

Ordering number:ENN6391

N-Channel Silicon MOSFET



FW233

Load Switching Applications

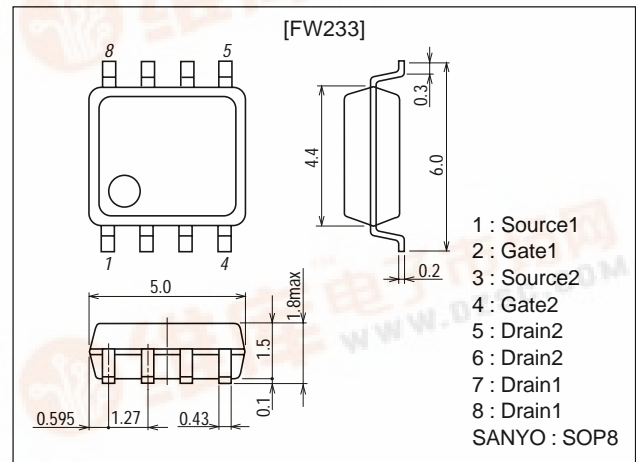
Features

- Low ON resistance.
- 4V 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}		30	V
Gate-to-Source Voltage	V_{GSS}		±20	V
Drain Current (DC)	I_D		8	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	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	$V_{(BR)DSS}$	$I_D=1mA$, $V_{GS}=0$	30			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V$, $V_{GS}=0$			1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 16V$, $V_{DS}=0$			±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

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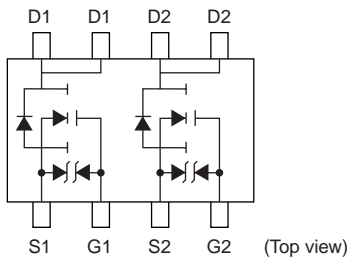


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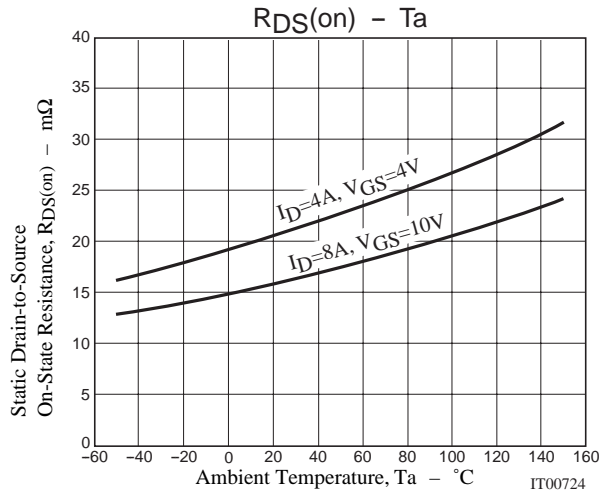
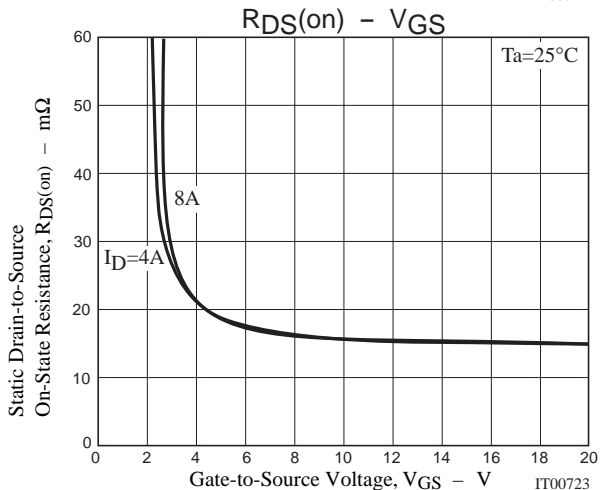
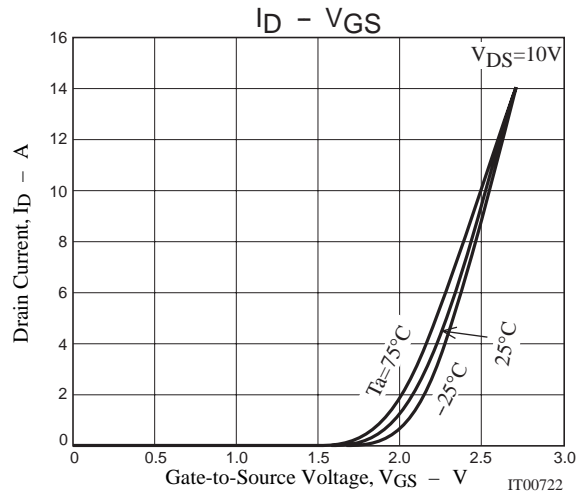
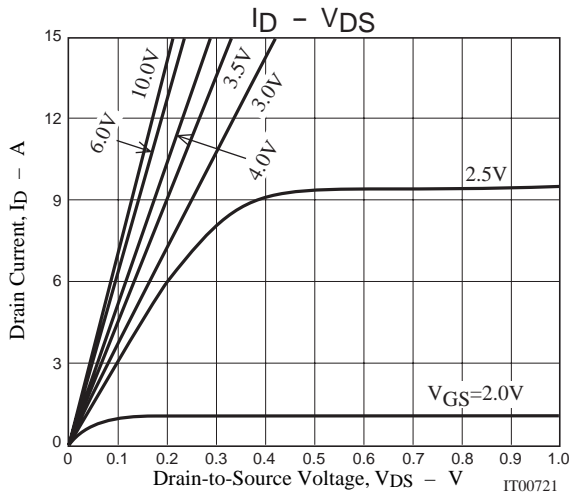
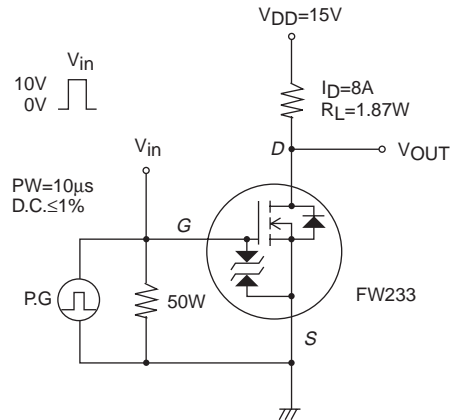
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V _{DS} =10V, f=1MHz		1550		pF
Output Capacitance	Coss	V _{DS} =10V, f=1MHz		350		pF
Reverse Transfer Capacitance	Crss	V _{DS} =10V, f=1MHz		220		pF
Turn-ON Delay Time	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	V _{SD}	I _S =8A, V _{GS} =0		0.82	1.2	V

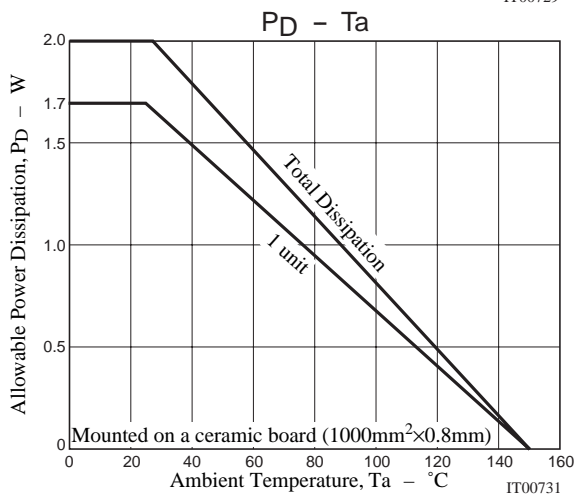
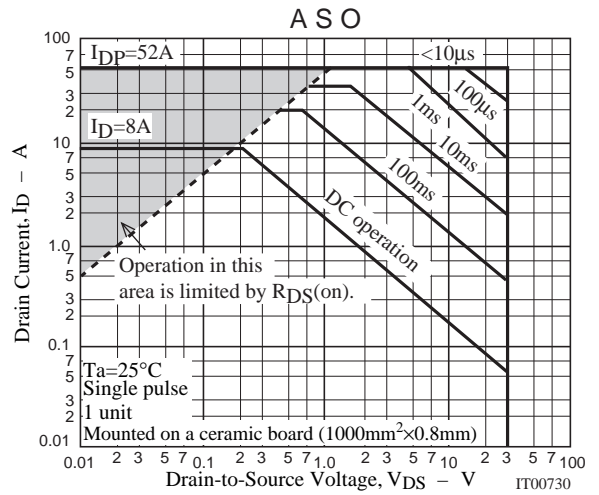
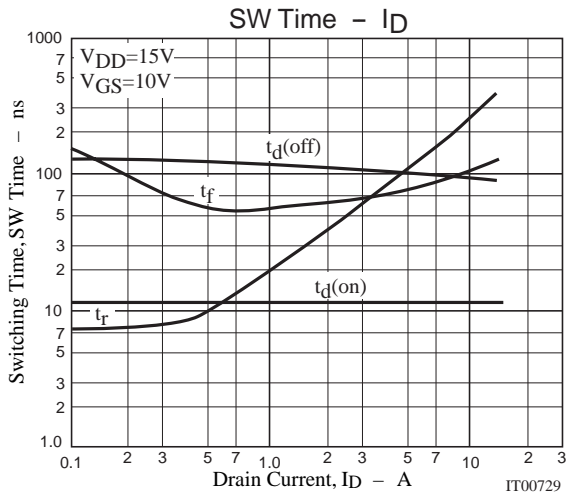
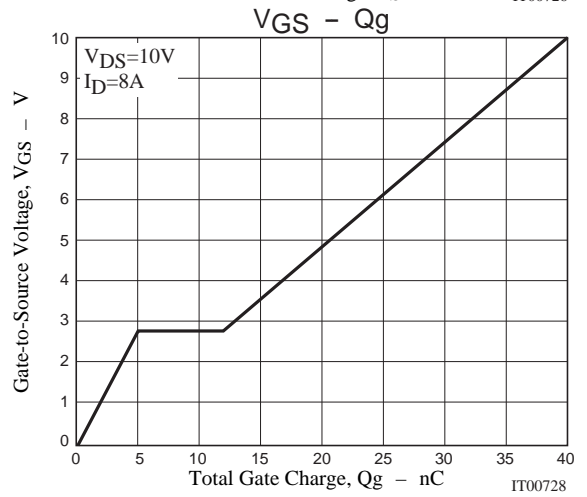
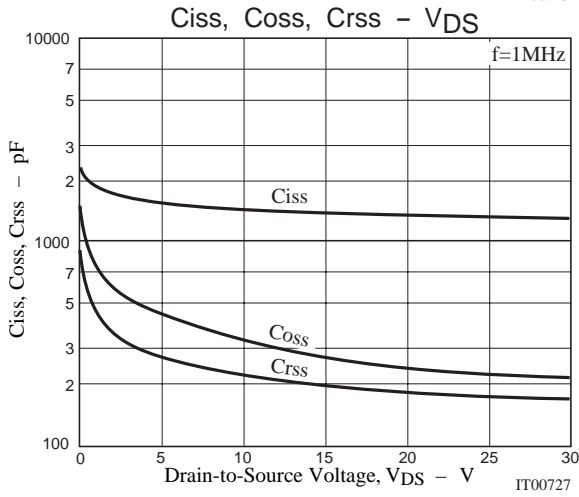
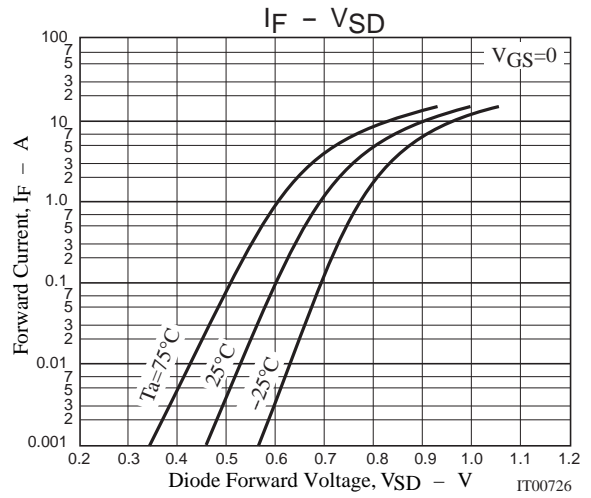
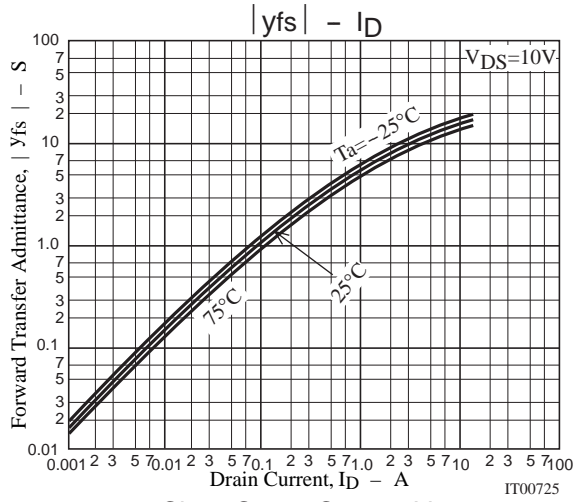
Electrical Connection



Switching Time Test Circuit



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