



# FW232A — N-Channel Silicon MOSFET

## General-Purpose Switching Device Applications

### Features

- 2.5V drive.
- Composite type, facilitating high-density mounting.

### Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		30	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±10	V
Drain Current (DC)	I <sub>D</sub>		8	A
Drain Current (PW≤10s)	I <sub>D</sub>	Duty cycle≤1%	9	A
Drain Current (PW≤10μs)	I <sub>DP</sub>	Duty cycle≤1%	52	A
Allowable Power Dissipation	P <sub>D</sub>	Mounted on a ceramic board (1500mm <sup>2</sup> ×0.8mm) 1unit, PW≤10s	2.3	W
Total Dissipation	P <sub>T</sub>	Mounted on a ceramic board (1500mm <sup>2</sup> ×0.8mm), PW≤10s	2.5	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	I <sub>D</sub> =1mA, V <sub>GS</sub> =0V	30			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =30V, V <sub>GS</sub> =0V			1	μA
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±8V, V <sub>DS</sub> =0V			±10	μA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =1mA	0.5		1.3	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =8A	8.4	14		S
Static Drain-to-Source On-State Resistance	R <sub>DS(on)1</sub>	I <sub>D</sub> =8A, V <sub>GS</sub> =4V		19	26	mΩ
	R <sub>DS(on)2</sub>	I <sub>D</sub> =4A, V <sub>GS</sub> =2.5V		23	34	mΩ
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =10V, f=1MHz		1430		pF
Output Capacitance	C <sub>oss</sub>	V <sub>DS</sub> =10V, f=1MHz		195		pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> =10V, f=1MHz		190		pF
Turn-ON Delay Time	t <sub>d(on)</sub>	See specified Test Circuit.		24		ns
Rise Time	t <sub>r</sub>	See specified Test Circuit.		200		ns
Turn-OFF Delay Time	t <sub>d(off)</sub>	See specified Test Circuit.		100		ns
Fall Time	t <sub>f</sub>	See specified Test Circuit.		130		ns

Marking :W232A

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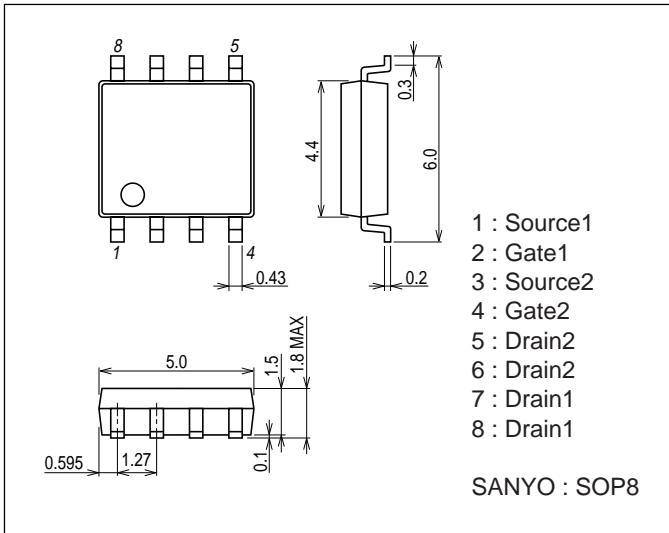
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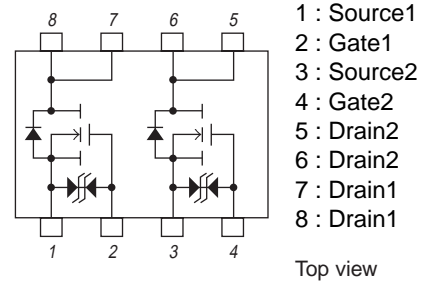
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	V <sub>DS</sub> =10V, V <sub>GS</sub> =4V, I <sub>D</sub> =8A		19		nC
Gate-to-Source Charge	Qgs	V <sub>DS</sub> =10V, V <sub>GS</sub> =4V, I <sub>D</sub> =8A		3.2		nC
Gate-to-Drain "Miller" Charge	Qgd	V <sub>DS</sub> =10V, V <sub>GS</sub> =4V, I <sub>D</sub> =8A		4.5		nC
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =8A, V <sub>GS</sub> =0V		0.85	1.2	V

## Package Dimensions

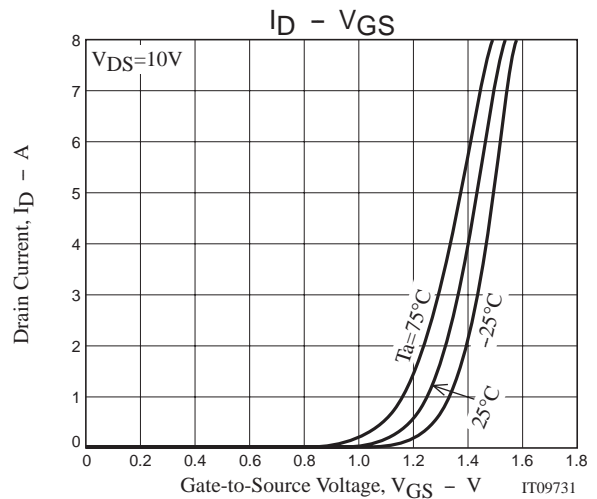
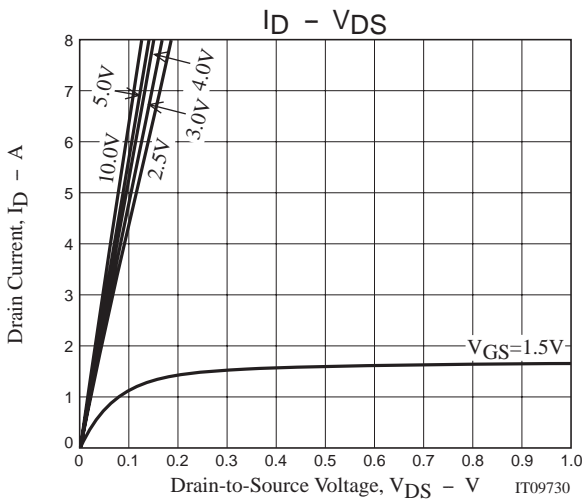
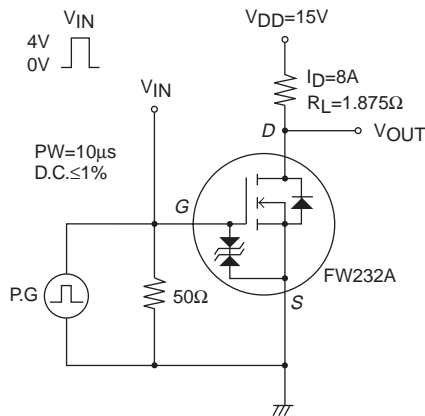
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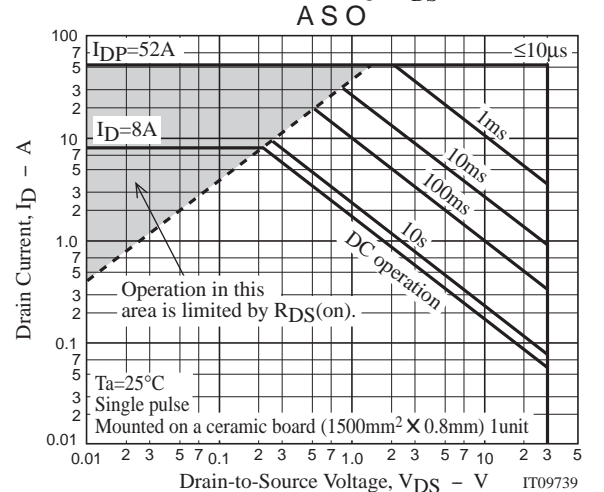
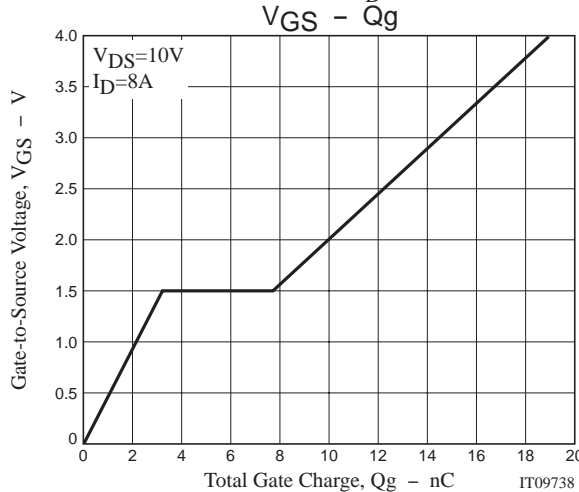
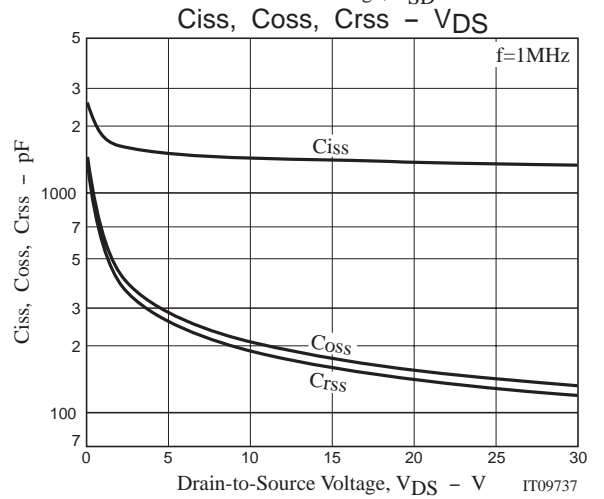
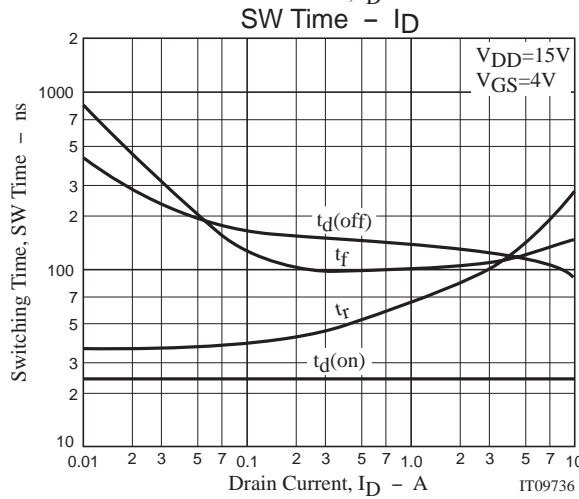
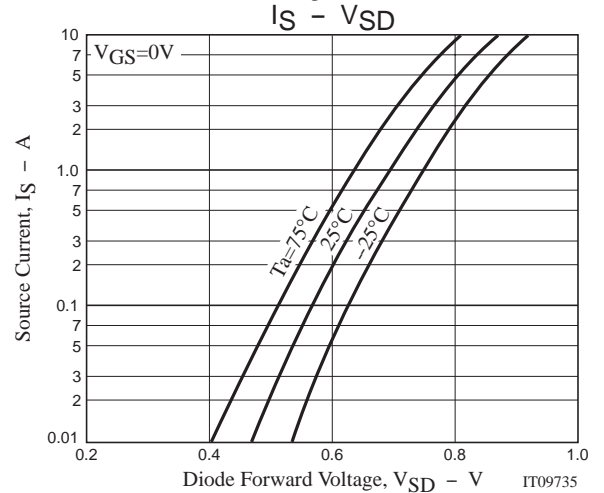
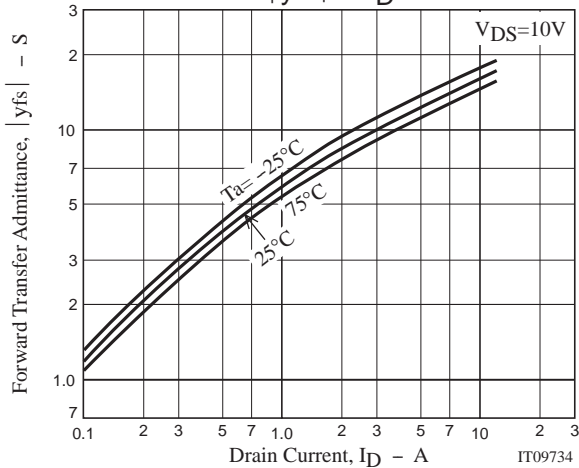
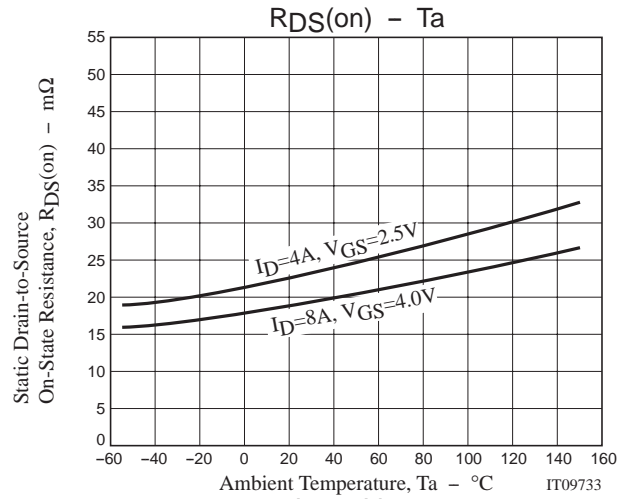
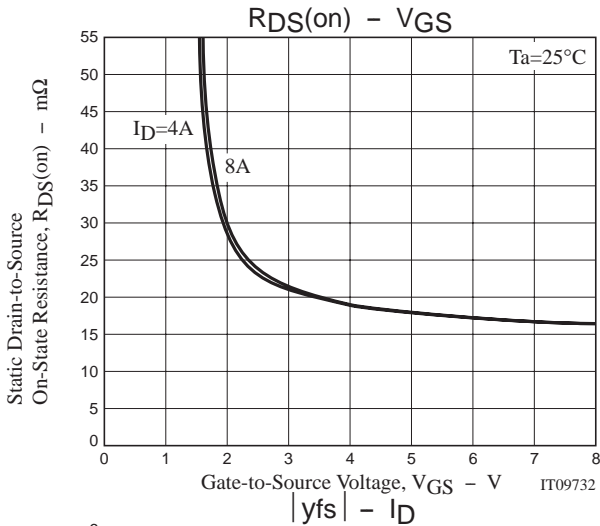


## Electrical Connection

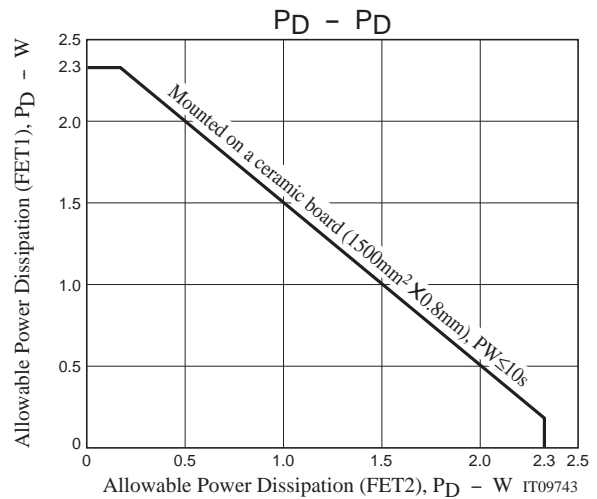
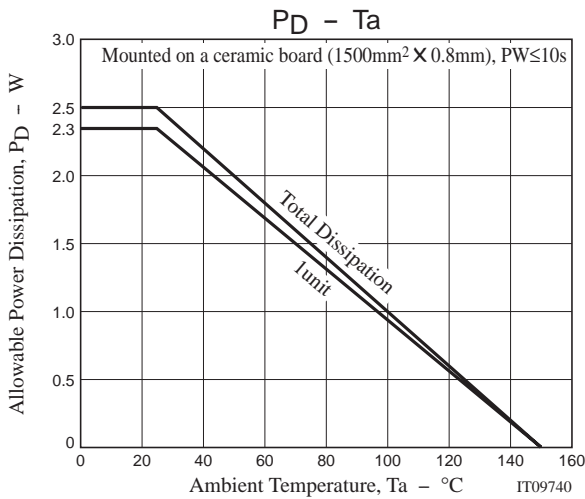


## Switching Time Test Circuit





## FW232A



Note on usage : Since the FW232A is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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