

# MCH6611



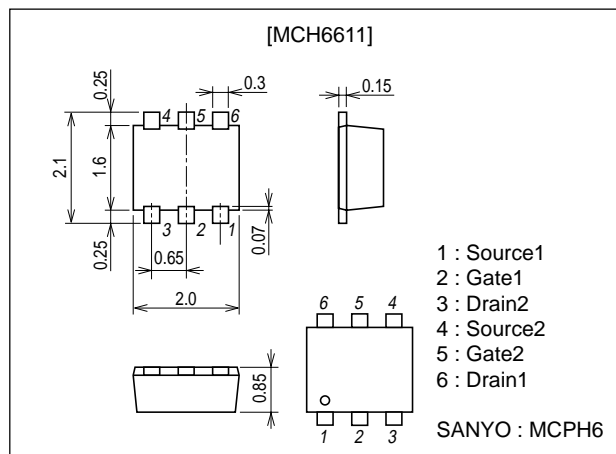
## Ultrahigh-Speed Switching Applications

### Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 4V 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 <sub>DSS</sub>		-50	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±20	V
Drain Current (DC)	I <sub>D</sub>		-0.28	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	-1.1	A
Allowable Power Dissipation	P <sub>D</sub>	Mounted on a ceramic board (900mm <sup>2</sup> X0.8mm)1unit	0.8	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

### Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	I <sub>D</sub> =-1mA, V <sub>GS</sub> =0	-50			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =-50V, V <sub>GS</sub> =0			-10	μA
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±16V, V <sub>DS</sub> =0			±10	μA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =-10V, I <sub>D</sub> =-100μA	-1		-2.5	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =-10V, I <sub>D</sub> =-70mA	120	160		mS
Static Drain-to-Source On-State Resistance	R <sub>DS(on)1</sub>	I <sub>D</sub> =-70mA, V <sub>GS</sub> =-10V		4.7	6.1	Ω
	R <sub>DS(on)2</sub>	I <sub>D</sub> =-40mA, V <sub>GS</sub> =-4V		6.5	9.1	Ω

Marking : FK

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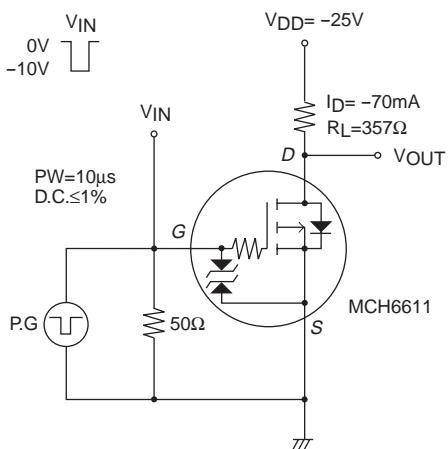
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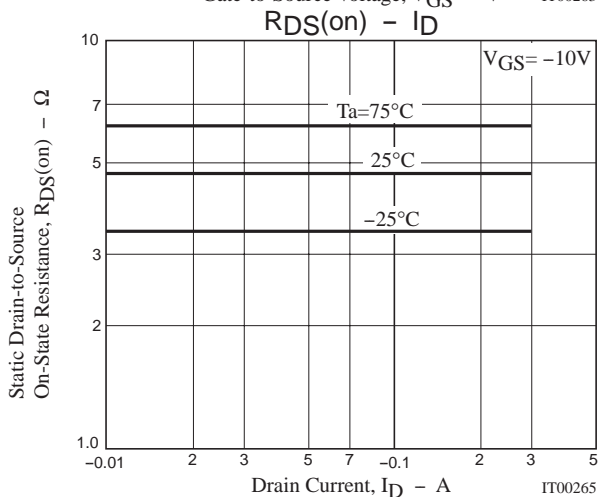
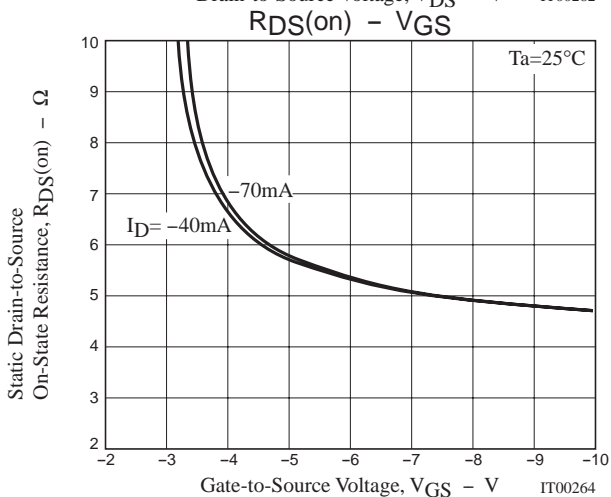
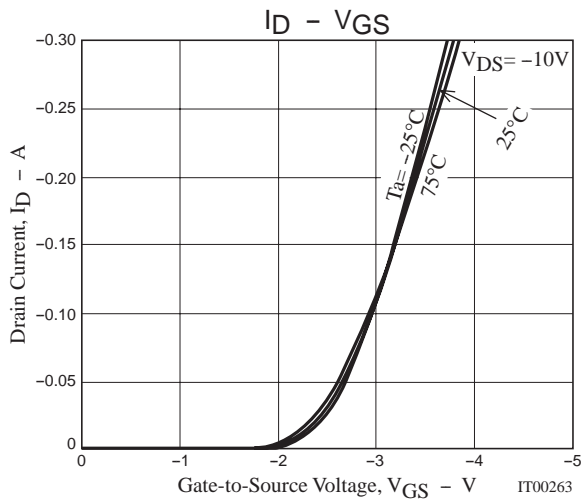
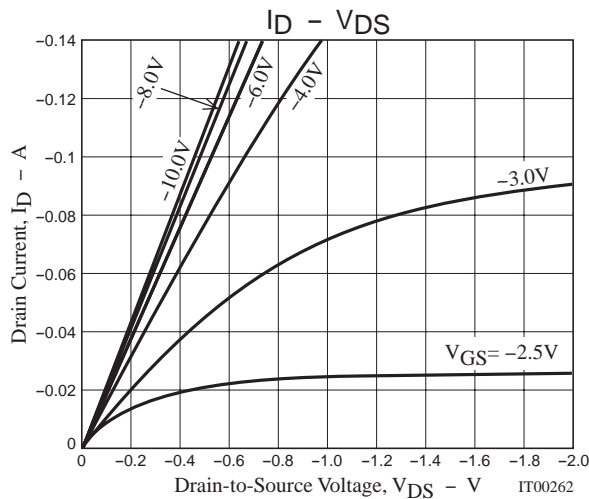
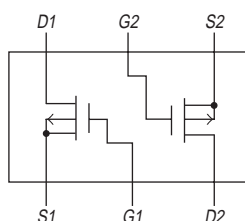
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	$V_{DS}=-10V, f=1MHz$		23		pF
Output Capacitance	Coss	$V_{DS}=-10V, f=1MHz$		11		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=-10V, f=1MHz$		4		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		13		ns
Rise Time	$t_r$	See specified Test Circuit.		10		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		190		ns
Fall Time	$t_f$	See specified Test Circuit.		95		ns
Total Gate Charge	Qg	$V_{DS}=-10V, V_{GS}=-10V, I_D=-140mA$		1.68		nC
Gate-to-Source Charge	Qgs	$V_{DS}=-10V, V_{GS}=-10V, I_D=-140mA$		0.22		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=-10V, V_{GS}=-10V, I_D=-140mA$		0.43		nC
Diode Forward Voltage	VSD	$I_S=-140mA, V_{GS}=0$		0.83	1.2	V

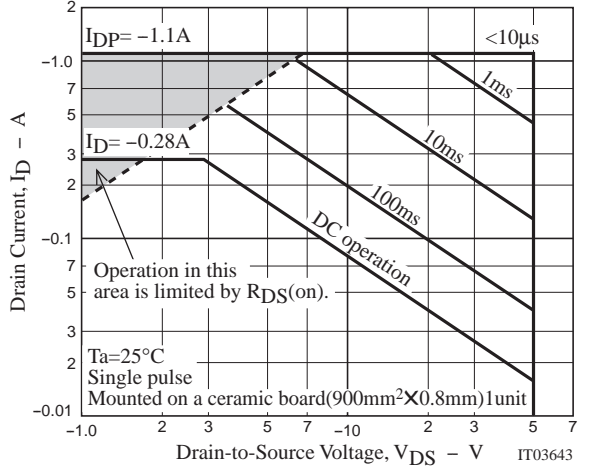
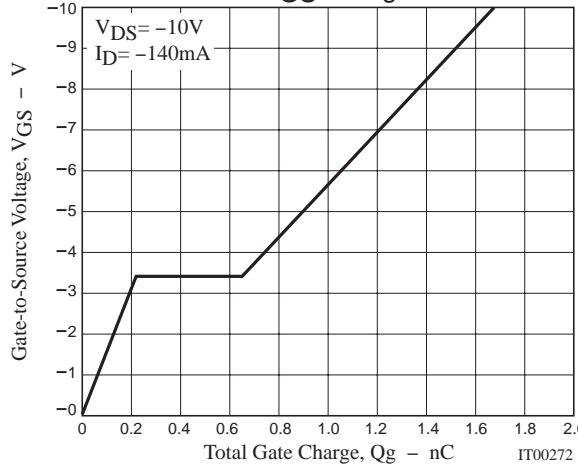
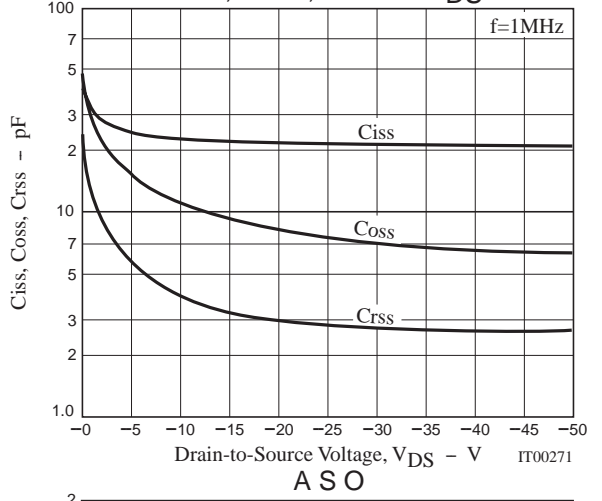
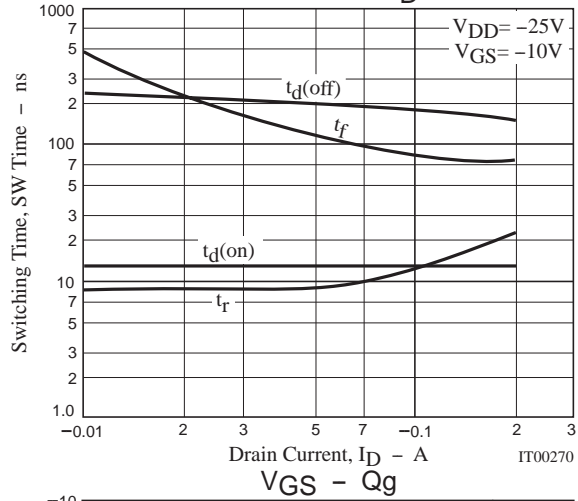
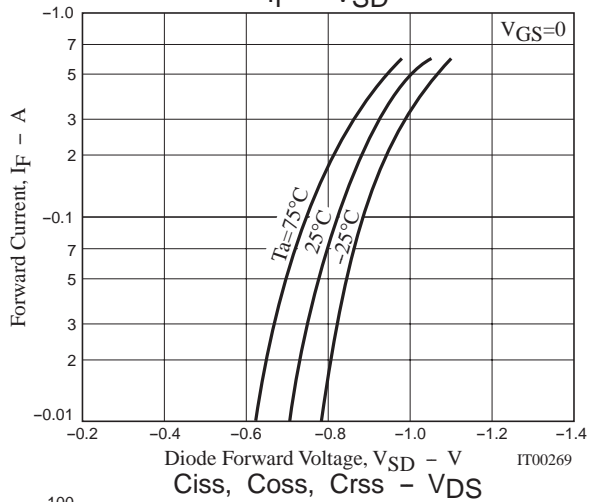
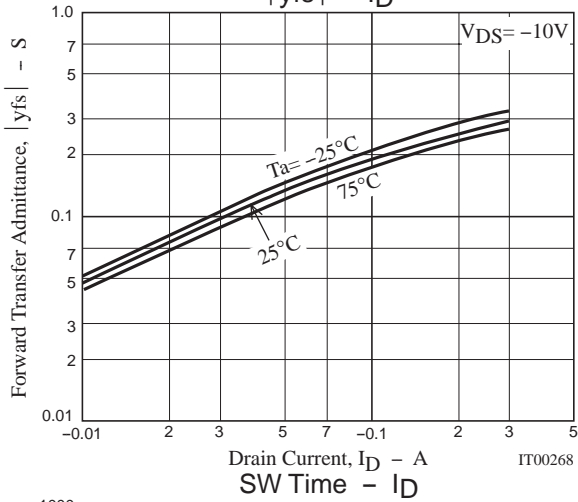
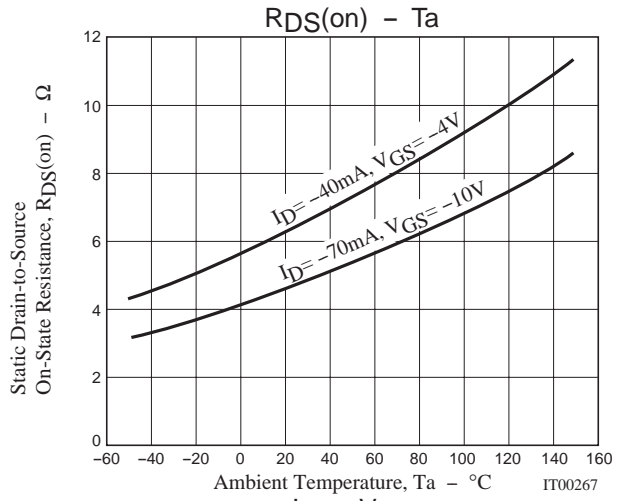
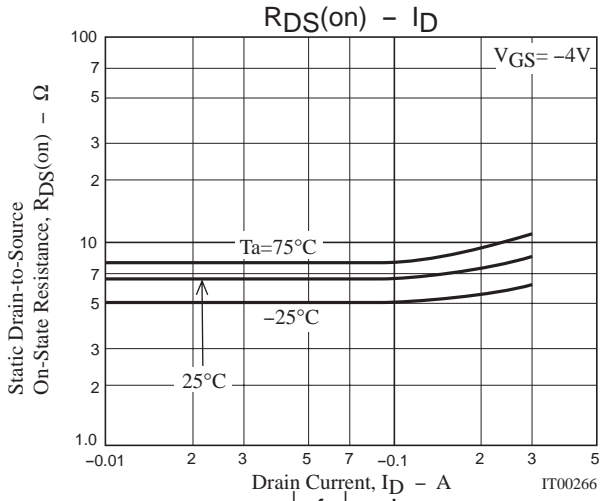
## Switching Time Test Circuit



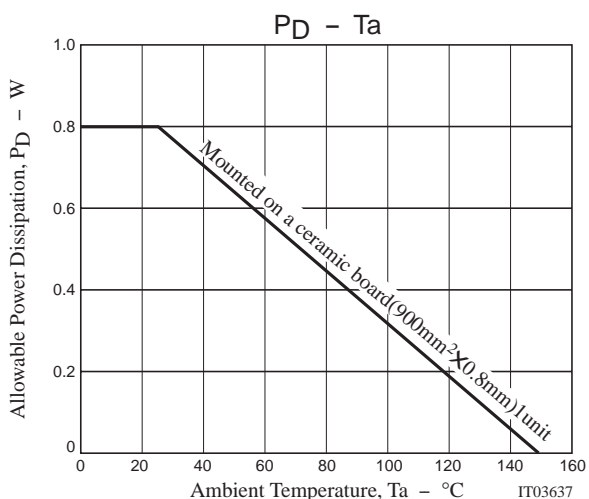
## Electrical Connection



## MCH6611



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Note on usage : Since the MCH6611 is designed for high-speed switching applications, please avoid using this device in the vicinity of highly charged objects.

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