



FW168

P-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- 4V drive.
- Low ON-resistance.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-30	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		-4	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-16	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (2000mm²×0.8mm) 1unit	1.4	W
Total Dissipation	P _T	Mounted on a ceramic board (2000mm²×0.8mm)	1.7	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} =0V	-30			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30V, V _{GS} =0V			-1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±16V, V _{DS} =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =-10V, I _D =-1mA	-1.2		-2.6	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-10V, I _D =-4A	3.7	6.2		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-4A, V _{GS} =-10V		54	72	mΩ
	R _{DS(on)2}	I _D =-2A, V _{GS} =-4.5V		88	125	mΩ
	R _{DS(on)3}	I _D =-2A, V _{GS} =-4V		100	145	mΩ
Input Capacitance	C _{iss}	V _{DS} =-10V, f=1MHz		590		pF
Output Capacitance	C _{oss}	V _{DS} =-10V, f=1MHz		120		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =-10V, f=1MHz		115		pF

Marking : W168

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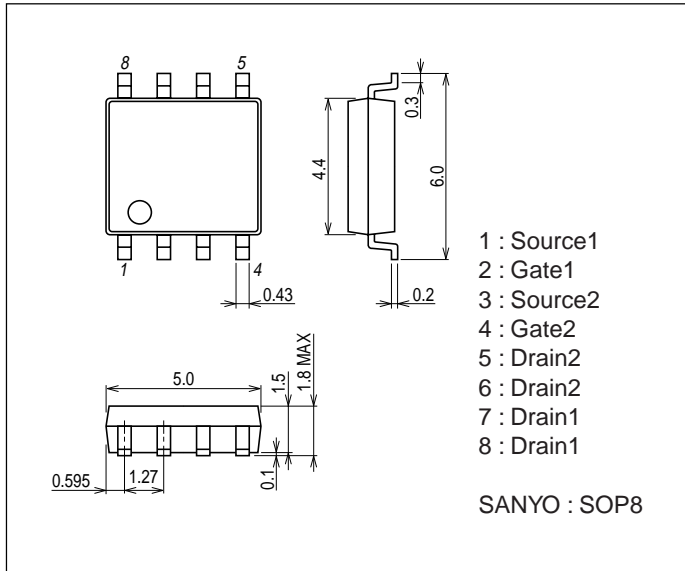
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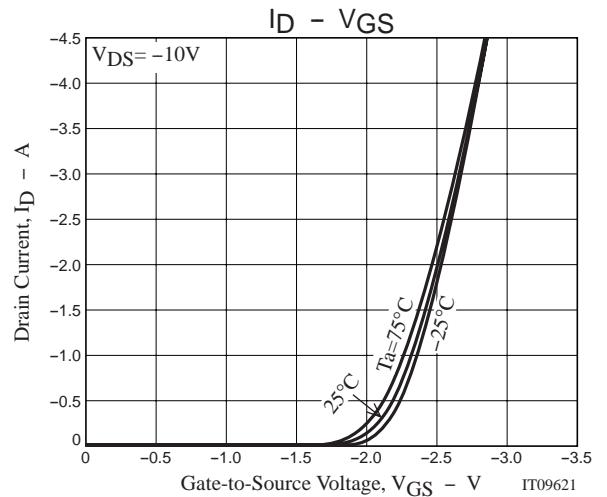
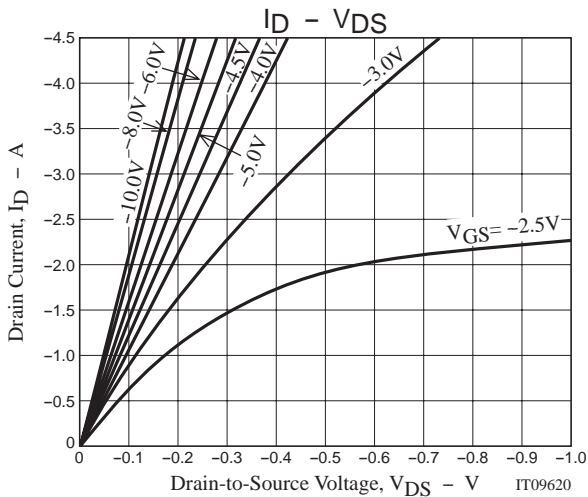
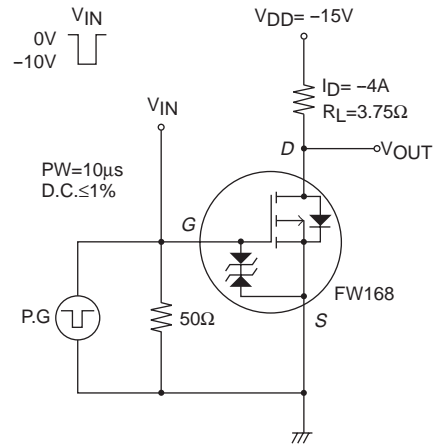
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		8		ns
Rise Time	t_r	See specified Test Circuit.		70		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		57		ns
Fall Time	t_f	See specified Test Circuit.		59		ns
Total Gate Charge	Q_g	$V_{DS}=-10V, V_{GS}=-10V, I_D=-4A$		12.8		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS}=-10V, V_{GS}=-10V, I_D=-4A$		1.5		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS}=-10V, V_{GS}=-10V, I_D=-4A$		4.3		nC
Diode Forward Voltage	V_{SD}	$I_S=-4A, V_{GS}=0V$		-0.87	-1.5	V

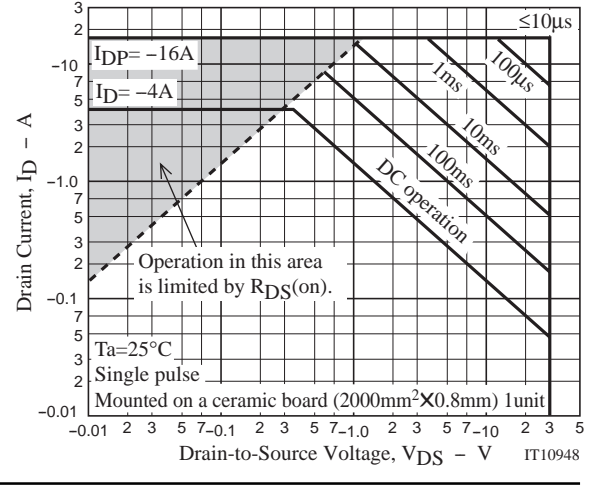
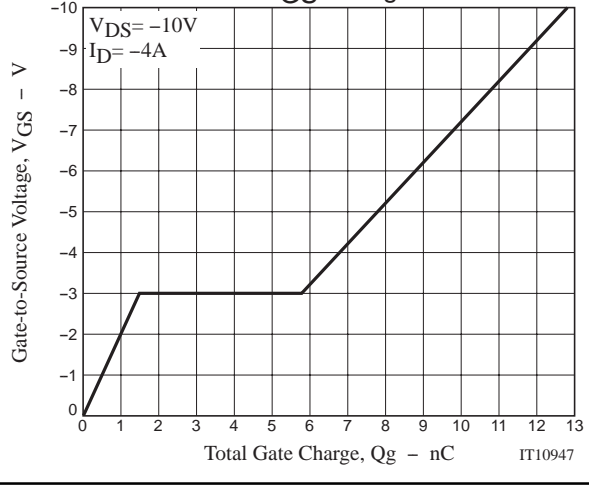
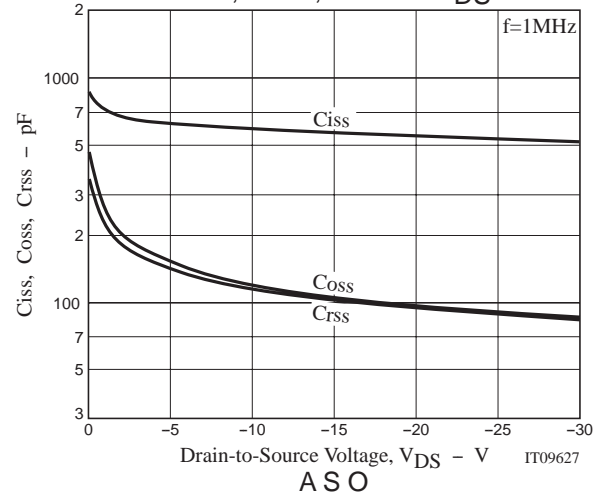
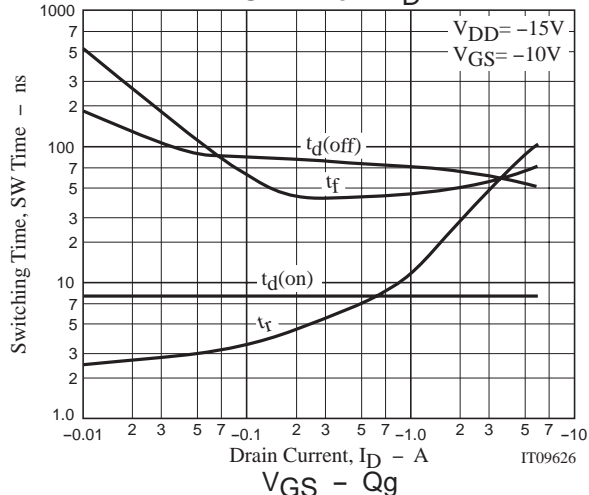
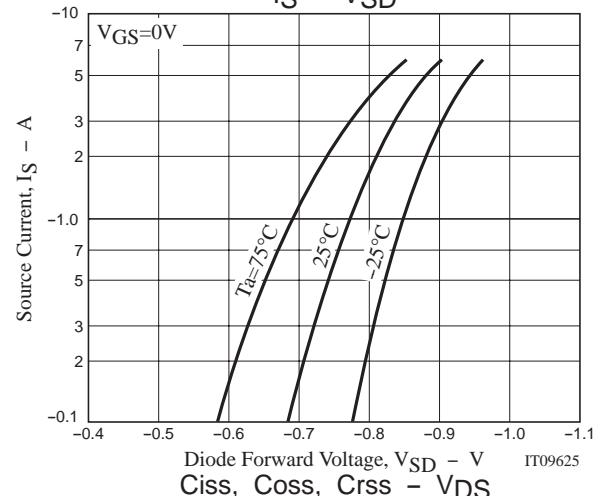
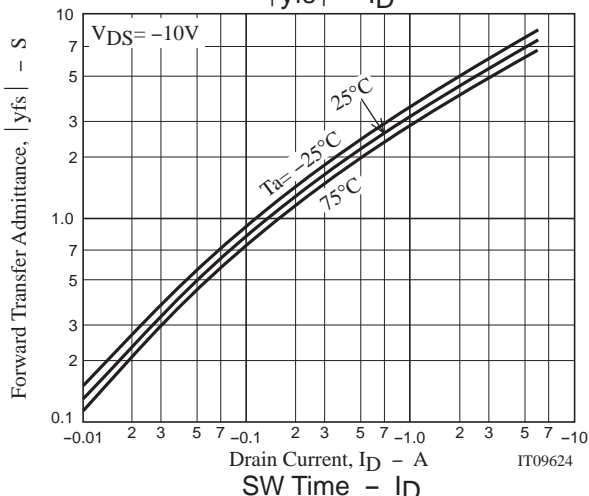
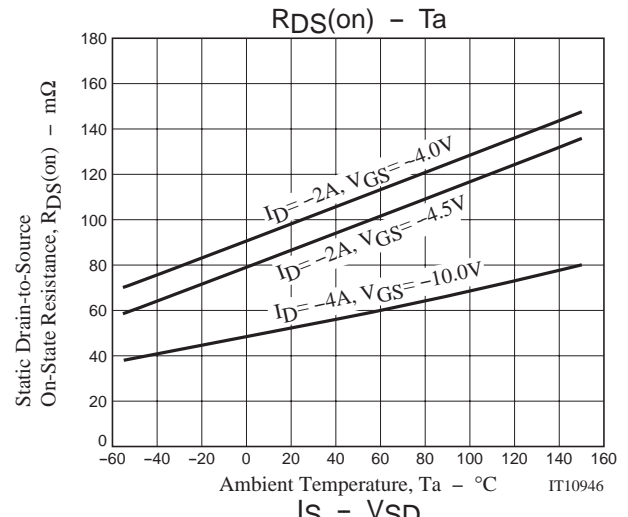
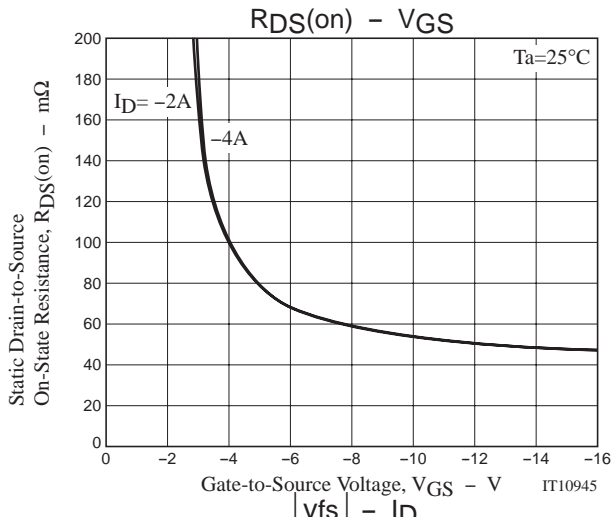
Package Dimensions

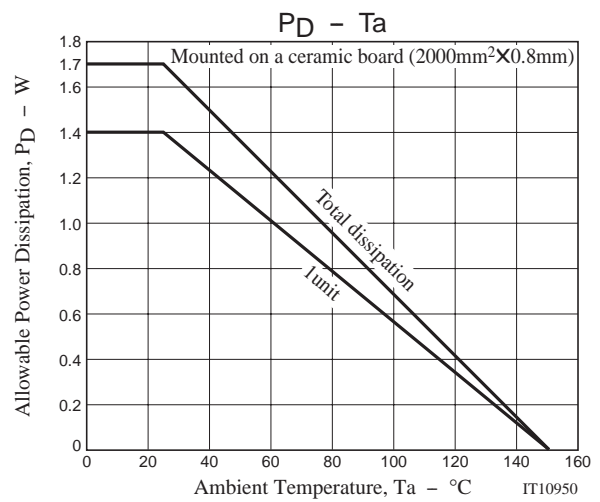
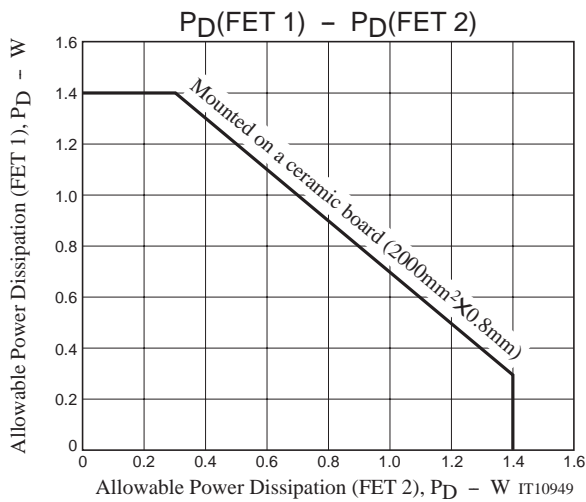
unit : mm
7005-003



Switching Time Test Circuit







Note on usage : Since the FW168 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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