



FW233

N-Channel Silicon MOSFET

Load Switching Applications

Features

- Low ON resistance.
- 4V drive.

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 _{GS}		-20	V
Drain Current (DC)	I _D		8	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	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	30			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V, V _{GS} =0			1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =-16V, V _{DS} =0			-10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =10V, I _D =1mA	1.0		2.4	V
Forward Transfer Admittance	y _{fs}	V _{DS} =10V, I _D =8A	9.8	14		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =8A, V _{GS} =10V		16	21	mΩ
	R _{DS(on)2}	I _D =4A, V _{GS} =4V		24	34	mΩ

Marking : W233

Continued on next page.

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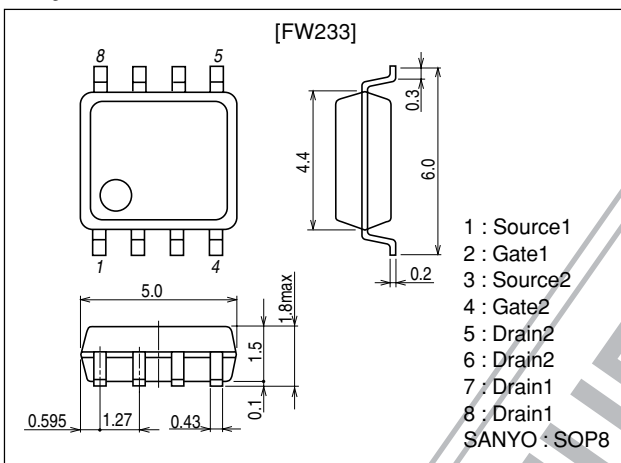
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	$V_{DS}=10V, f=1MHz$		1550		pF
Output Capacitance	Coss	$V_{DS}=10V, f=1MHz$		350		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=10V, f=1MHz$		220		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		12		ns
Rise Time	t_r	See specified Test Circuit		210		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		110		ns
Fall Time	t_f	See specified Test Circuit		95		ns
Total Gate Charge	Qg	$V_{DS}=10V, V_{GS}=10V, I_D=8A$		40		nC
Gate-to-Source Charge	Qgs	$V_{DS}=10V, V_{GS}=10V, I_D=8A$		5		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=10V, V_{GS}=10V, I_D=8A$		7		nC
Diode Forward Voltage	VSD	$I_S=8A, V_{GS}=0$	0.82	1.2		V

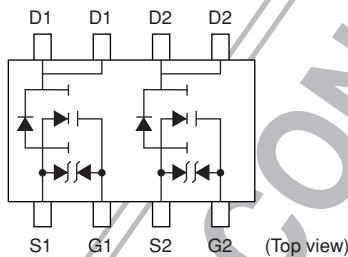
Package Dimensions

unit:mm

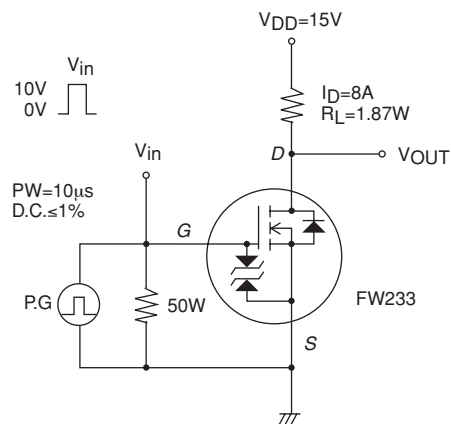
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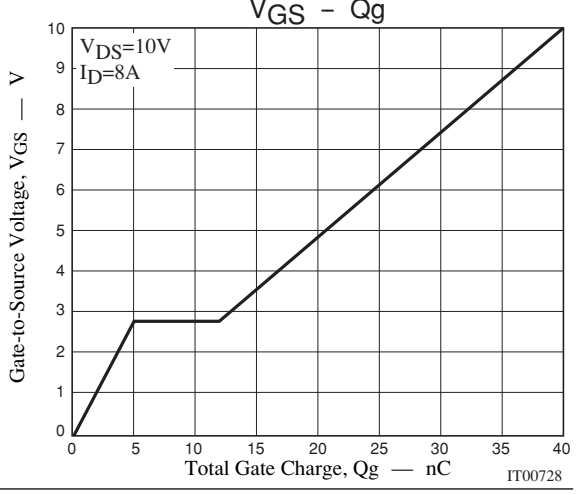
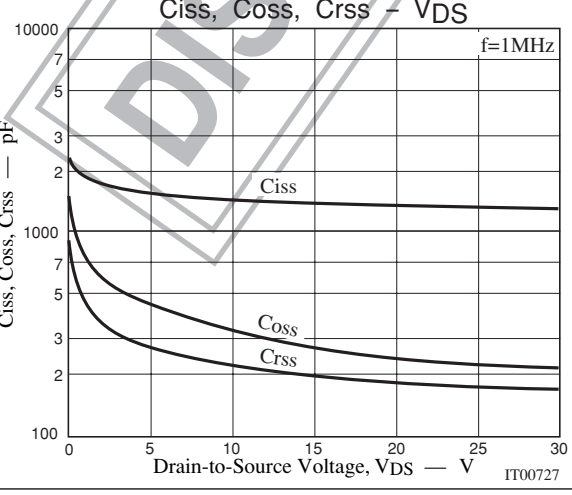
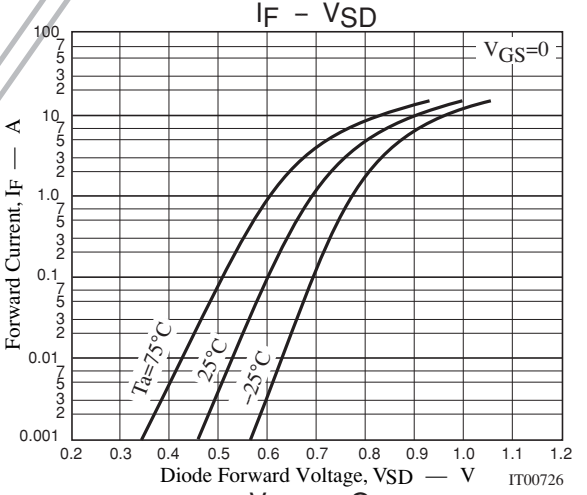
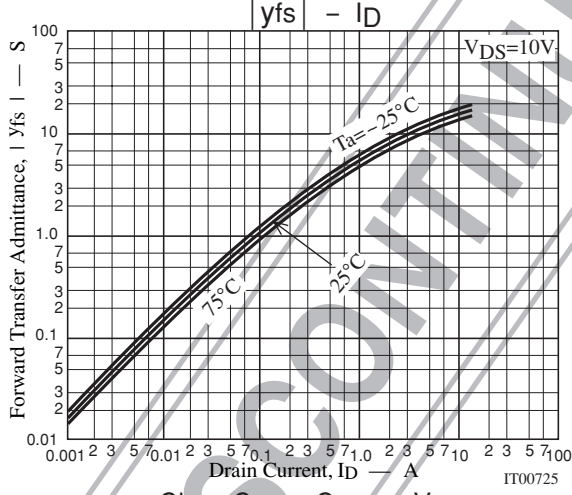
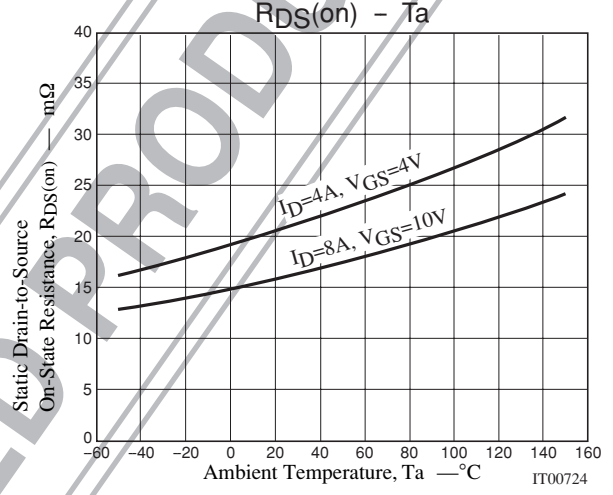
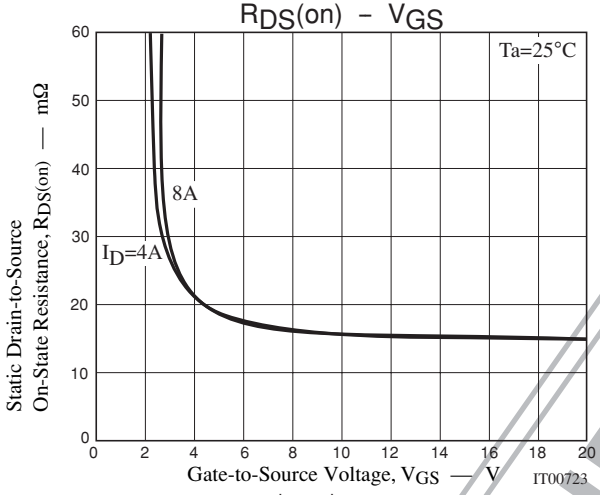
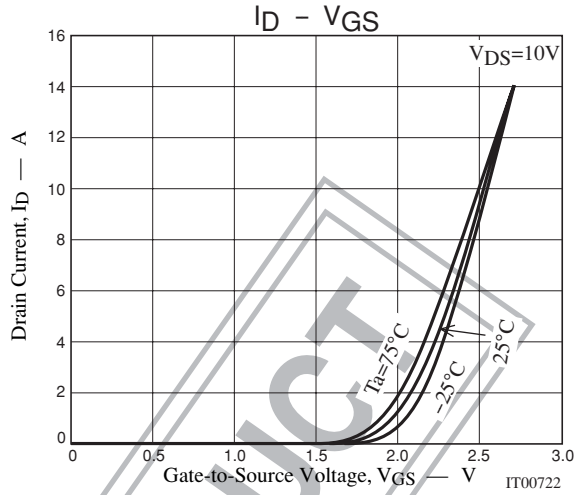
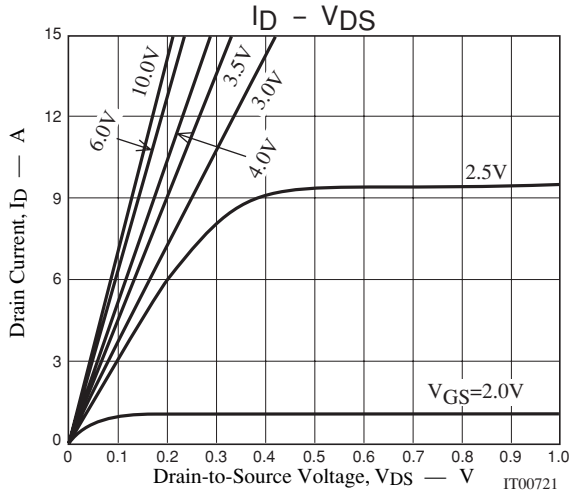


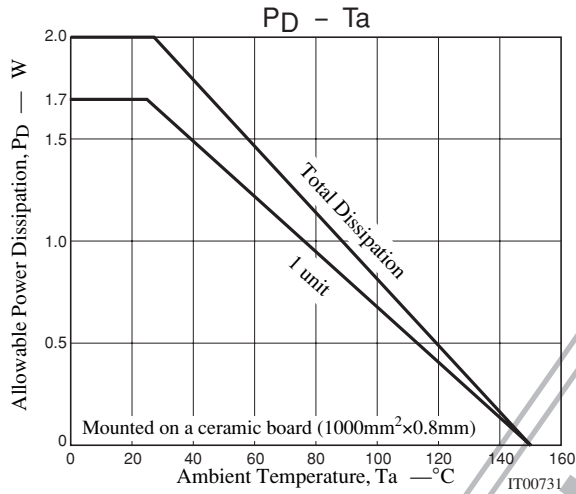
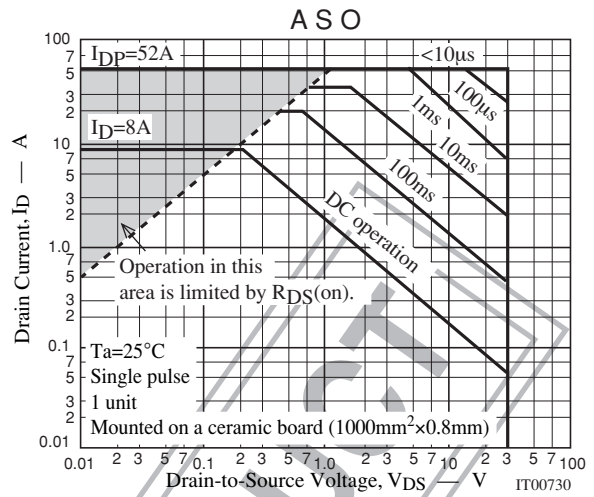
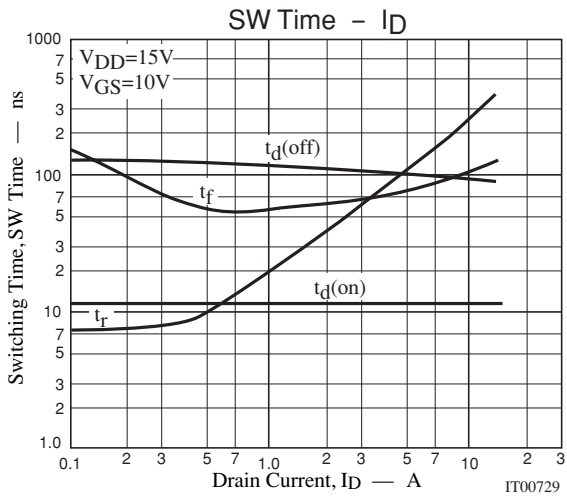
Electrical Connection



Switching Time Test Circuit







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