



MCH6308

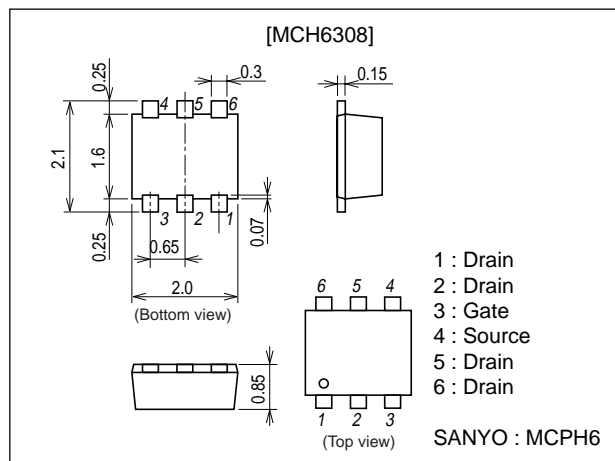
Ultrahigh-Speed Switching Applications

Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 1.8V drive.

Package Dimensions

unit : mm
2193A



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-12	V
Gate-to-Source Voltage	V _{GSS}		±8	V
Drain Current (DC)	I _D		-3.5	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-14	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (1200mm ² X0.8mm)	1.5	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	-12			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-12V, V _{GS} =0			-10	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±6.4V, V _{DS} =0			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =-6V, I _D =-1mA	-0.3		-1.0	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-6V, I _D =-1.7A	3.3	4.7		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-1.7A, V _{GS} =-4.5V		75	98	mΩ
	R _{DS(on)2}	I _D =-0.8A, V _{GS} =-2.5V		110	155	mΩ
	R _{DS(on)3}	I _D =-0.4A, V _{GS} =-1.8V		150	225	mΩ

Marking : JH

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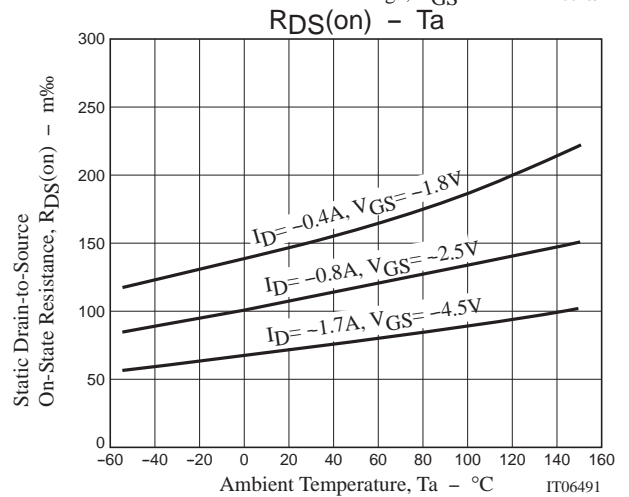
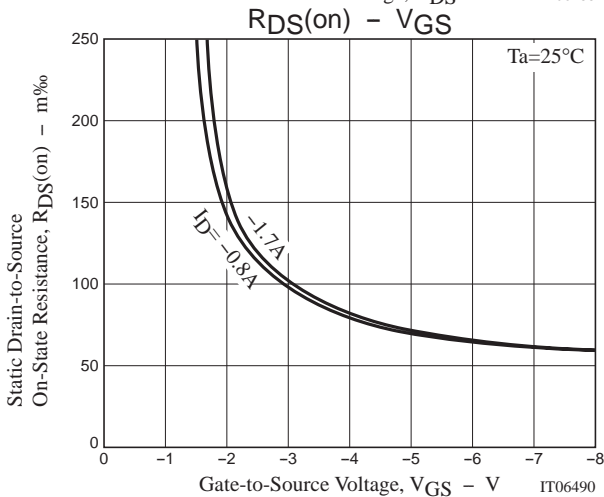
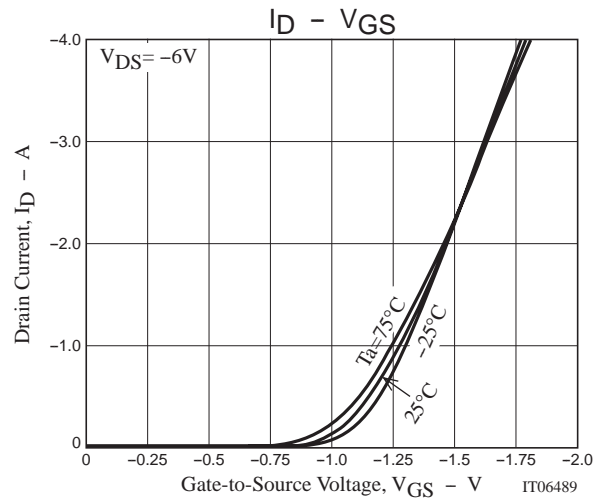
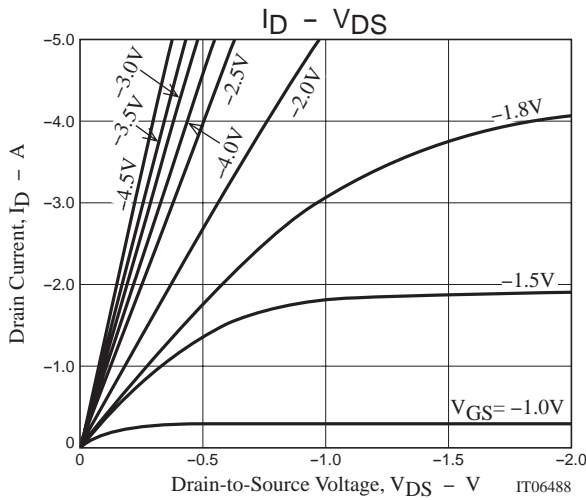
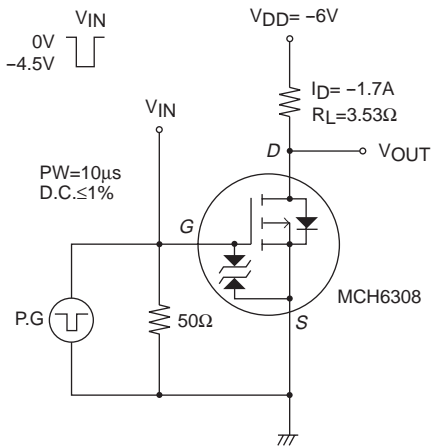
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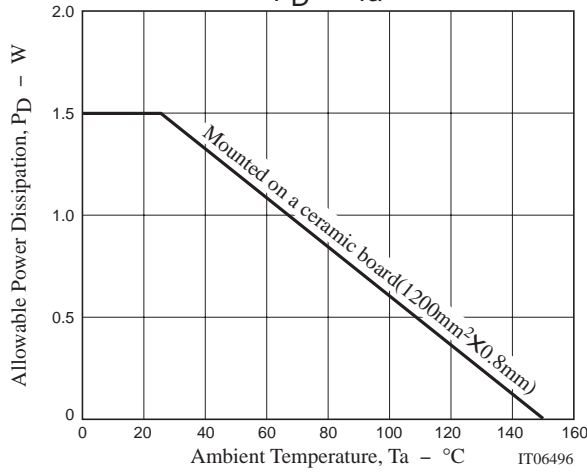
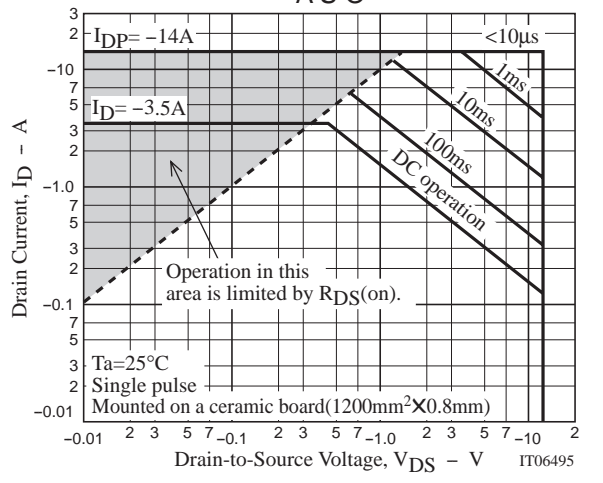
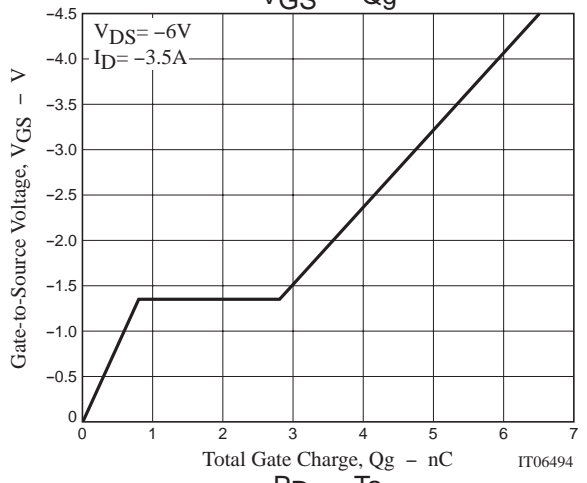
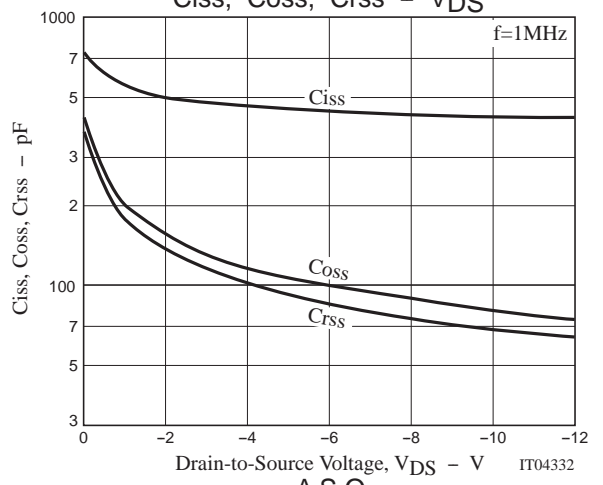
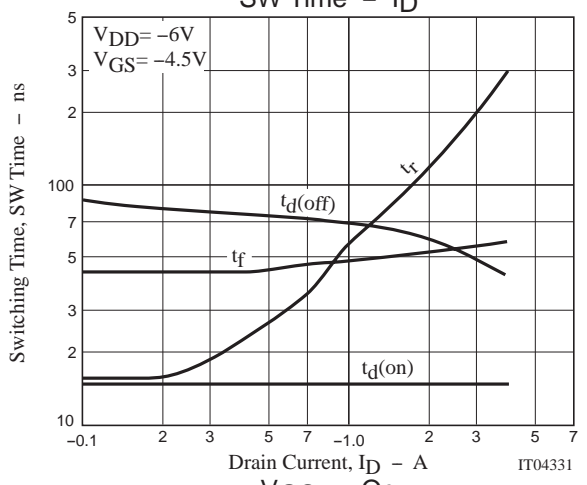
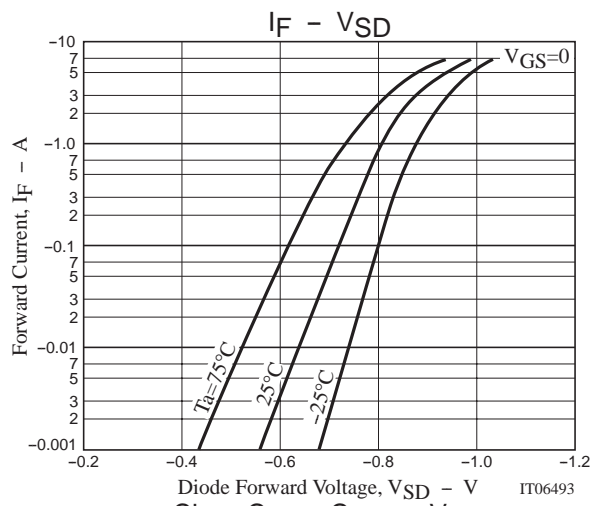
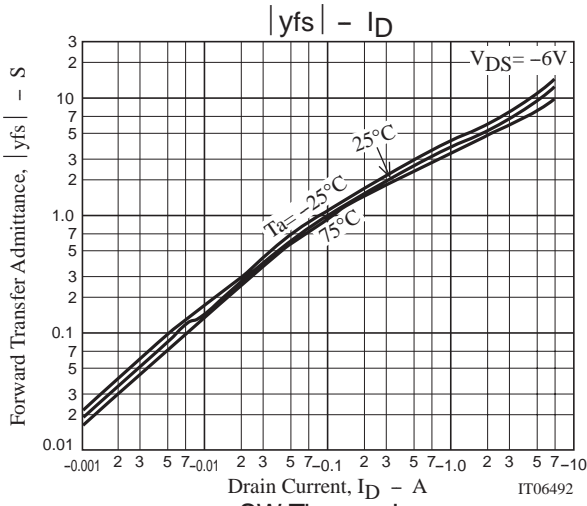
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V _{DS} =-6V, f=1MHz		450		pF
Output Capacitance	Coss	V _{DS} =-6V, f=1MHz		100		pF
Reverse Transfer Capacitance	Crss	V _{DS} =-6V, f=1MHz		85		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		15		ns
Rise Time	t _r	See specified Test Circuit.		90		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		62		ns
Fall Time	t _f	See specified Test Circuit.		50		ns
Total Gate Charge	Q _g	V _{DS} =-6V, V _{GS} =-4.5V, I _D =-3.5A		6.5		nC
Gate-to-Source Charge	Q _{gs}	V _{DS} =-6V, V _{GS} =-4.5V, I _D =-3.5A		0.8		nC
Gate-to-Drain "Miller" Charge	Q _{gd}	V _{DS} =-6V, V _{GS} =-4.5V, I _D =-3.5A		2.0		nC
Diode Forward Voltage	V _{SD}	I _S =-3.5A, V _{GS} =0		-0.9	-1.5	V

Switching Time Test Circuit



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