

**FW236**

Load Switching Applications

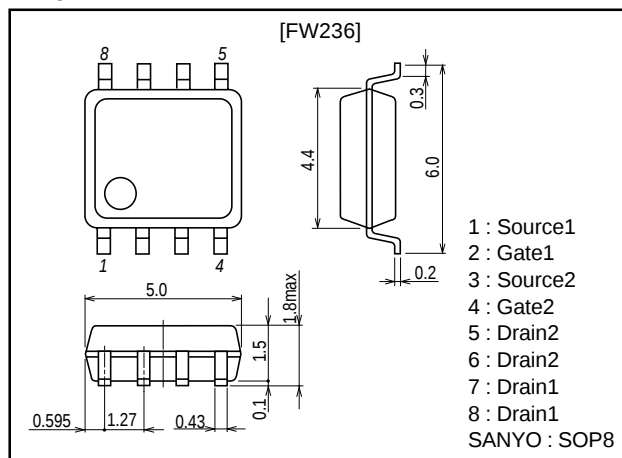
Features

- 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		6	A
Drain Current (pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	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	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	$V_{(BR)DSS}$	$I_D=1mA$, $V_{GS}=0$	20			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=20V$, $V_{GS}=0$			1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 8V$, $V_{DS}=0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V$, $I_D=1mA$	0.4		1.3	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V$, $I_D=6A$	9	13		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=6A$, $V_{GS}=4V$		32	42	m Ω
	$R_{DS(on)2}$	$I_D=2A$, $V_{GS}=2.5V$		42	59	m Ω

Marking : W236

Continued on next page.

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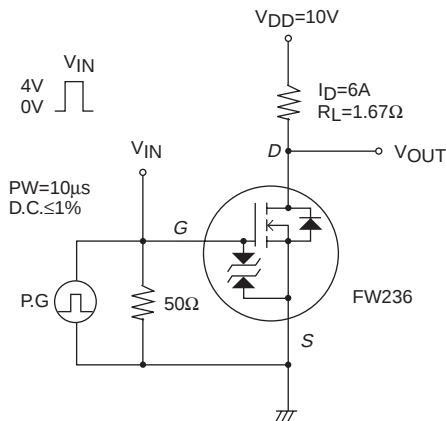
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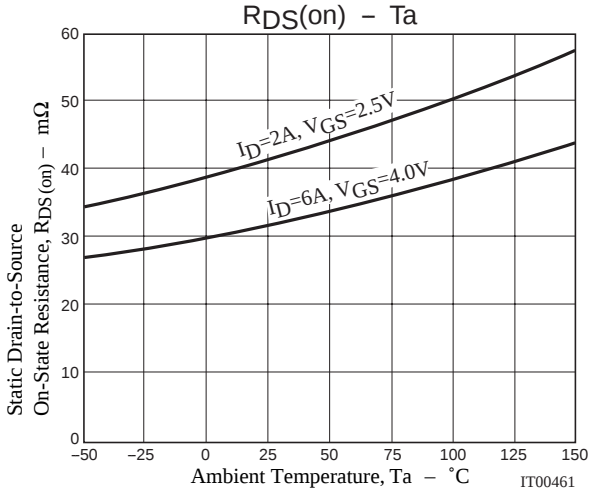
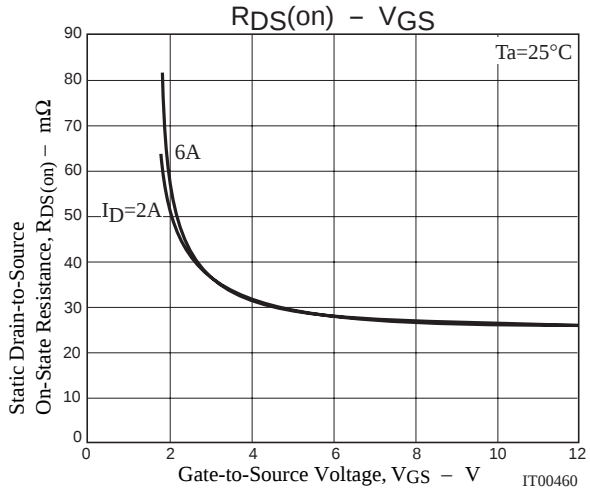
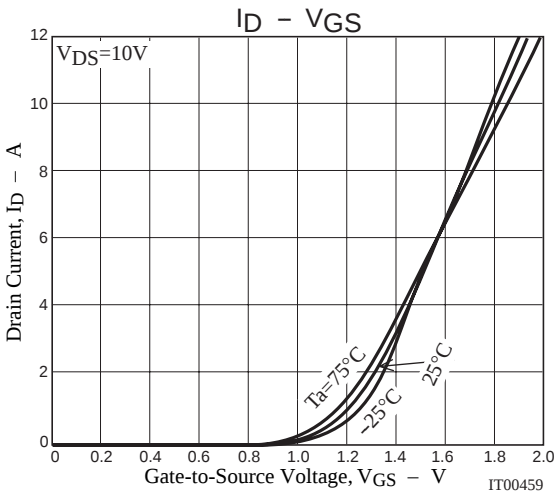
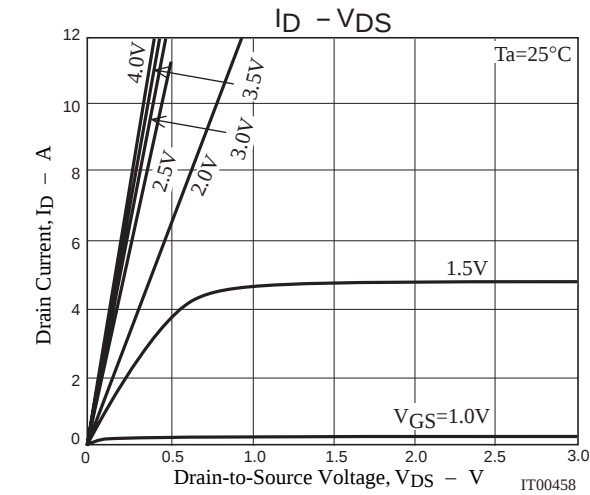
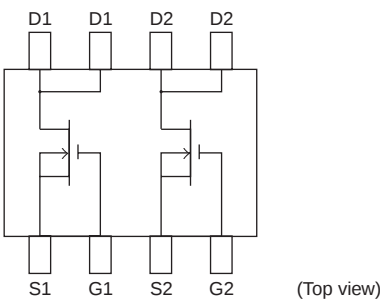
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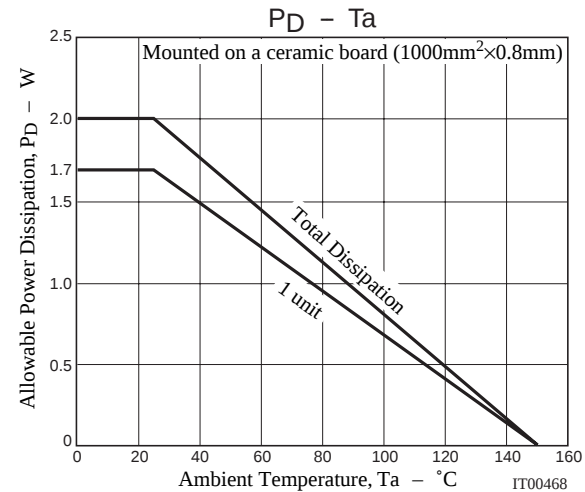
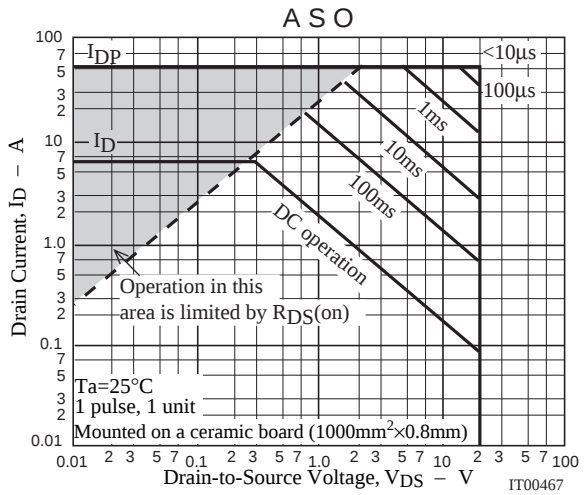
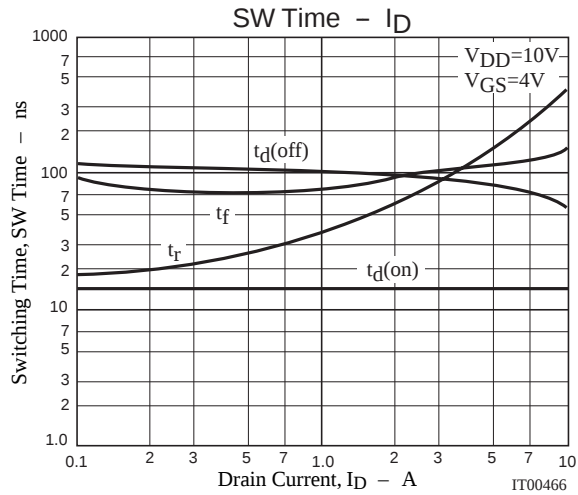
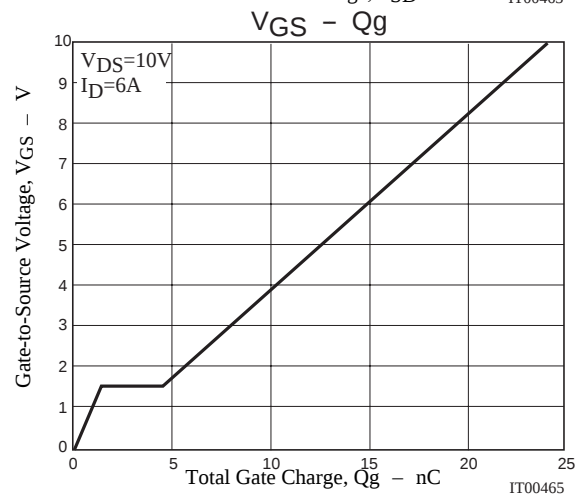
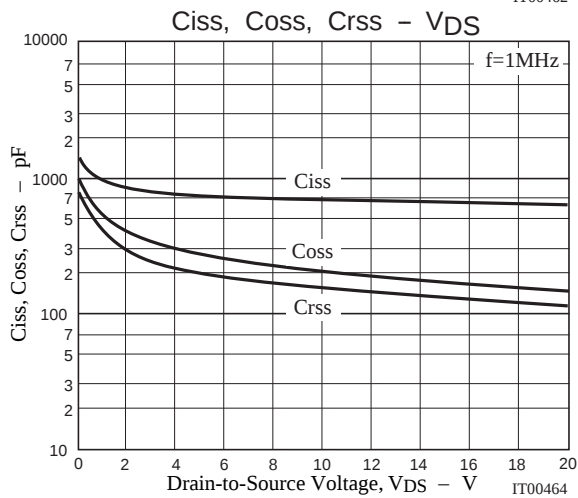
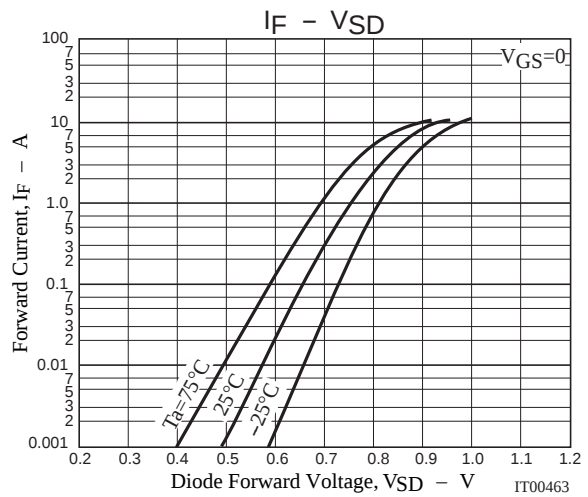
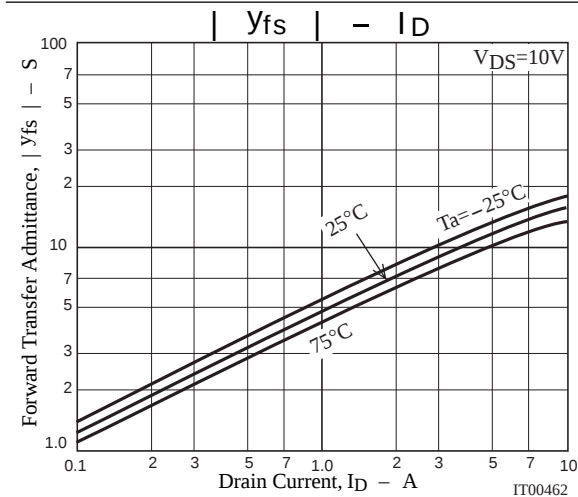
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V _{DS} =10V, f=1MHz		700		pF
Output Capacitance	Coss	V _{DS} =10V, f=1MHz		200		pF
Reverse Transfer Capacitance	Crss	V _{DS} =10V, f=1MHz		150		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit		14		ns
Rise Time	t _r	See specified Test Circuit		200		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit		75		ns
Fall Time	t _f	See specified Test Circuit		120		ns
Total Gate Charge	Qg	V _{DS} =10V, V _{GS} =10V, I _D =6A		24		nC
Gate-to-Source Charge	Qgs	V _{DS} =10V, V _{GS} =10V, I _D =6A		1.5		nC
Gate-to-Drain "Miller" Charge	Qgd	V _{DS} =10V, V _{GS} =10V, I _D =6A		3.2		nC
Diode Forward Voltage	V _{SD}	I _S =6A, V _{GS} =0		0.86	1.2	V

Switching Time Test Circuit



Electrical Connection





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