



MCH6626

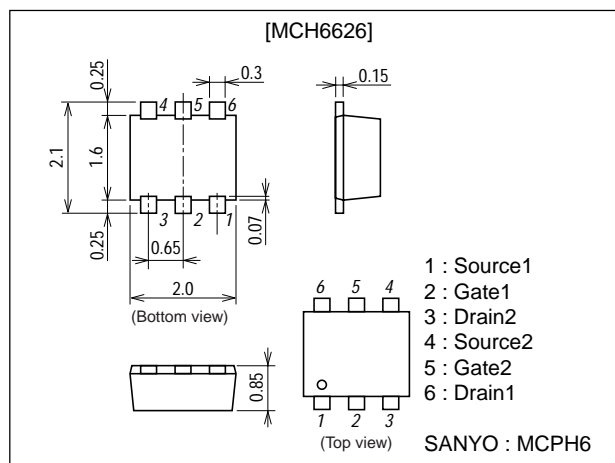
General-Purpose Switching Device Applications

Features

- The MCH6626 incorporates an N-channel MOSFET and a P-channel MOSFET that feature low ON-resistance and high-speed switching, thereby enabling high-density mounting.
- Excellent ON-resistance characteristic.
- 2.5V drive.

Package Dimensions

unit : mm
2173A



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	N-channel	P-channel	Unit
Drain-to-Source Voltage	V _{DSS}		20	-20	V
Gate-to-Source Voltage	V _{GSS}		±10	±10	V
Drain Current (DC)	I _D		1.6	-1.0	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	6.4	-4.0	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (900mm ² ×0.8mm)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	
[N-channel]						
Drain-to-Source Breakdown Voltage	V _{(BR)DSS}	I _D =1mA, V _{GS} =0	20			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =20V, V _{GS} =0			1	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 =1mA	0.4		1.3	V
Forward Transfer Admittance	y _{fs}	V _{DS} =10V, I _D =0.8A	1.4	2.4		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =0.8A, V _{GS} =4V		180	230	mΩ
	R _{DS(on)2}	I _D =0.4A, V _{GS} =2.5V		220	310	mΩ
	R _{DS(on)3}	I _D =0.1A, V _{GS} =1.8V		300	450	mΩ

Marking : WA

Continued on next page.

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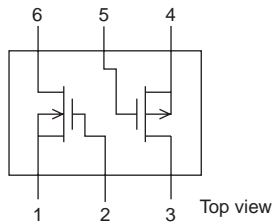
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	$V_{DS}=10V, f=1MHz$		105		pF
Output Capacitance	Coss	$V_{DS}=10V, f=1MHz$		23		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=10V, f=1MHz$		15		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		6		ns
Rise Time	t_r	See specified Test Circuit.		16		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		19		ns
Fall Time	t_f	See specified Test Circuit.		8		ns
Total Gate Charge	Qg	$V_{DS}=10V, V_{GS}=4V, I_D=1.6A$		1.4		nC
Gate-to-Source Charge	Qgs	$V_{DS}=10V, V_{GS}=4V, I_D=1.6A$		0.3		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=10V, V_{GS}=4V, I_D=1.6A$		0.3		nC
Diode Forward Voltage	VSD	$I_S=1.6A, V_{GS}=0$		0.92	1.2	V
[P-channel]						
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=-1mA, V_{GS}=0$	-20			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-20V, V_{GS}=0$			-1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 8V, V_{DS}=0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=-10V, I_D=-1mA$	-0.4		-1.3	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=-10V, I_D=-500mA$	0.7	1.2		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=-500mA, V_{GS}=-4V$		380	500	$m\Omega$
	$R_{DS(on)2}$	$I_D=-300mA, V_{GS}=-2.5V$		540	760	$m\Omega$
Input Capacitance	Ciss	$V_{DS}=-10V, f=1MHz$		115		pF
Output Capacitance	Coss	$V_{DS}=-10V, f=1MHz$		23		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=-10V, f=1MHz$		15		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		8		ns
Rise Time	t_r	See specified Test Circuit.		6		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		15		ns
Fall Time	t_f	See specified Test Circuit.		7		ns
Total Gate Charge	Qg	$V_{DS}=-10V, V_{GS}=-4V, I_D=-1A$		1.5		nC
Gate-to-Source Charge	Qgs	$V_{DS}=-10V, V_{GS}=-4V, I_D=-1A$		0.4		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=-10V, V_{GS}=-4V, I_D=-1A$		0.3		nC
Diode Forward Voltage	VSD	$I_S=-1A, V_{GS}=0$	-0.9		-1.5	V

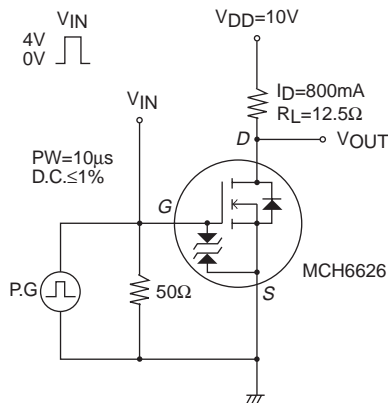
Electrical Connection



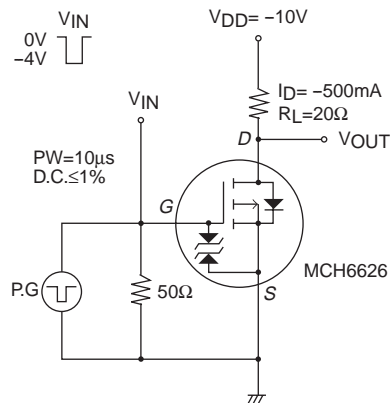
- 1 : Source1
- 2 : Gate1
- 3 : Drain2
- 4 : Source2
- 5 : Gate2
- 6 : Drain1

Switching Time Test Circuit

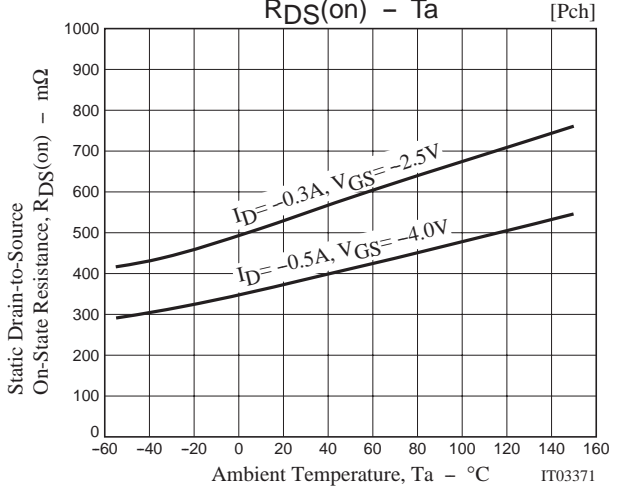
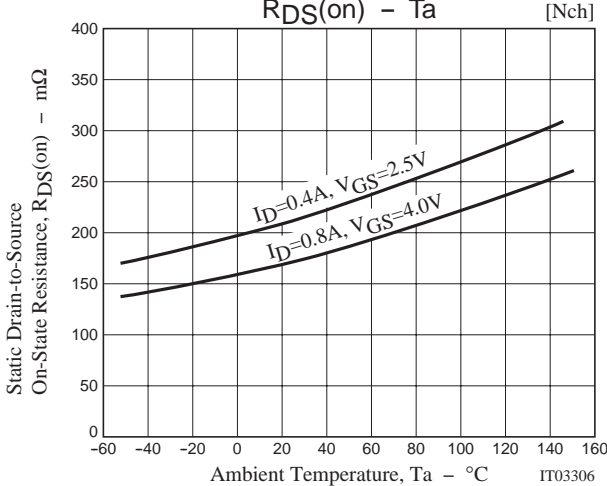
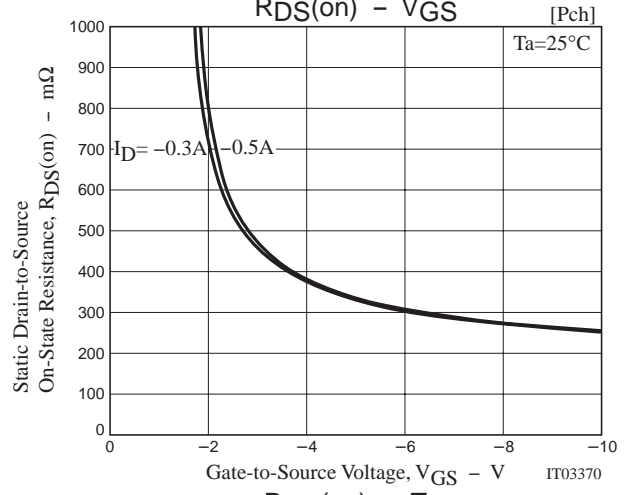
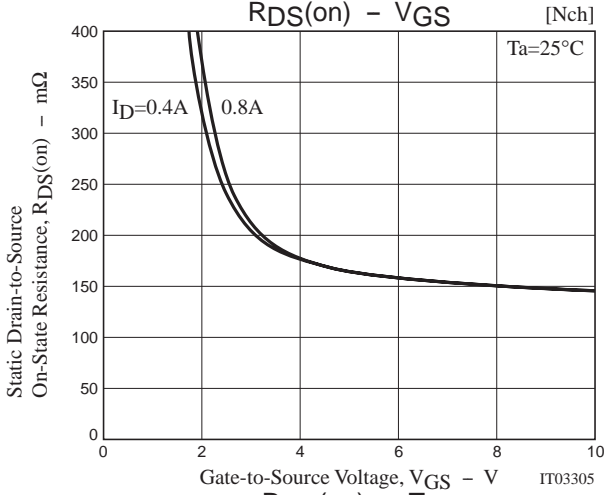
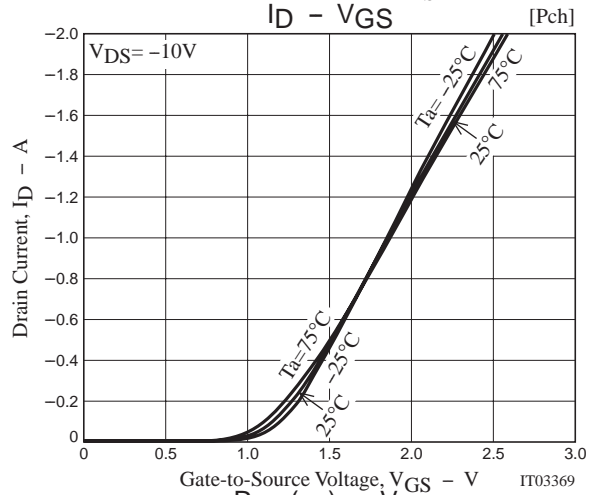
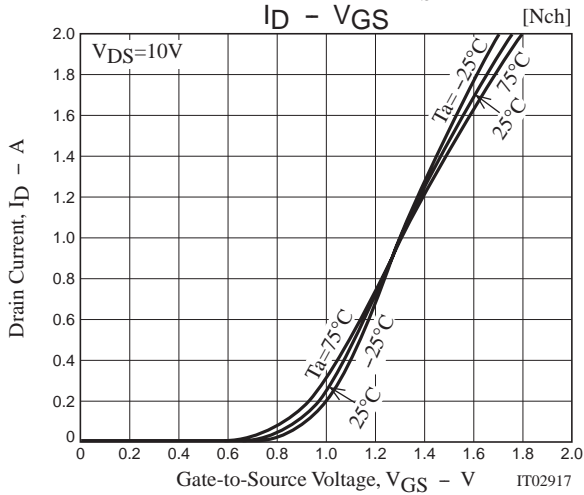
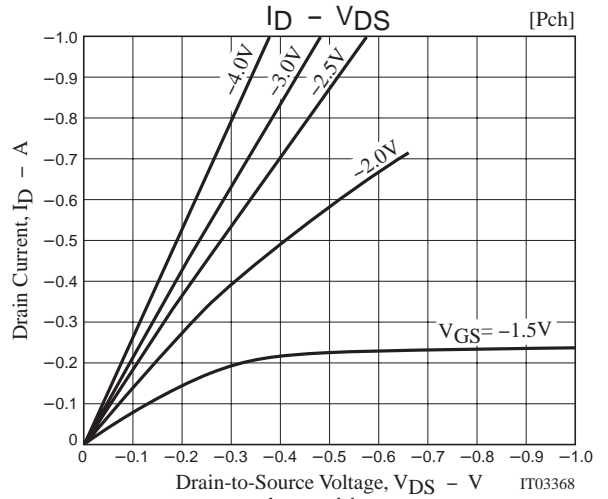
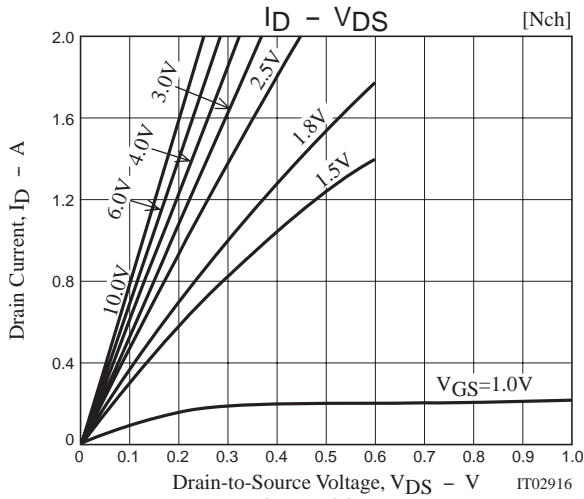
[N-channel]



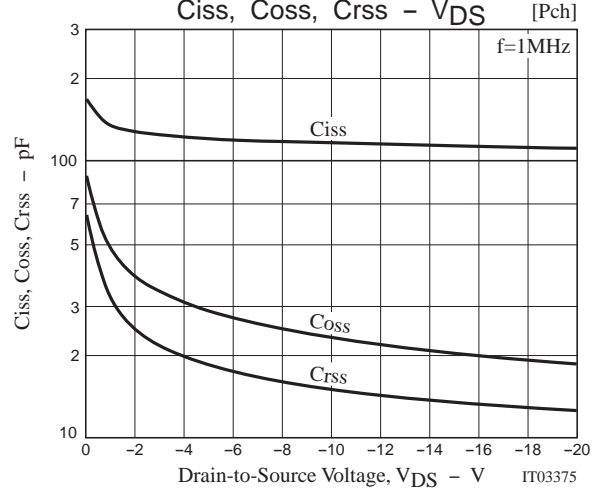
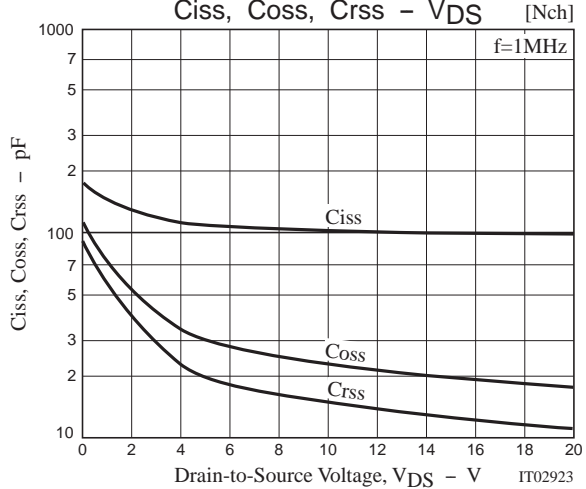
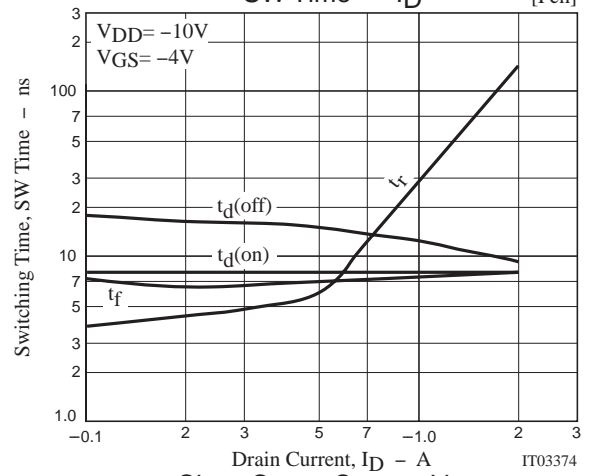
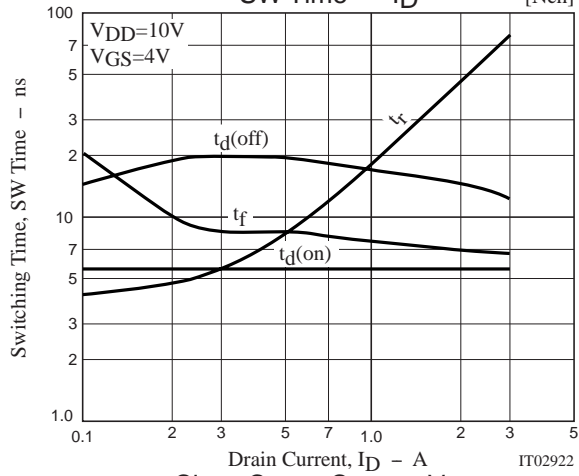
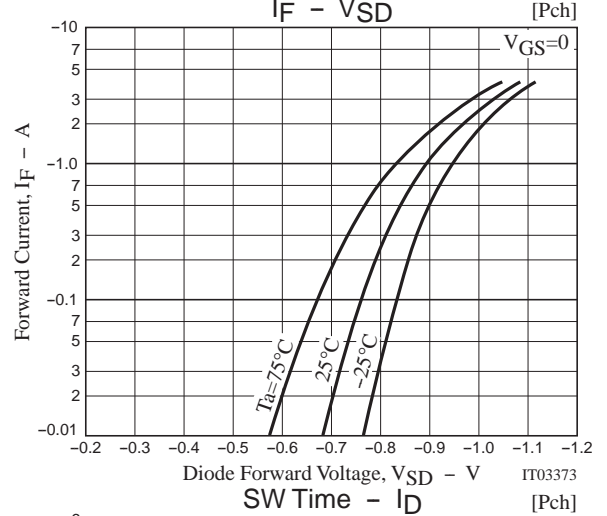
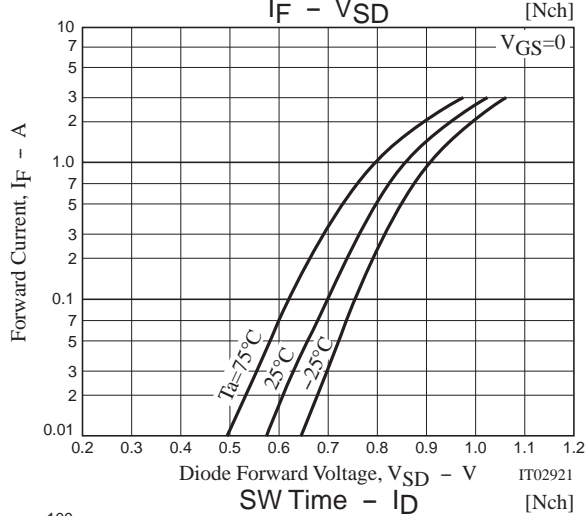
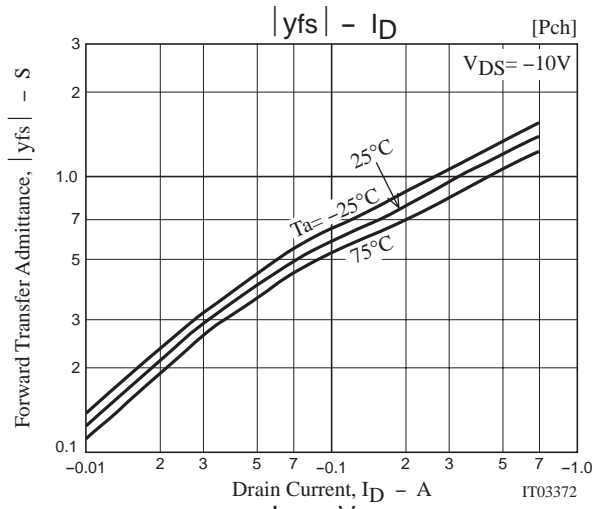
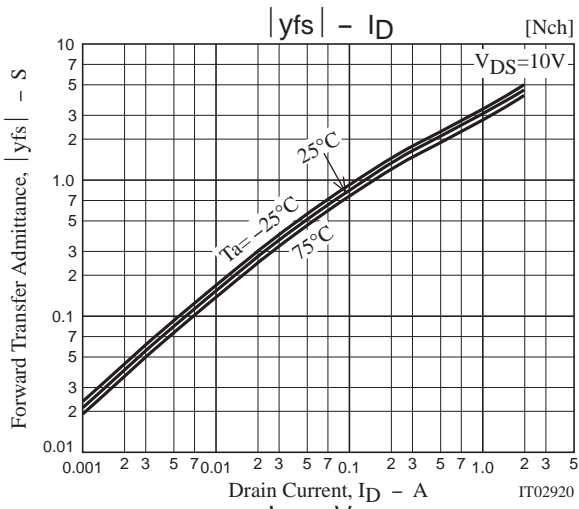
[P-channel]

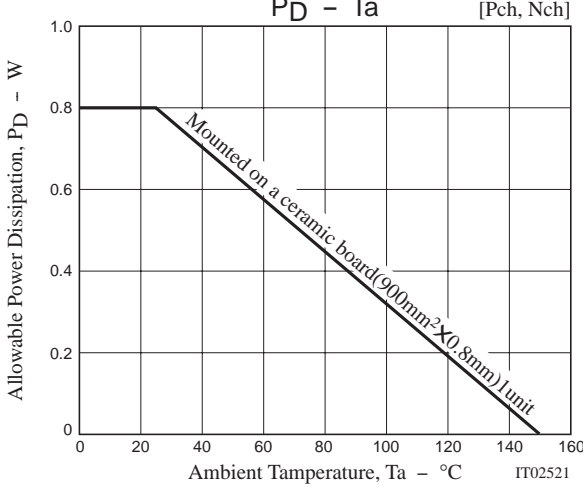
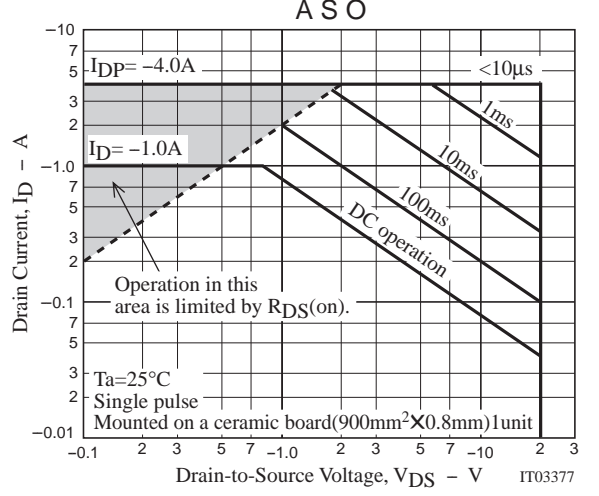
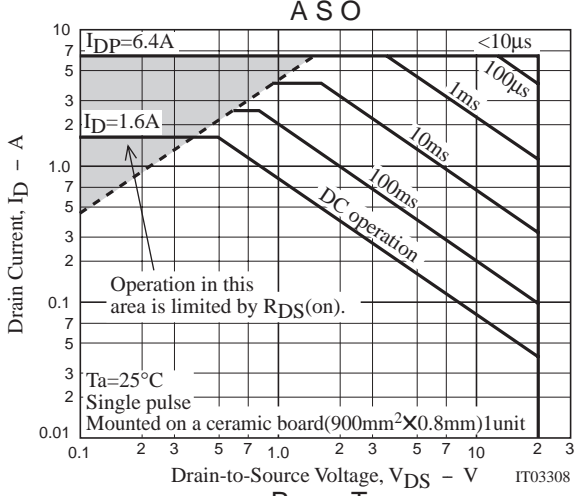
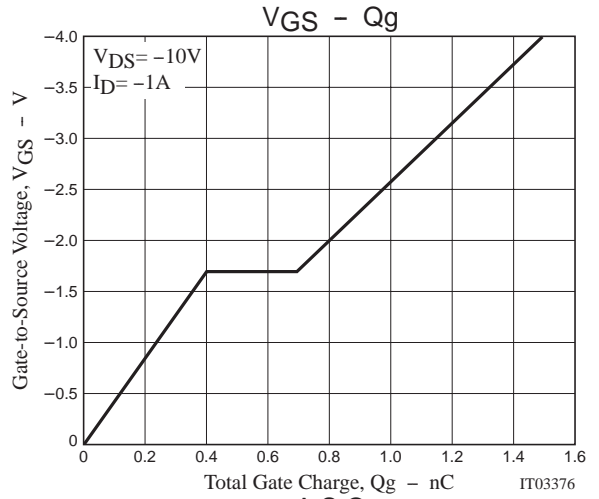
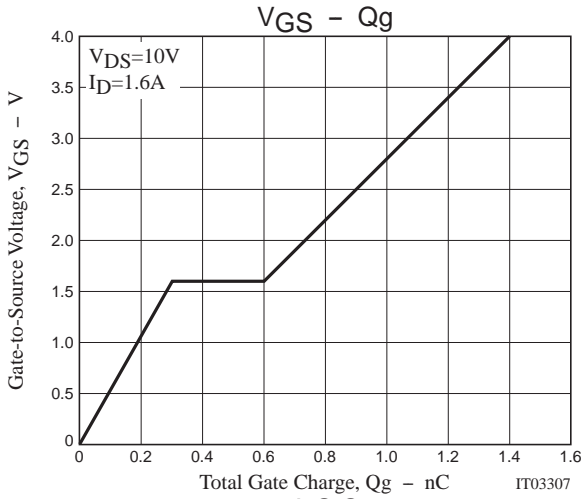


MCH6626



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Note on usage : Since the MCH6626 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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