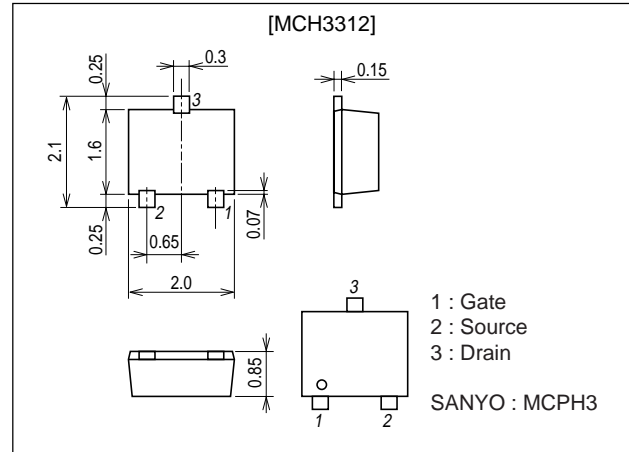


**MCH3312****Ultrahigh-Speed Switching Applications****Features**

- Low ON-resistance.
- Ultrahigh-speed switching.
- 4V drive.

Package Dimensionsunit : mm
2167A**Specifications**Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

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		-2	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	-8	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (900mm ² X0.8mm)	1	W
Channel Temperature	T_{ch}		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = -1\text{mA}$, $V_{GS} = 0$	-30			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -30\text{V}$, $V_{GS} = 0$			-1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 16\text{V}$, $V_{DS} = 0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = -10\text{V}$, $I_D = -1\text{mA}$	-1.2		-2.6	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = -10\text{V}$, $I_D = -1\text{A}$	1.4	2.0		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = -1\text{A}$, $V_{GS} = -10\text{V}$		110	145	$\text{m}\Omega$
	$R_{DS(on)2}$	$I_D = -0.5\text{A}$, $V_{GS} = -4\text{V}$		205	290	$\text{m}\Omega$

Marking : JM

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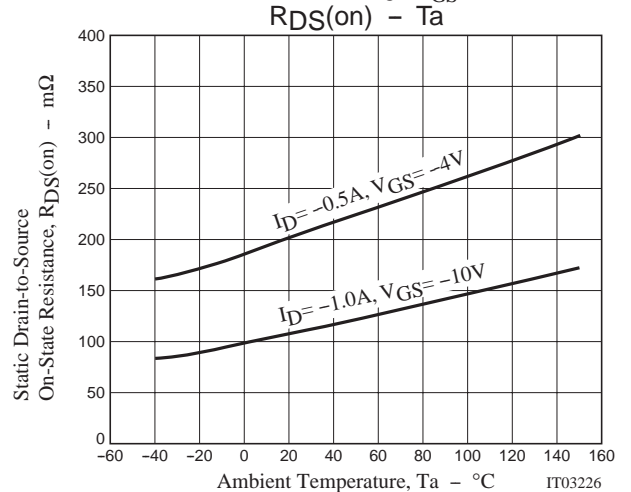
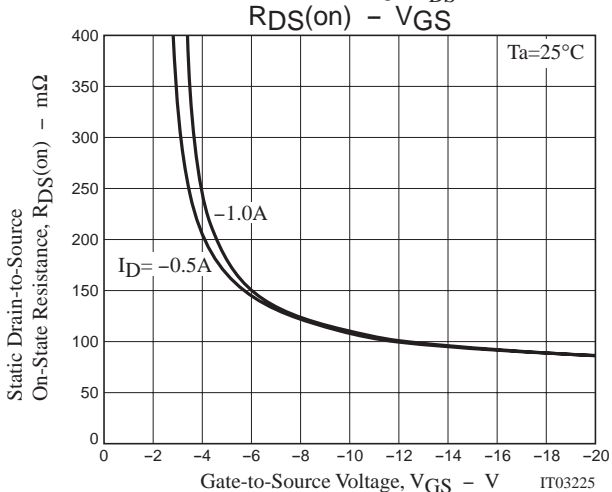
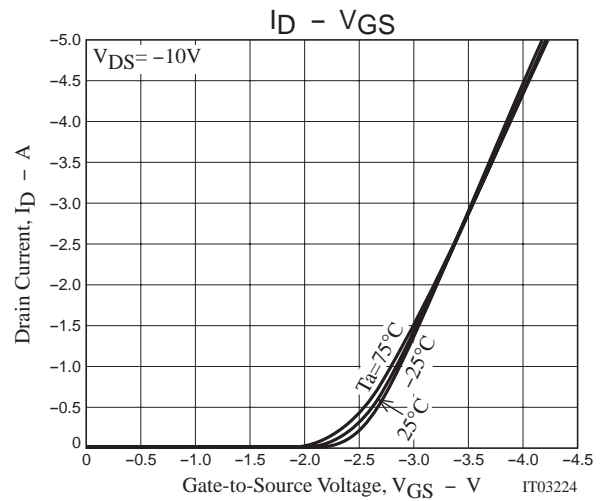
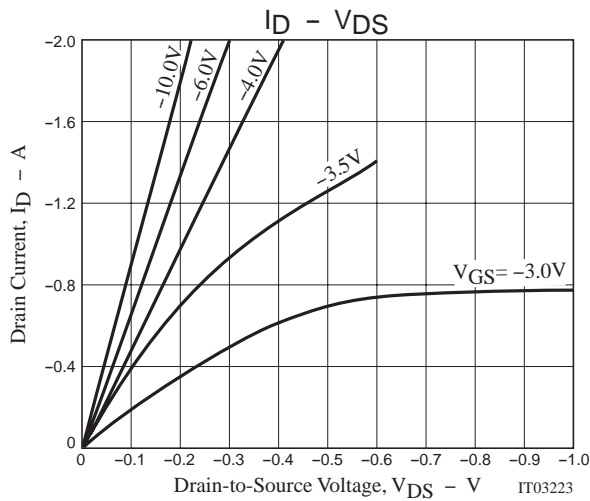
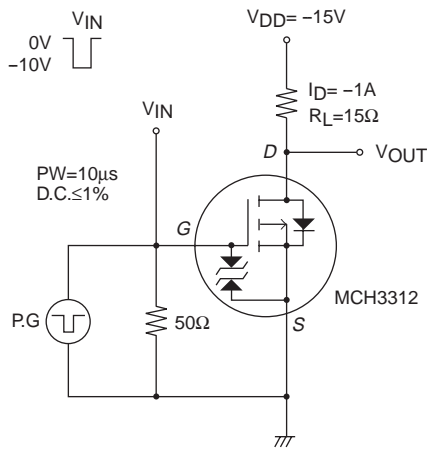
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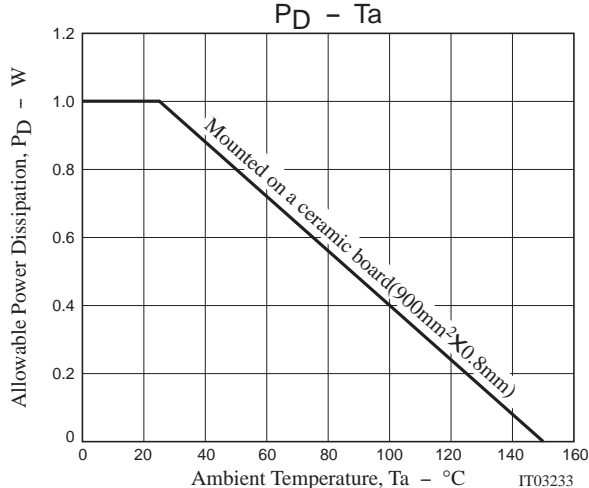
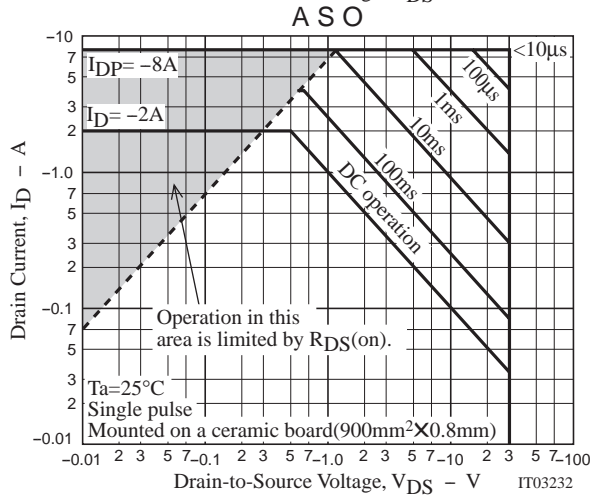
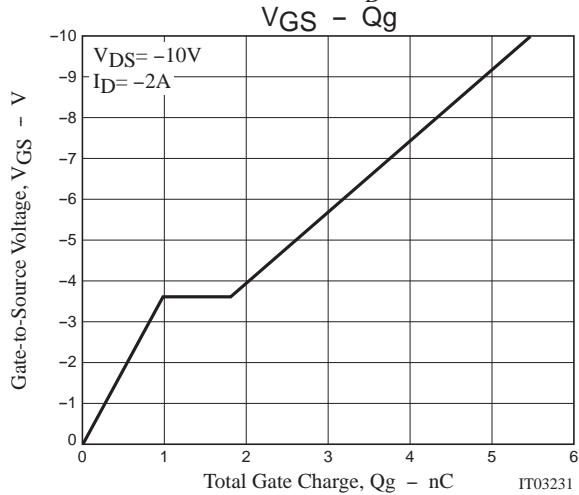
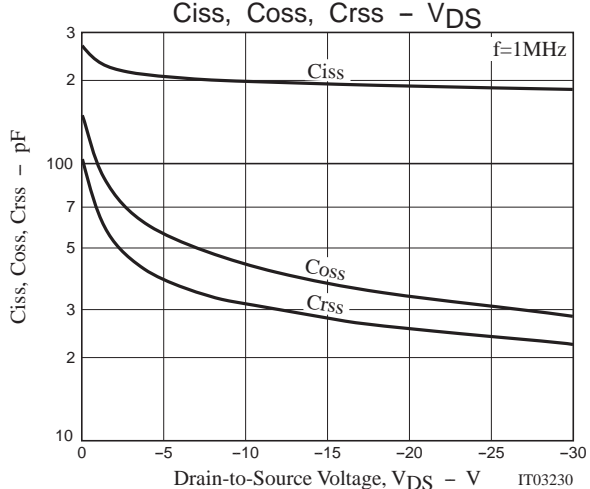
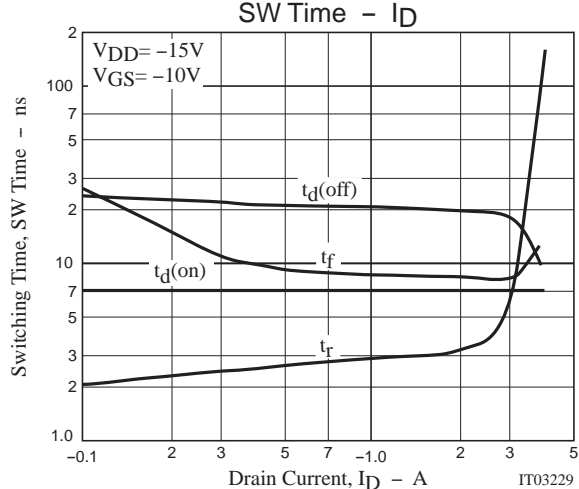
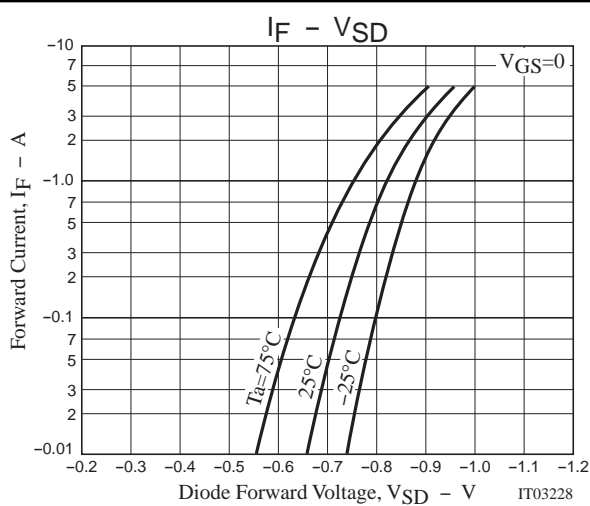
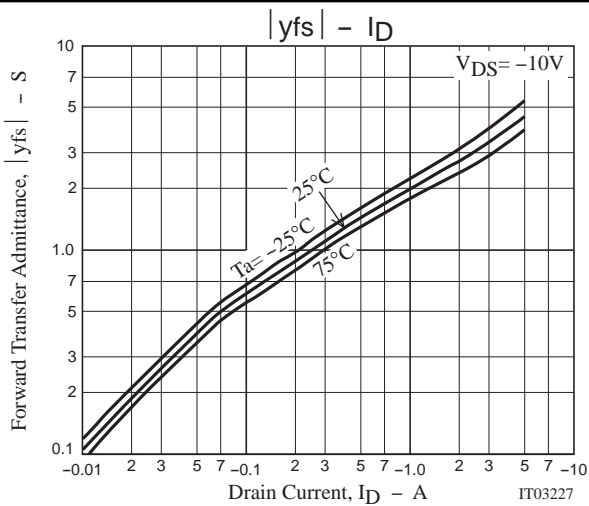
MCH3312

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V _{DS} =-10V, f=1MHz		200		pF
Output Capacitance	Coss	V _{DS} =-10V, f=1MHz		47		pF
Reverse Transfer Capacitance	Crss	V _{DS} =-10V, f=1MHz		32		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit		7.2		ns
Rise Time	t _r	See specified Test Circuit		2.9		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit		21		ns
Fall Time	t _f	See specified Test Circuit		8.7		ns
Total Gate Charge	Q _g	V _{DS} =-10V, V _{GS} =-10V, I _D =-2A		5.5		nC
Gate-to-Source Charge	Q _{gs}	V _{DS} =-10V, V _{GS} =-10V, I _D =-2A		0.98		nC
Gate-to-Drain "Miller" Charge	Q _{gd}	V _{DS} =-10V, V _{GS} =-10V, I _D =-2A		0.82		nC
Diode Forward Voltage	V _{SD}	I _S =-2A, V _{GS} =0	-0.85		-1.5	V

Switching Time Test Circuit





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