



Ultrahigh-Speed Switching Applications

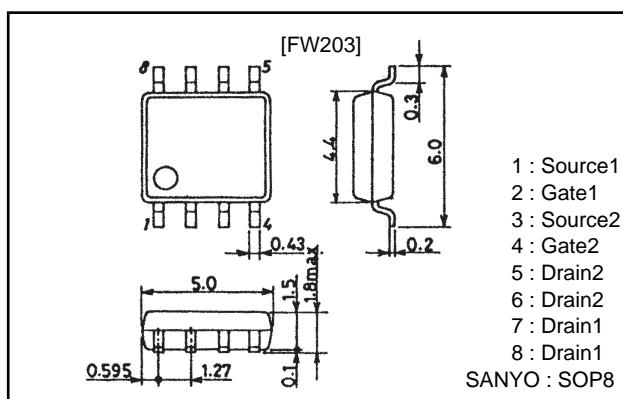
Features

- Low ON resistance
- Ultrahigh-speed switching.
- Composite type with two 4V-drive N-channel MOSFETs facilitating high-density mounting.
- Matched pair capability.

Package Dimensions

unit: mm

2129-SOP8



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		5	A
Drain Current (pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	48	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (1000mm ² ×0.8mm) 1 unit	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	
D-S 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			100	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		2.5	V
Forward Transfer Admittance	y _{fs}	V _{DS} =10V, I _D =5A	5	8		S
Static Drain-to-Source ON-State Resistance	R _{DS(on)}	I _D =5A, V _{GS} =10V		36	46	mΩ
	R _{DS(on)}	I _D =5A, V _{GS} =4V		58	78	mΩ
Input Capacitance	C _{iss}	V _{DS} =10V, f=1MHz		550		pF
Output Capacitance	C _{oss}	V _{DS} =10V, f=1MHz		330		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =10V, f=1MHz		120		pF

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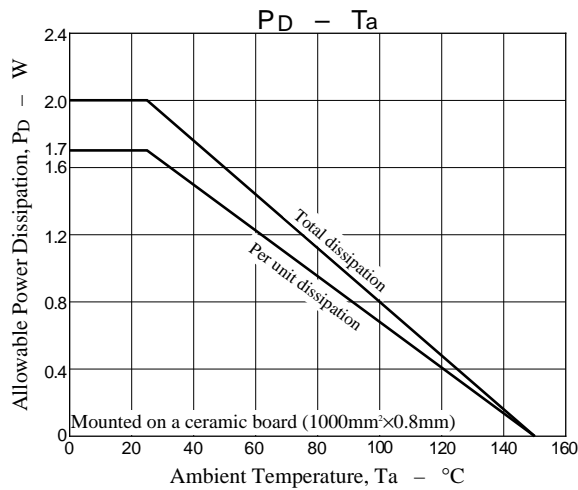
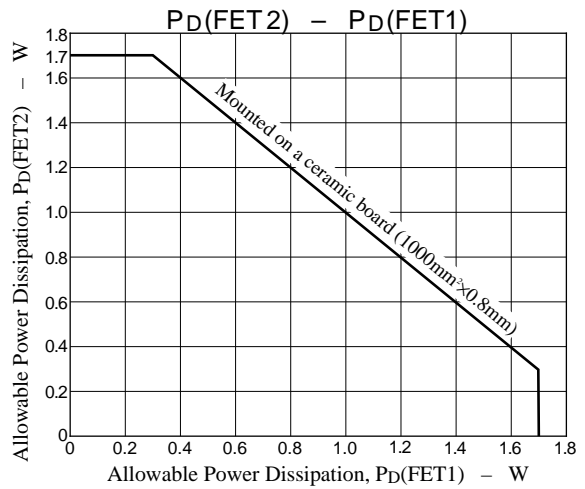
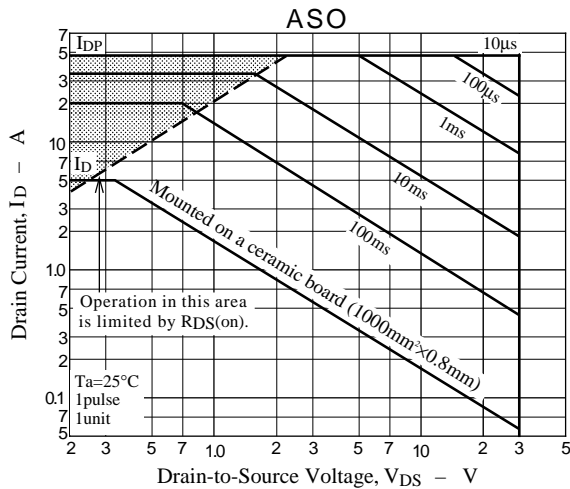
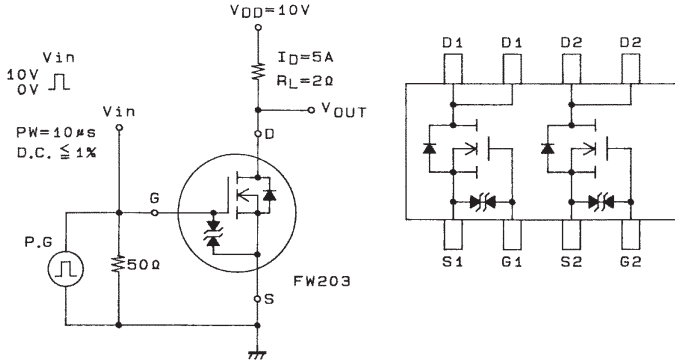
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		15		ns
Rise Time	t_r	"		200		ns
Turn-OFF Delay Time	$t_{d(off)}$	"		150		ns
Fall Time	t_f	"		160		ns
Diode Forward Voltage	V_{SD}	$I_S=5A, V_{GS}=0$	1.0	1.2		V

Switching Time Test Circuit

Electrical Connection

(Top view)



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