

**FW250**

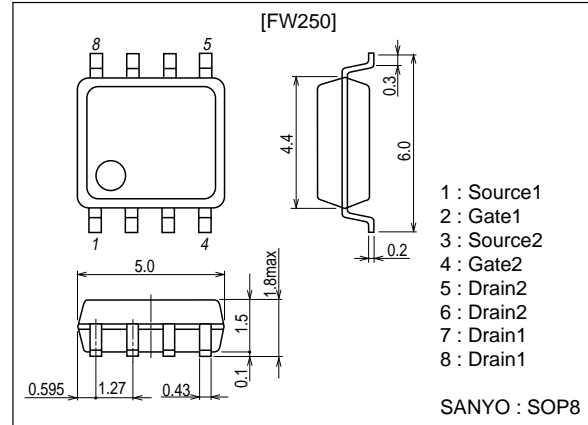
Ultrahigh-Speed Switching Applications

Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 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}		60	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		3	A
Drain Current (PW≤10s)	I _D	duty cycle≤1%	3.5	A
Drain Current (PW≤100ms)	I _D	duty cycle≤1%	5.5	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	20	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board(2000mm ² X0.8mm)1unit, PW≤10s	1.8	W
Total Dissipation	P _T	Mounted on a ceramic board(2000mm ² X0.8mm), PW≤10s	2.2	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	60			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =60V, 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	1.2		2.6	V
Forward Transfer Admittance	y _{fs}	V _{DS} =10V, I _D =3A	2.8	4		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =3A, V _{GS} =10V		110	145	mΩ
	R _{DS(on)2}	I _D =1.5A, V _{GS} =4V		150	215	mΩ

Marking : W250

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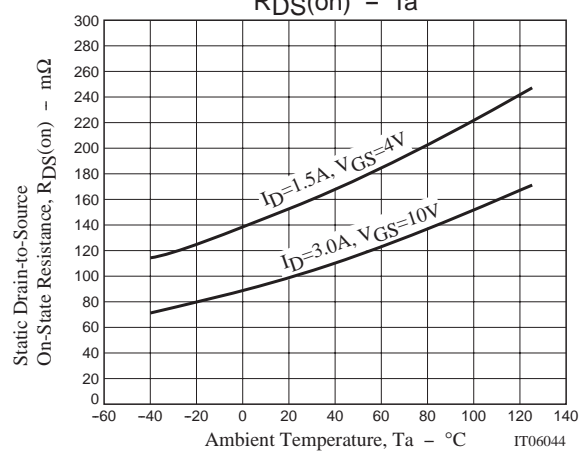
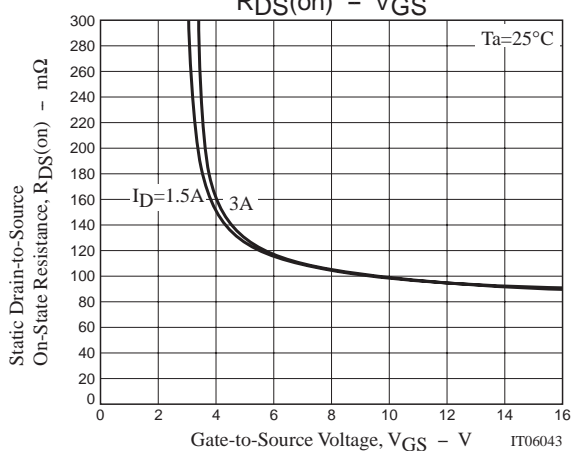
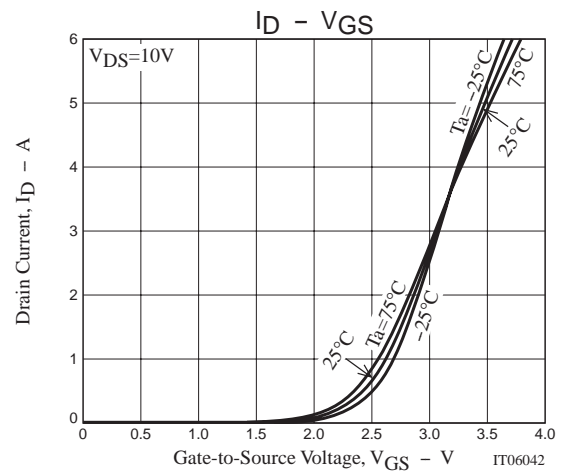
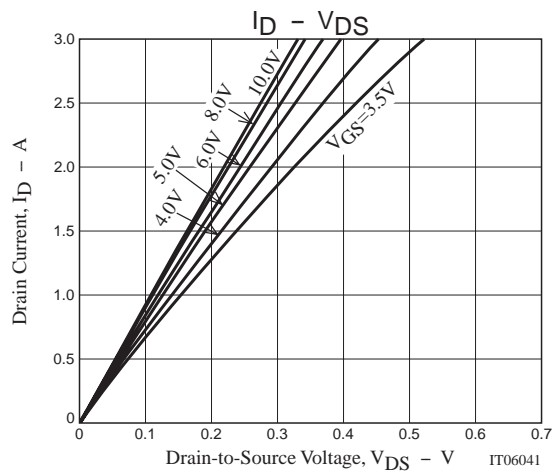
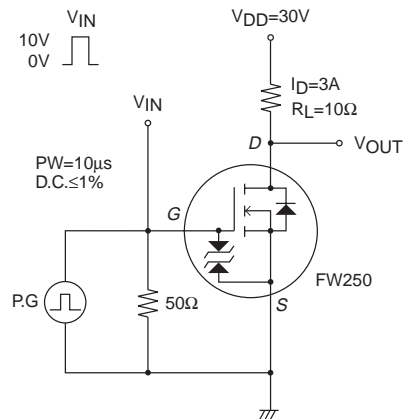
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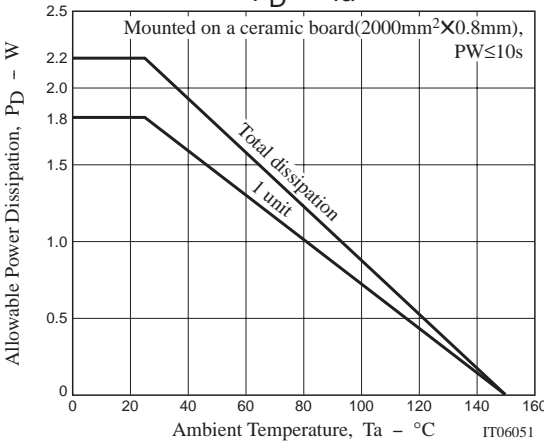
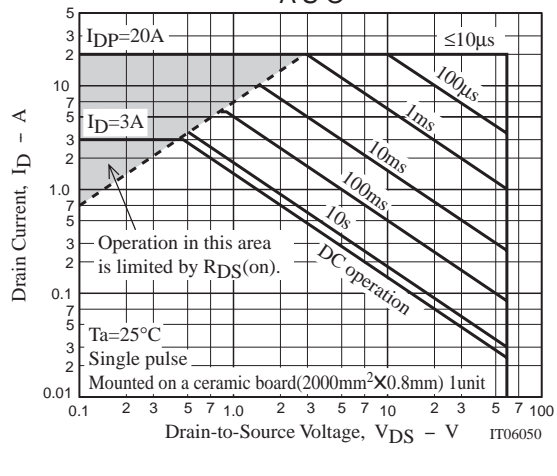
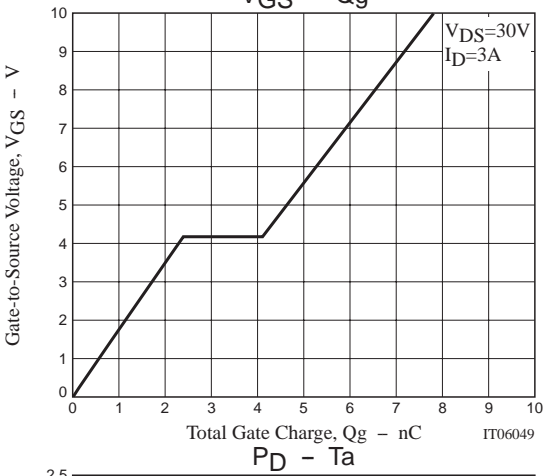
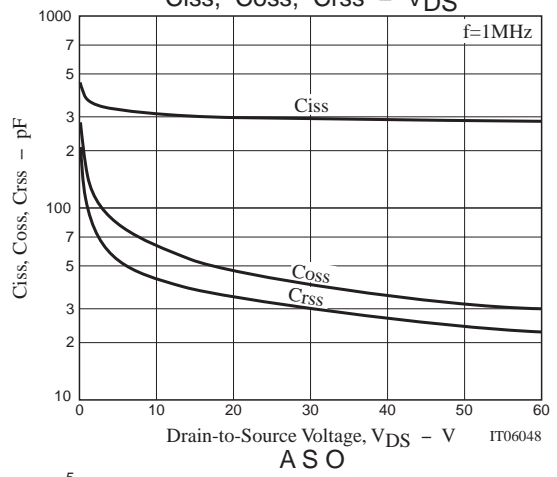
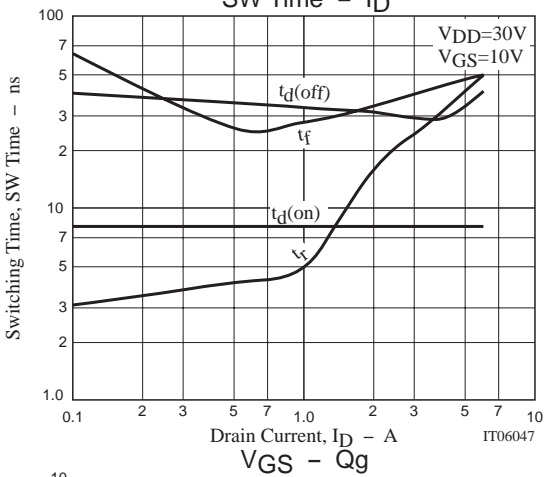
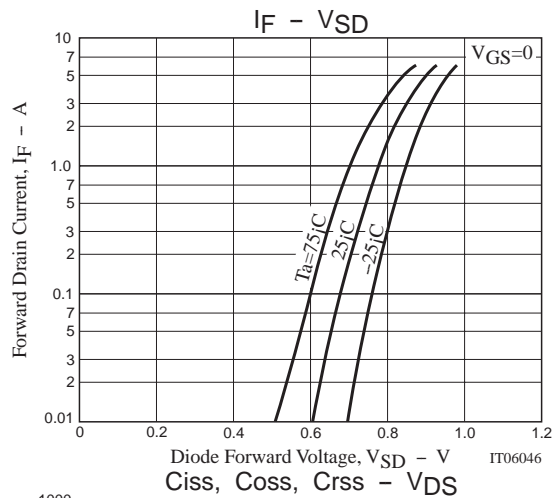
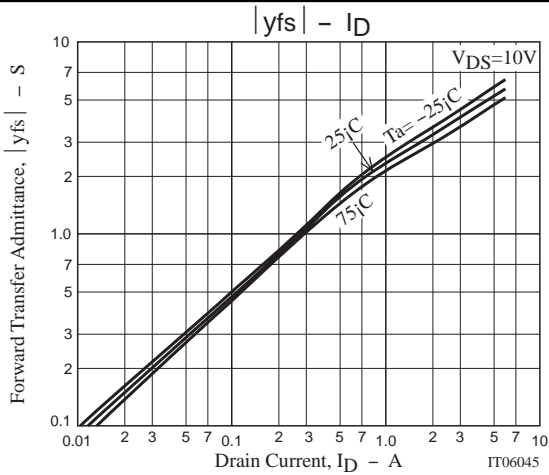
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V _{DS} =20V, f=1MHz		300		pF
Output Capacitance	Coss	V _{DS} =20V, f=1MHz		54		pF
Reverse Transfer Capacitance	Crss	V _{DS} =20V, f=1MHz		34		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		8		ns
Rise Time	t _r	See specified Test Circuit.		23		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		30		ns
Fall Time	t _f	See specified Test Circuit.		40		ns
Total Gate Charge	Q _g	V _{DS} =30V, V _{GS} =10V, I _D =3A		7.8		nC
Gate-to-Source Charge	Q _{gs}	V _{DS} =30V, V _{GS} =10V, I _D =3A		2.4		nC
Gate-to-Drain "Miller" Charge	Q _{gd}	V _{DS} =30V, V _{GS} =10V, I _D =3A		1.7		nC
Diode Forward Voltage	V _{SD}	I _S =3A, V _{GS} =0		0.86	1.2	V

Switching Time Test Circuit





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