



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

MCH6601 — P-Channel Silicon MOSFET General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 1.5V drive.
- Composite type with 2 MOSFETs contained in a single package, facilitating high-density mounting.

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}		±10	V
Drain Current (DC)	I _D		-0.2	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-0.8	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (900mm²×0.8mm) 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	
Drain-to-Source Breakdown Voltage	V(BR)DSS	I _D =-1mA, V _{GS} =0V	-30			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30V, V _{GS} =0V			-1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±8V, V _{DS} =0V			±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 =-50mA	80	110		mS
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-50mA, V _{GS} =-4V		8	10.4	Ω
	R _{DS(on)2}	I _D =-30mA, V _{GS} =-2.5V		11	15.4	Ω
	R _{DS(on)3}	I _D =-1mA, V _{GS} =-1.5V		27	54	Ω
Input Capacitance	C _{iss}	V _{DS} =-10V, f=1MHz		7.5		pF
Output Capacitance	C _{oss}	V _{DS} =-10V, f=1MHz		5.7		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =-10V, f=1MHz		1.8		pF

Marking : FA

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MCH6601

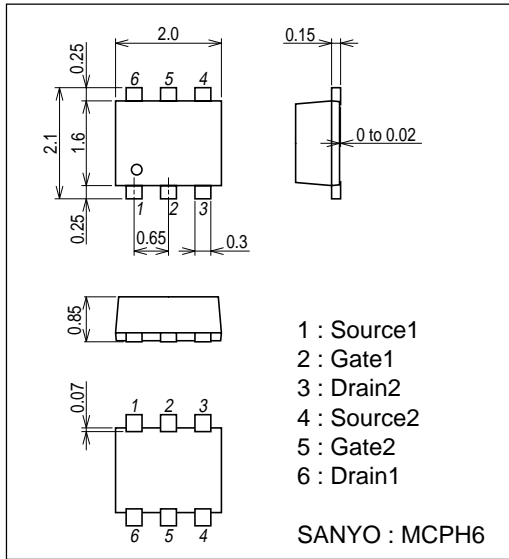
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_d(\text{on})$	See specified Test Circuit.		24		ns
Rise Time	t_r	See specified Test Circuit.		55		ns
Turn-OFF Delay Time	$t_d(\text{off})$	See specified Test Circuit.		120		ns
Fall Time	t_f	See specified Test Circuit.		130		ns
Total Gate Charge	Q_g	$V_{DS}=-10V, V_{GS}=-10V, I_D=-100mA$		1.43		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS}=-10V, V_{GS}=-10V, I_D=-100mA$		0.18		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS}=-10V, V_{GS}=-10V, I_D=-100mA$		0.25		nC
Diode Forward Voltage	V_{SD}	$I_S=-100mA, V_{GS}=0V$		-0.83	-1.2	V

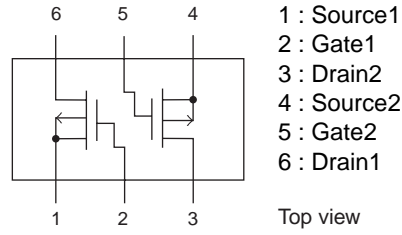
Package Dimensions

unit : mm

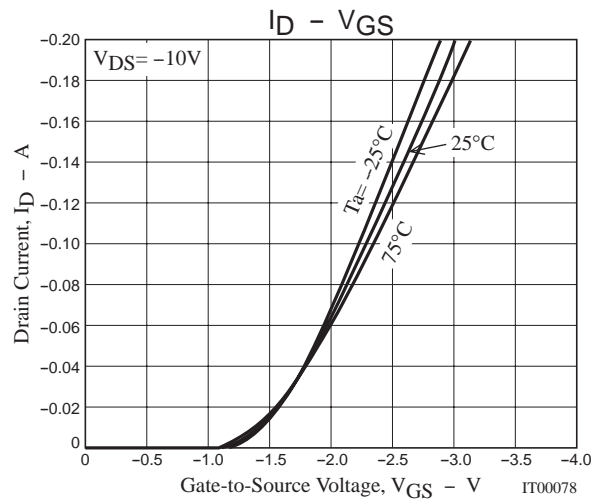
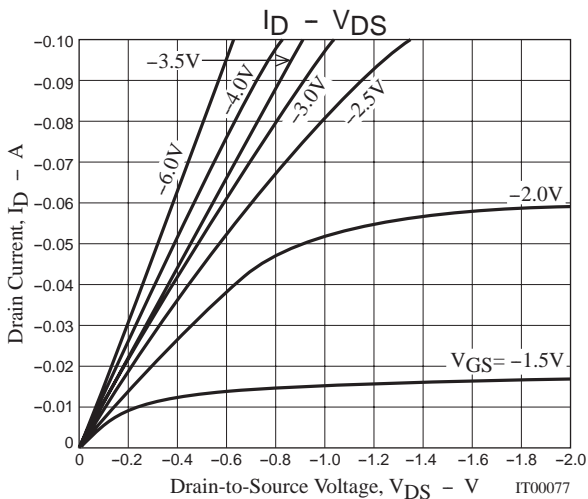
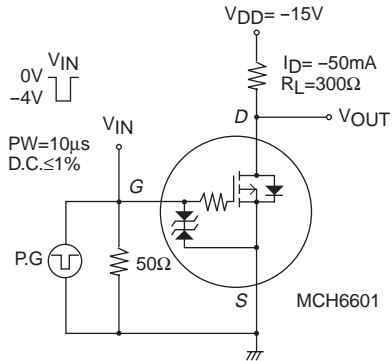
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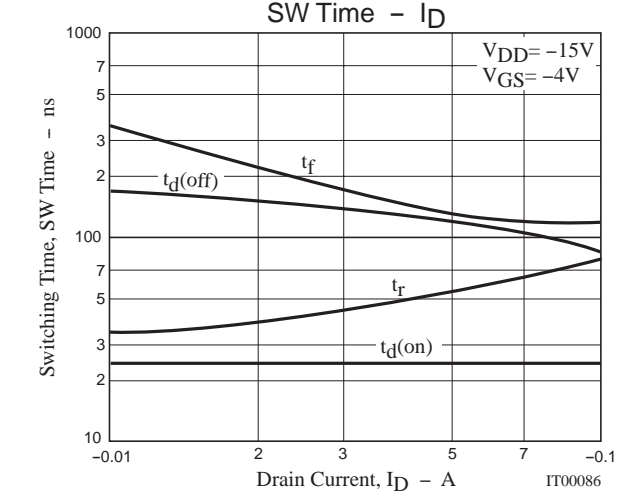
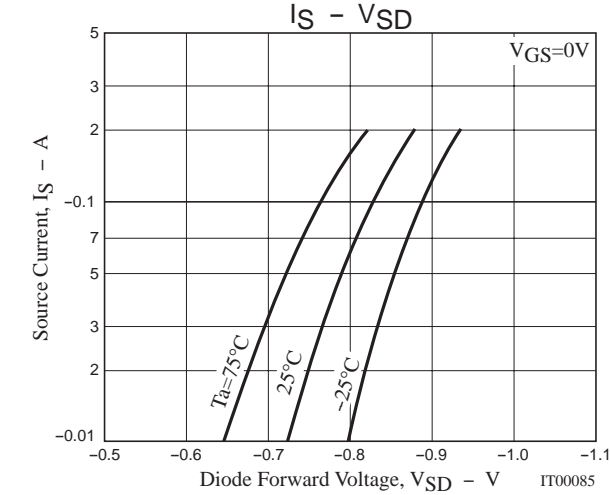
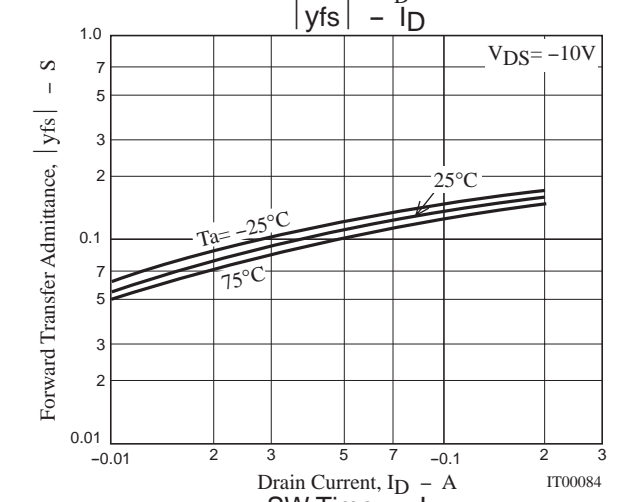
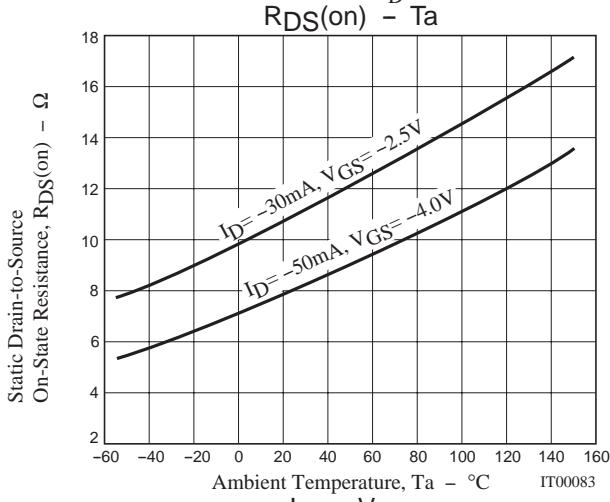
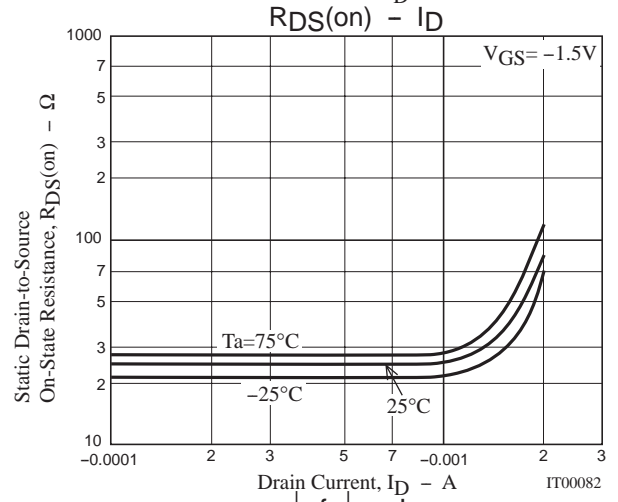
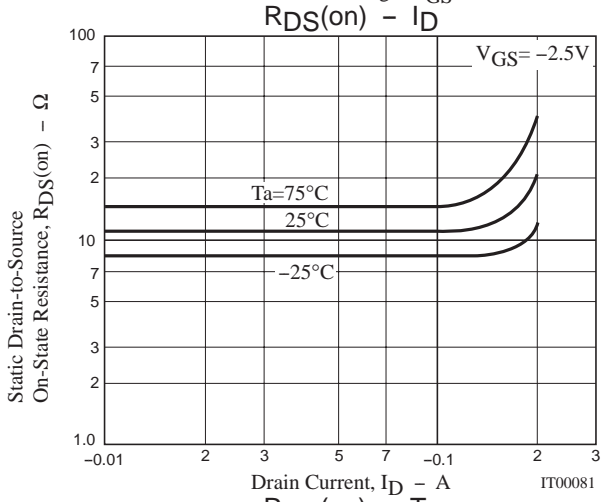
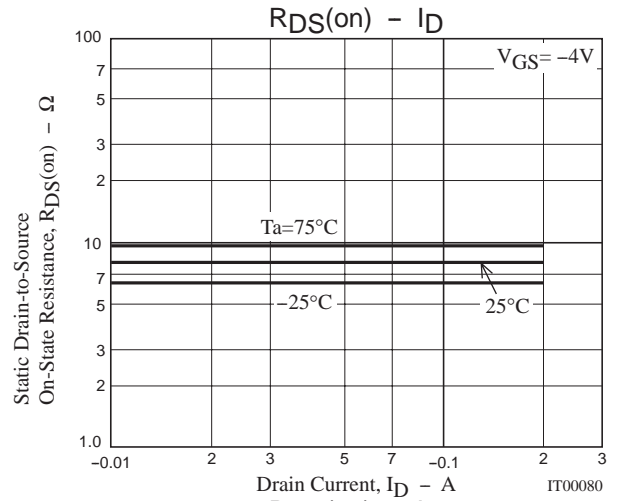
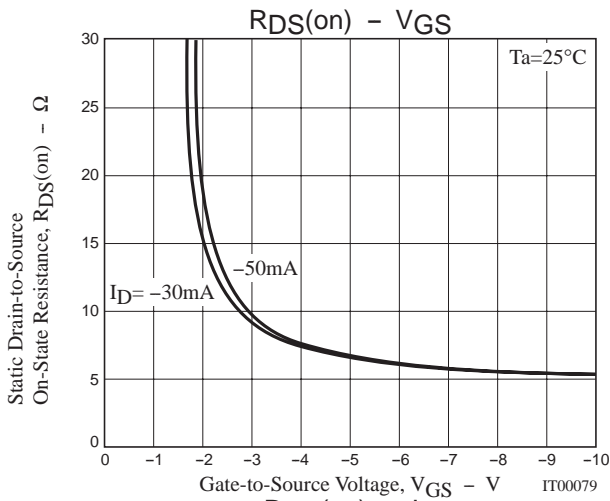
Electrical Connection

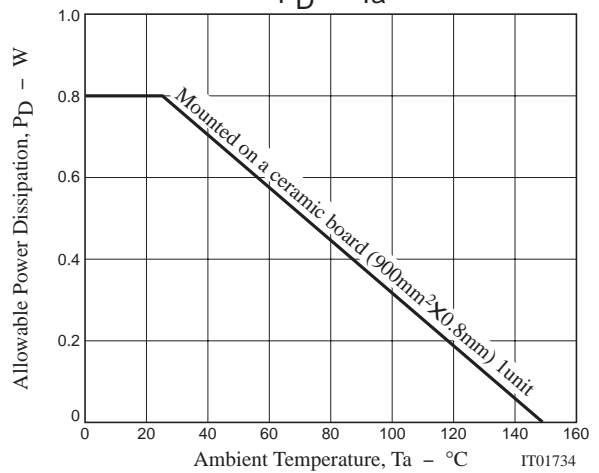
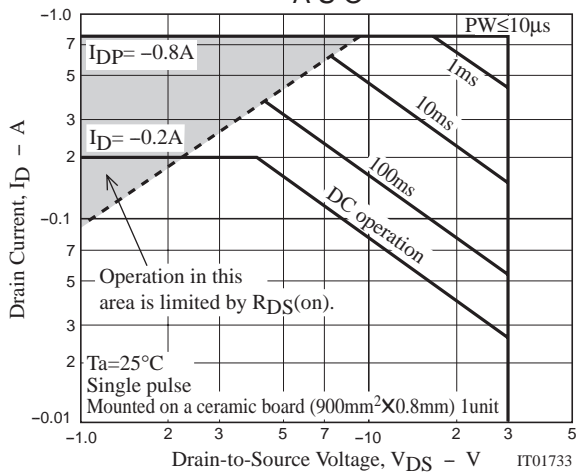
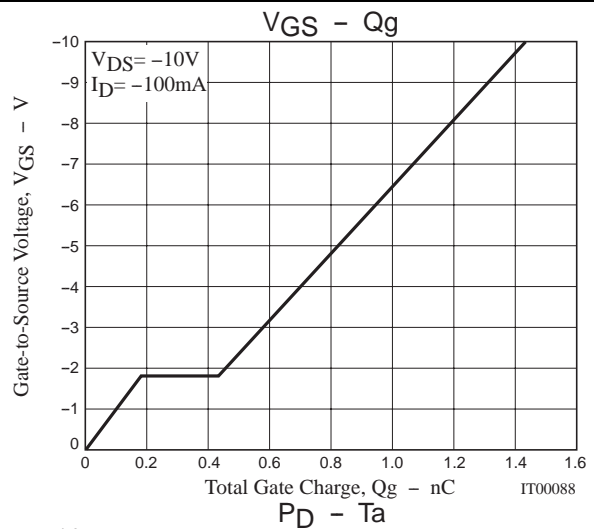
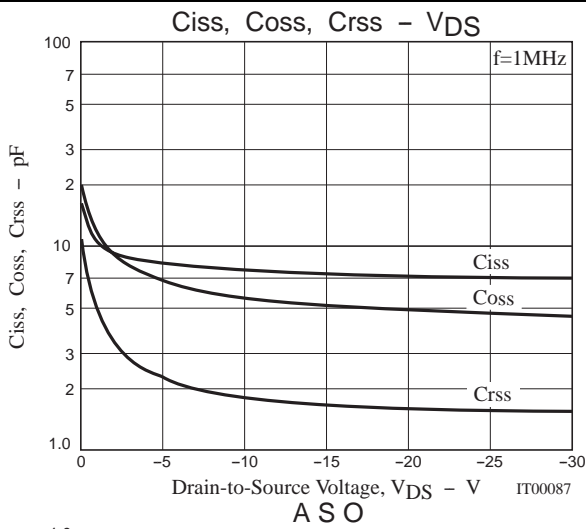


Switching Time Test Circuit



MCH6601





Note on usage : Since the MCH6601 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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