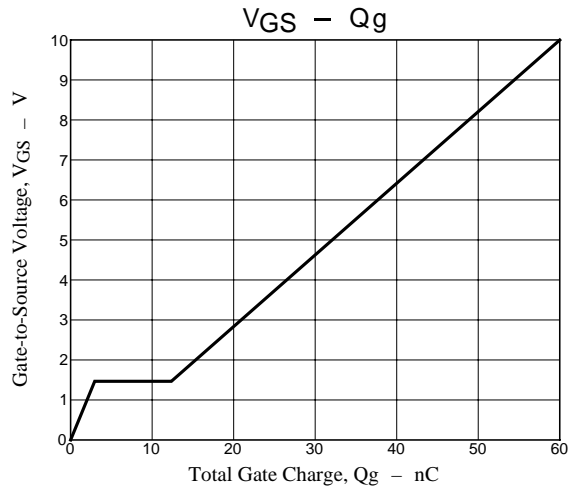
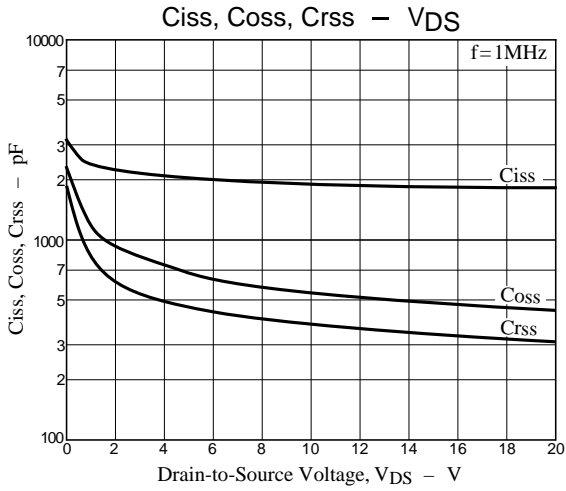
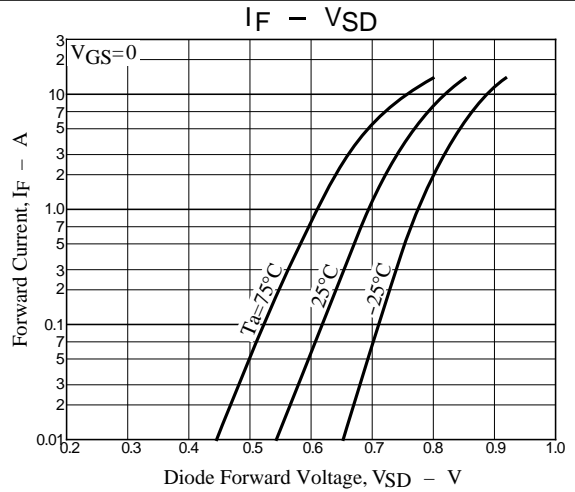
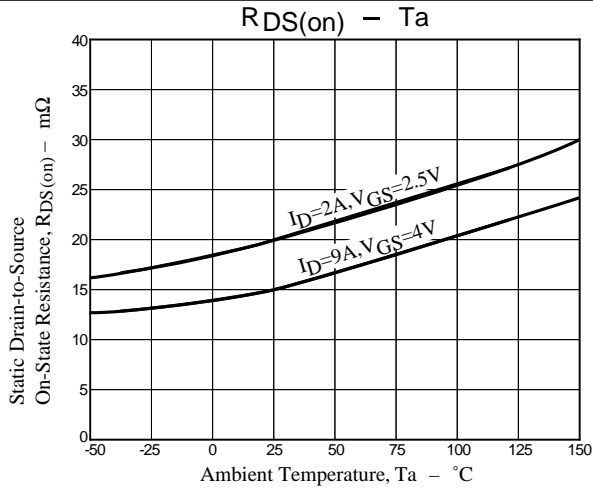
Electrical Connection



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