



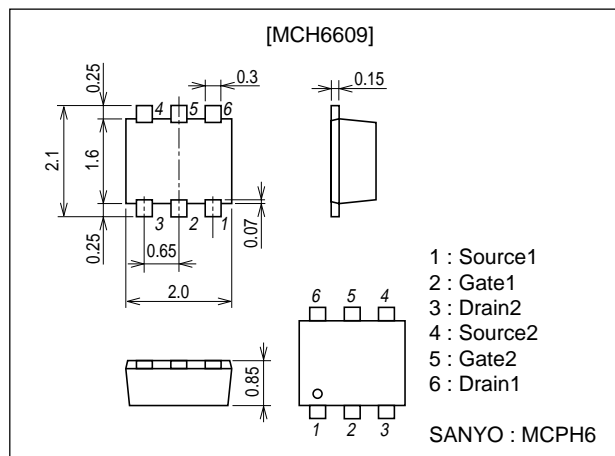
Ultrahigh-Speed Switching Applications

Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 2.5V drive.
- Composite type with 2 MOSFETs contained in a single package, facilitating high-density mounting.

Package Dimensions

unit : mm
2173A



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-50	V
Gate-to-Source Voltage	V _{GSS}		±10	V
Drain Current (DC)	I _D		-0.28	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-1.1	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (900mm ² X0.8mm)1unit	0.8	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	-50			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-50V, V _{GS} =0			-10	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±8V, V _{DS} =0			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =-10V, I _D =-100μA	-0.4		-1.4	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-10V, I _D =-70mA	170	240		mS
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-70mA, V _{GS} =-4V		5.1	6.6	Ω
	R _{DS(on)2}	I _D =-40mA, V _{GS} =-2.5V		6	8.4	Ω
	R _{DS(on)3}	I _D =-10mA, V _{GS} =-1.5V		10	20	Ω

Marking : FI

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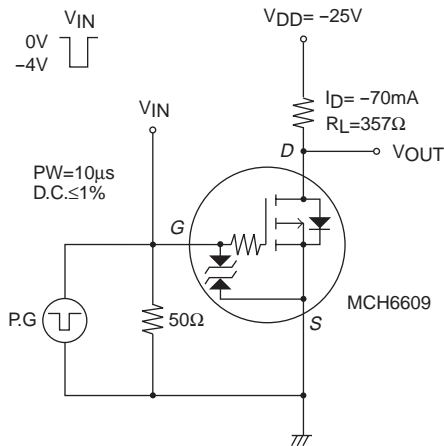
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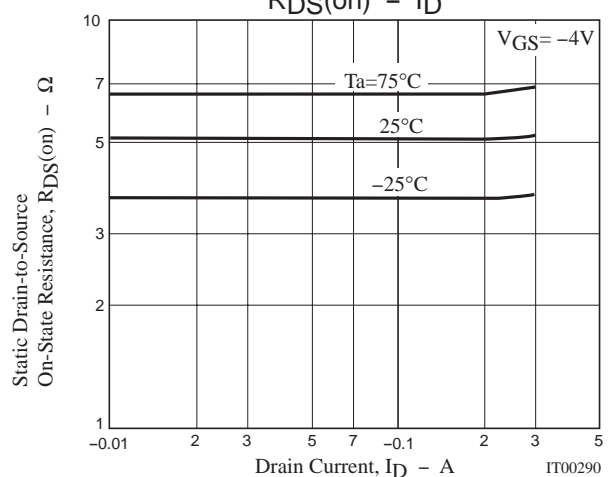
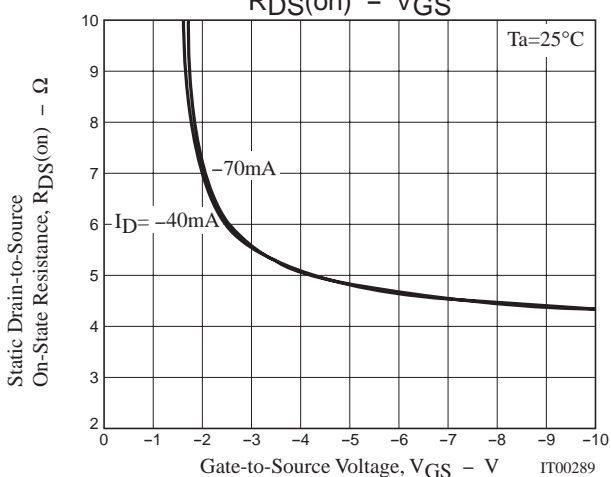
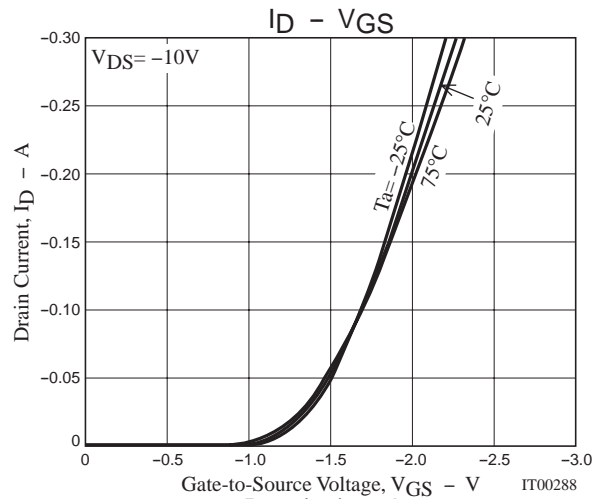
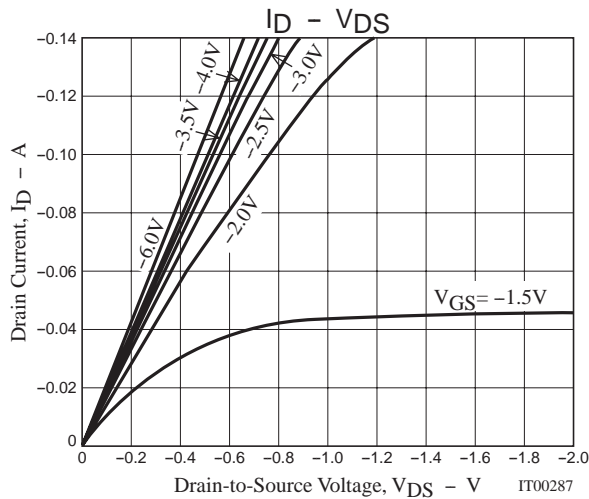
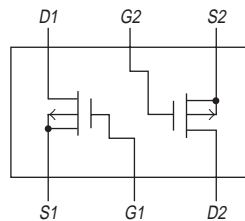
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V _{DS} =-10V, f=1MHz		28		pF
Output Capacitance	Coss	V _{DS} =-10V, f=1MHz		11		pF
Reverse Transfer Capacitance	Crss	V _{DS} =-10V, f=1MHz		3.5		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		20		ns
Rise Time	t _r	See specified Test Circuit.		45		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		250		ns
Fall Time	t _f	See specified Test Circuit.		120		ns
Total Gate Charge	Q _g	V _{DS} =-10V, V _{GS} =-10V, I _D =-140mA		1.98		nC
Gate-to-Source Charge	Q _{gs}	V _{DS} =-10V, V _{GS} =-10V, I _D =-140mA		0.22		nC
Gate-to-Drain "Miller" Charge	Q _{gd}	V _{DS} =-10V, V _{GS} =-10V, I _D =-140mA		0.33		nC
Diode Forward Voltage	V _{SD}	I _S =-140mA, V _{GS} =0		0.83	1.2	V

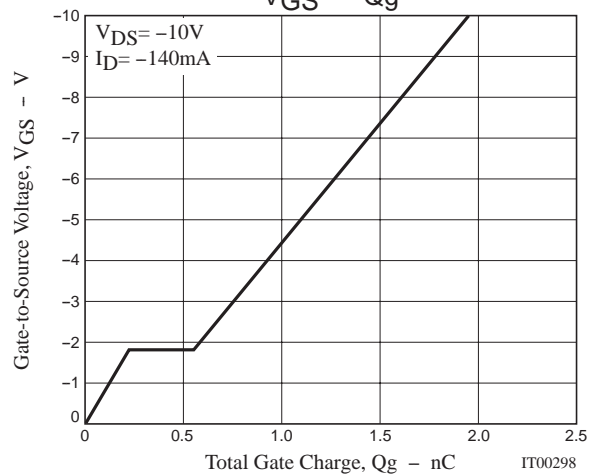
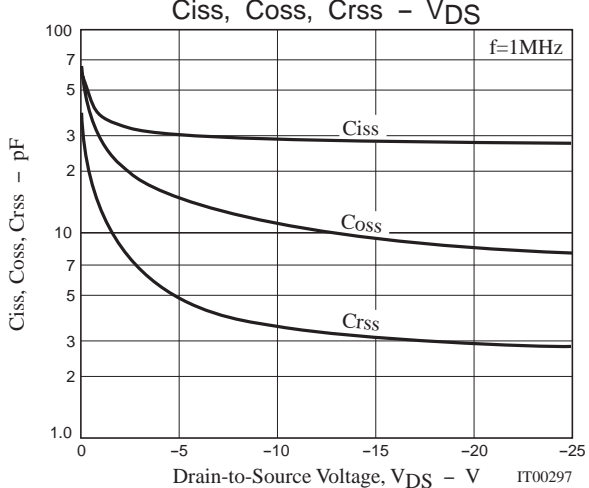
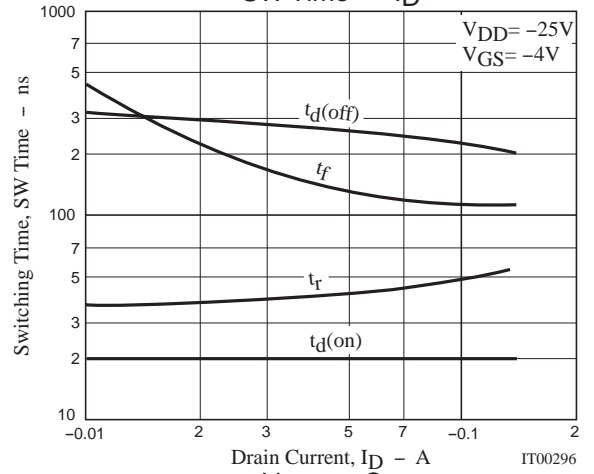
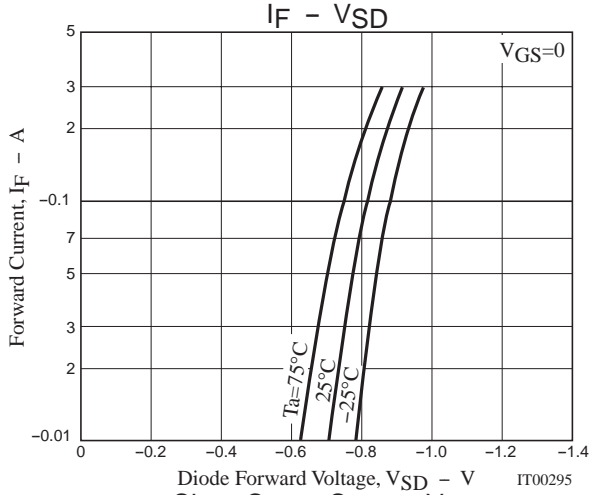
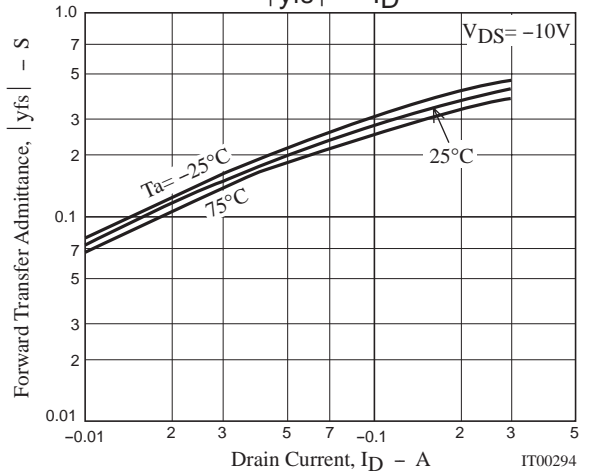
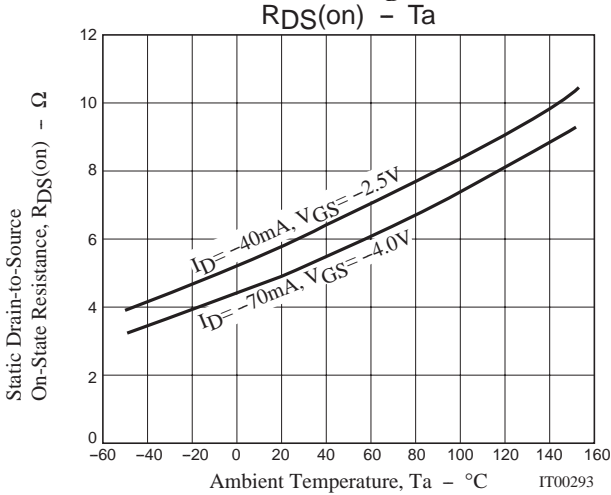
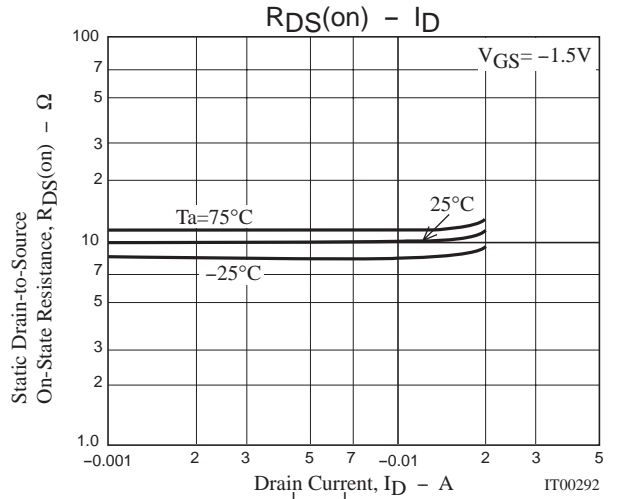
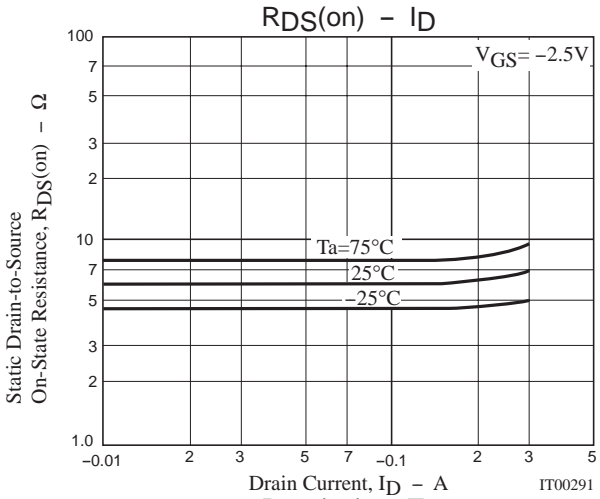
Switching Time Test Circuit



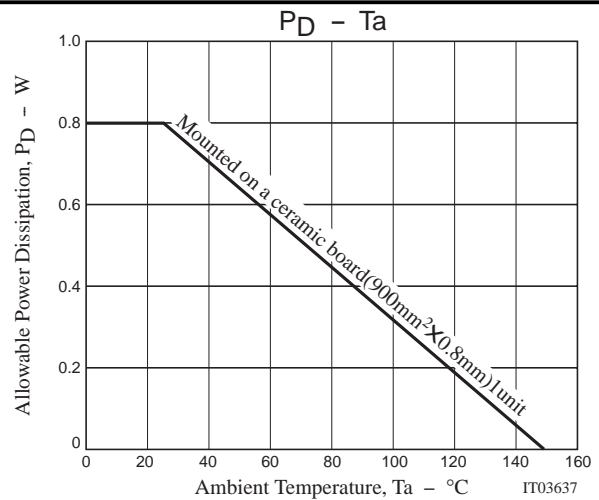
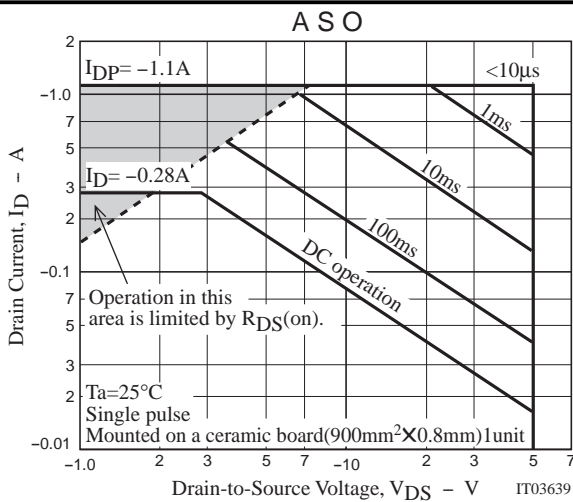
Electrical Connection



MCH6609



MCH6609



Note on usage : Since the MCH6609 is designed for high-speed switching applications, please avoid using this device in the vicinity of highly charged objects.

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