



# MCH6619

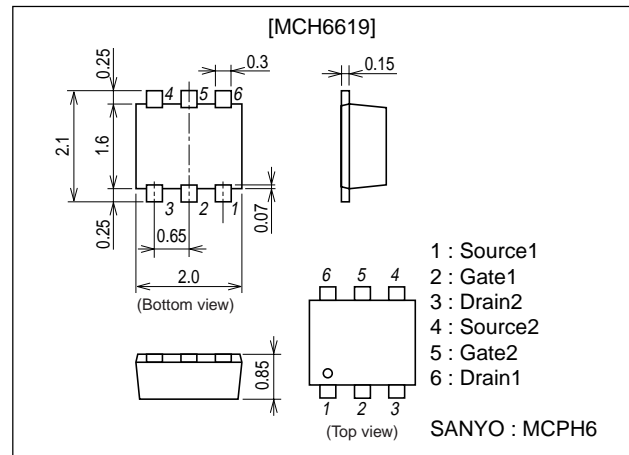
## Ultrahigh-Speed Switching Applications

### 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	$V_{DSS}$		-30	V
Gate-to-Source Voltage	$V_{GSS}$		$\pm 20$	V
Drain Current (DC)	$I_D$		-1.0	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10\mu s$ , duty cycle $\leq 1\%$	-4.0	A
Allowable Power Dissipation	$P_D$	Mounted on a ceramic board (900mm $\times$ 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	$V_{(BR)DSS}$	$I_D = -1mA$ , $V_{GS} = 0$	-30			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -30V$ , $V_{GS} = 0$			-1	$\mu A$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 16V$ , $V_{DS} = 0$			$\pm 10$	$\mu A$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = -10V$ , $I_D = -1mA$	-1.2		-2.6	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = -10V$ , $I_D = -500mA$	0.57	0.82		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = -500mA$ , $V_{GS} = -10V$		420	550	$m\Omega$
	$R_{DS(on)2}$	$I_D = -300mA$ , $V_{GS} = -4V$		720	1000	$m\Omega$

Marking : FT

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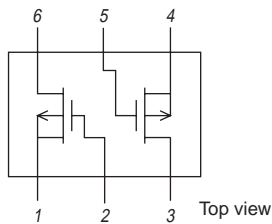
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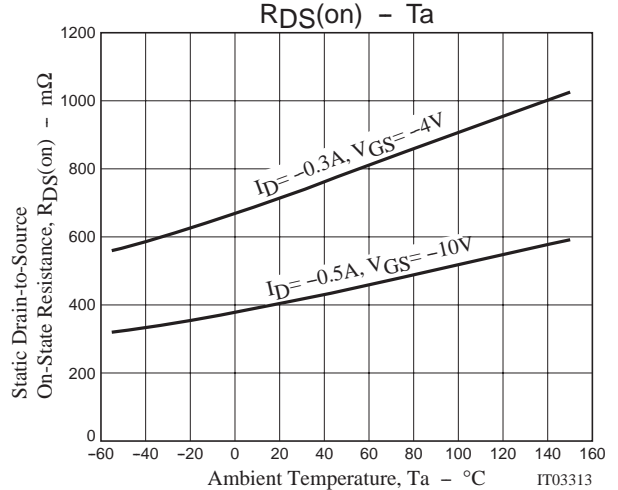
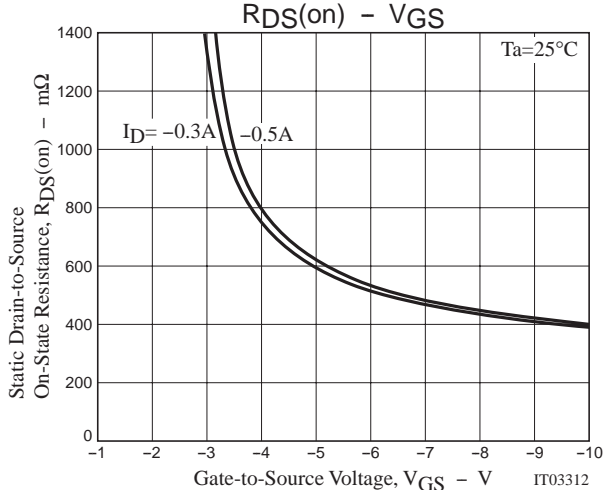
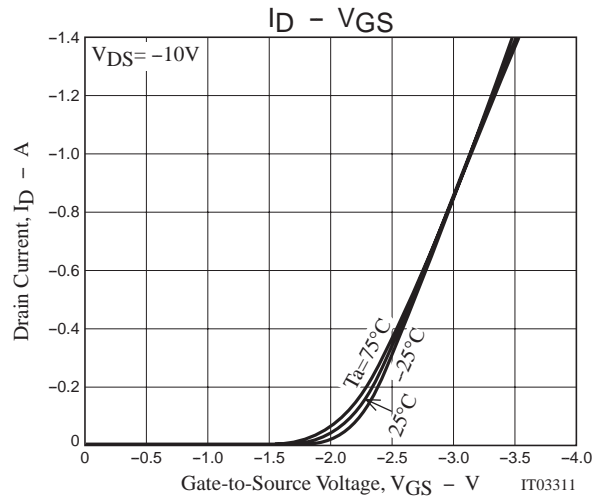
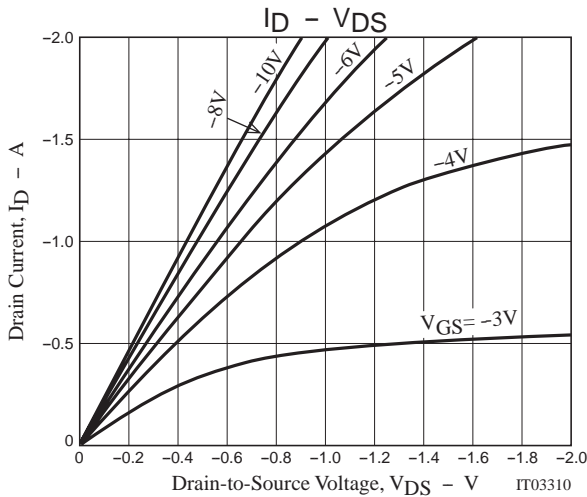
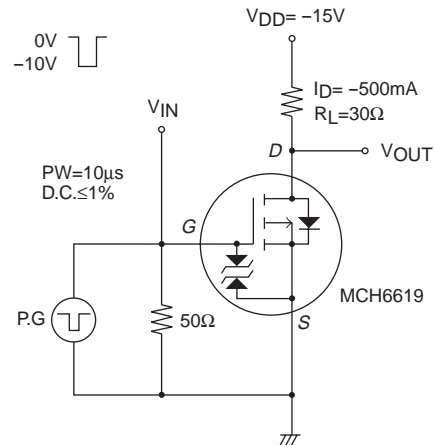
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V <sub>DS</sub> =-10V, f=1MHz		75		pF
Output Capacitance	Coss	V <sub>DS</sub> =-10V, f=1MHz		16		pF
Reverse Transfer Capacitance	Crss	V <sub>DS</sub> =-10V, f=1MHz		9		pF
Turn-ON Delay Time	t <sub>d(on)</sub>	See specified Test Circuit.		6		ns
Rise Time	t <sub>r</sub>	See specified Test Circuit.		4		ns
Turn-OFF Delay Time	t <sub>d(off)</sub>	See specified Test Circuit.		12		ns
Fall Time	t <sub>f</sub>	See specified Test Circuit.		4		ns
Total Gate Charge	Qg	V <sub>DS</sub> =-10V, V <sub>GS</sub> =-10V, I <sub>D</sub> =-1A		2.6		nC
Gate-to-Source Charge	Qgs	V <sub>DS</sub> =-10V, V <sub>GS</sub> =-10V, I <sub>D</sub> =-1A		0.5		nC
Gate-to-Drain "Miller" Charge	Qgd	V <sub>DS</sub> =-10V, V <sub>GS</sub> =-10V, I <sub>D</sub> =-1A		0.5		nC
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =-1A, V <sub>GS</sub> =0		-0.89	-1.5	V

## Electrical Connection

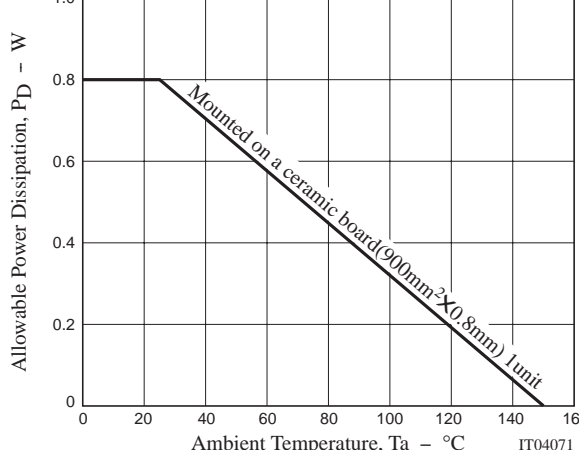
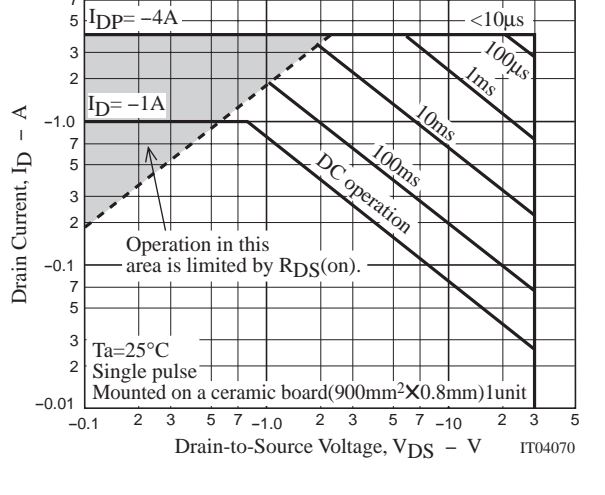
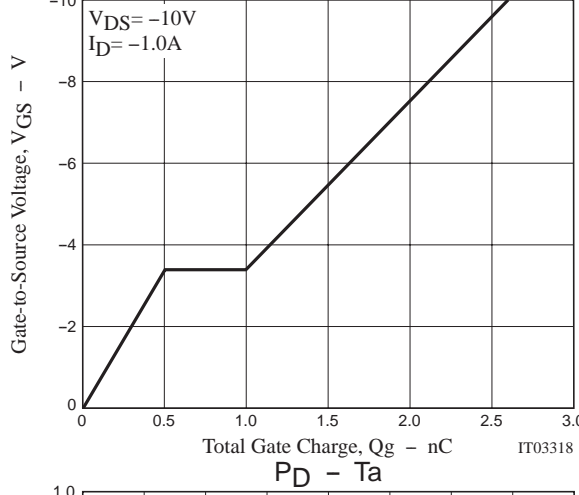
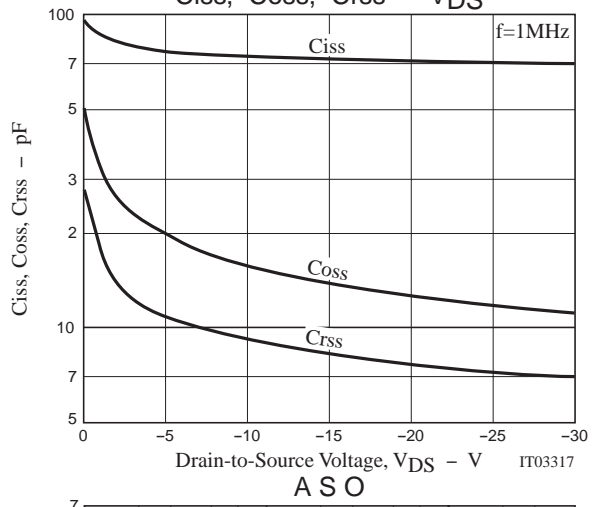
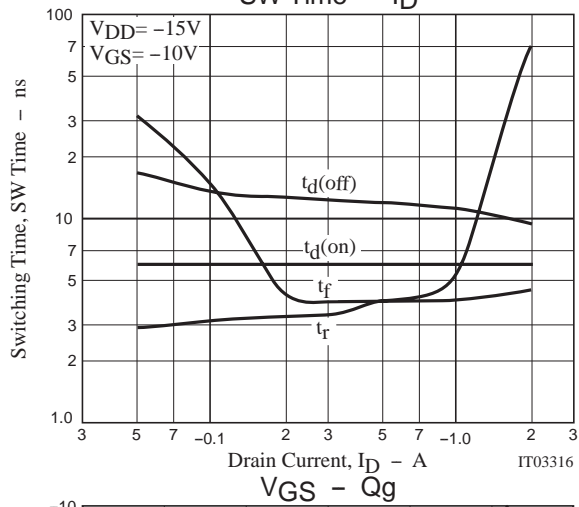
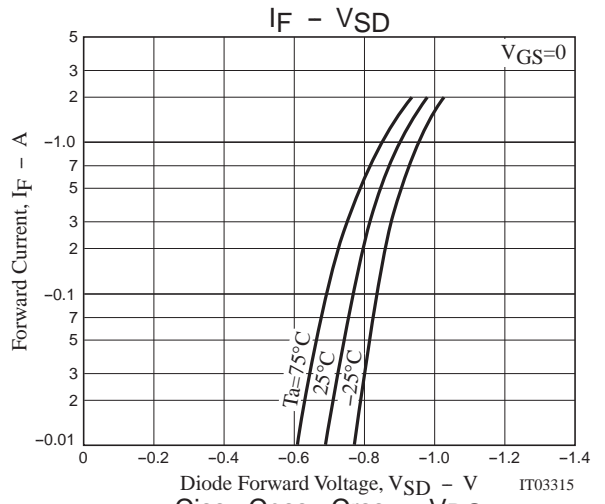
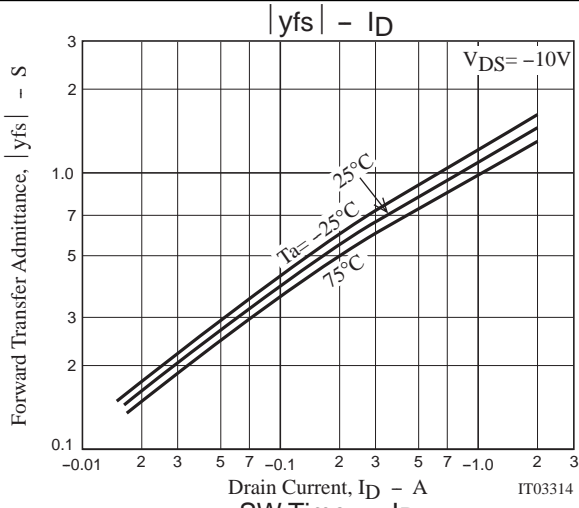


- 1 : Source1
- 2 : Gate1
- 3 : Drain2
- 4 : Source2
- 5 : Gate2
- 6 : Drain1

## Switching Time Test Circuit



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