

Ordering number: ENN6458

P-Channel Silicon MOSFET



MCH6601

Ultrahigh-Speed Switching Applications

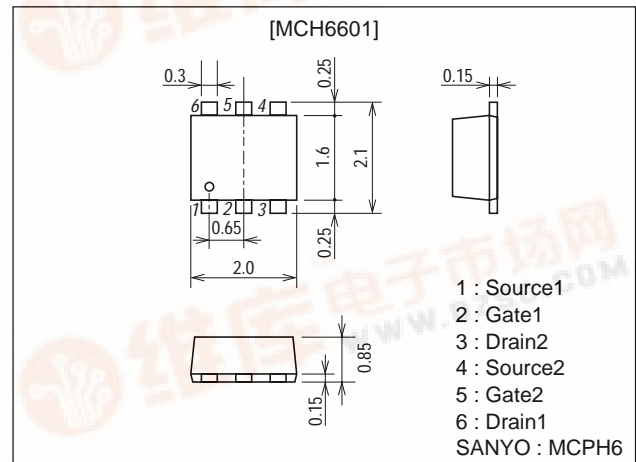
Features

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

Package Dimensions

unit:mm

2173



Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DS}		-30	V
Gate-to-Source Voltage	V _{GS}		±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} =0	-30			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30V, 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 =-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

Marking : FA

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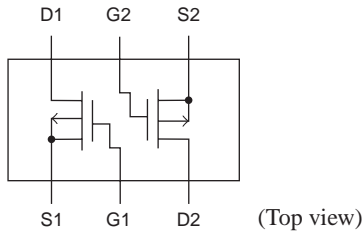


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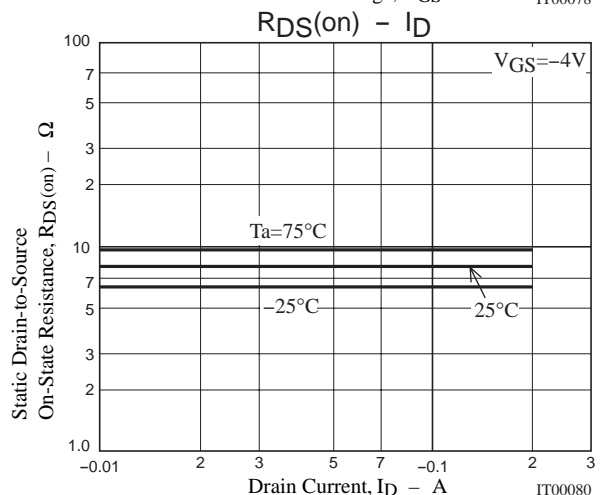
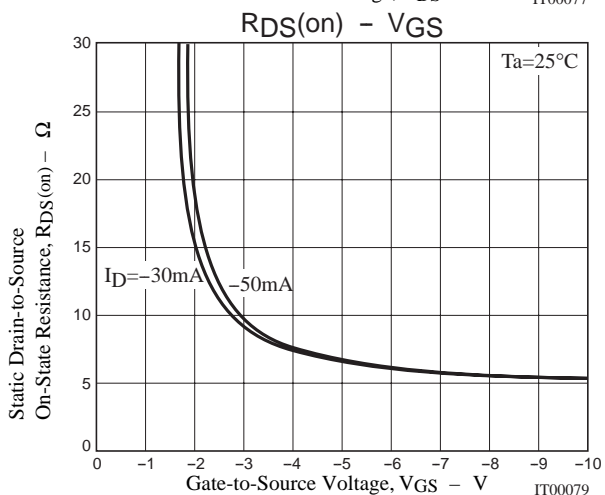
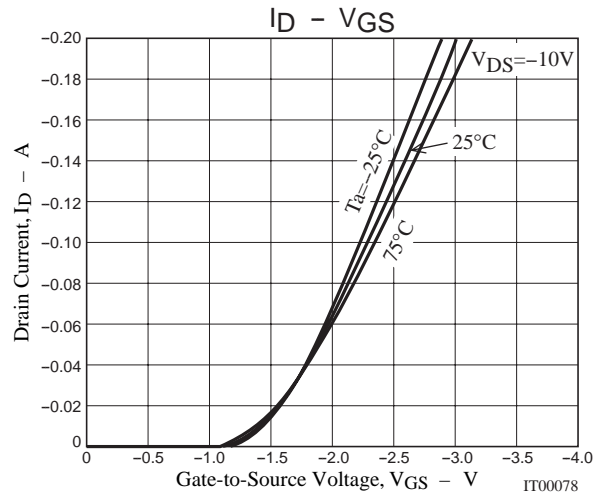
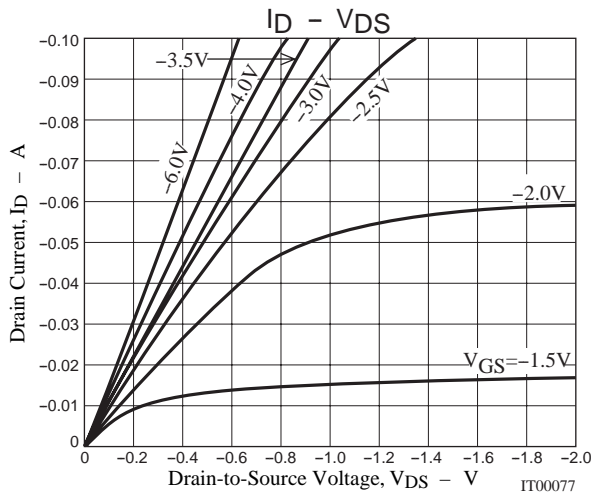
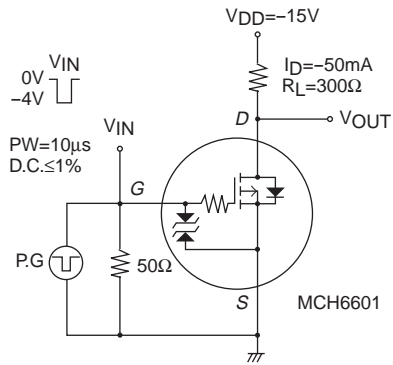
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	$V_{DS}=-10V, f=1MHz$		7.5		pF
Output Capacitance	Coss	$V_{DS}=-10V, f=1MHz$		5.7		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=-10V, f=1MHz$		1.8		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit		24		ns
Rise Time	t_r	See specified Test Circuit		55		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit		120		ns
Fall Time	t_f	See specified Test Circuit		130		ns
Total Gate Charge	Qg	$V_{DS}=-10V, V_{GS}=-10V, I_D=-100mA$		1.43		nC
Gate-to-Source Charge	Qgs	$V_{DS}=-10V, V_{GS}=-10V, I_D=-100mA$		0.18		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=-10V, V_{GS}=-10V, I_D=-100mA$		0.25		nC
Diode Forward Voltage	V_{SD}	$I_S=-100mA, V_{GS}=0$		0.83	1.2	V

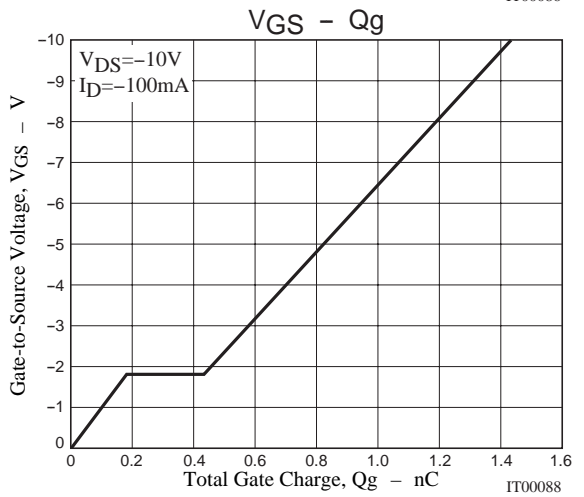
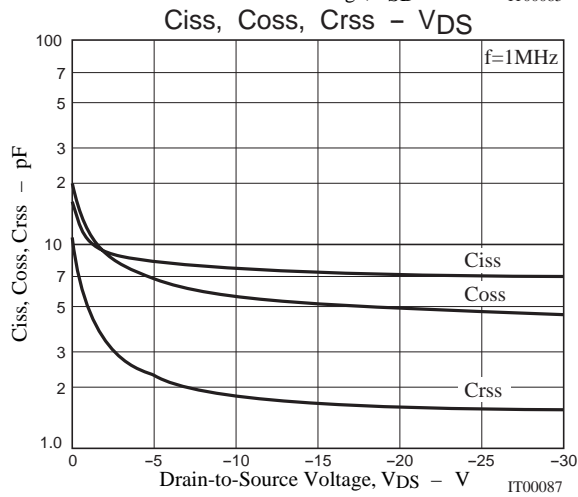
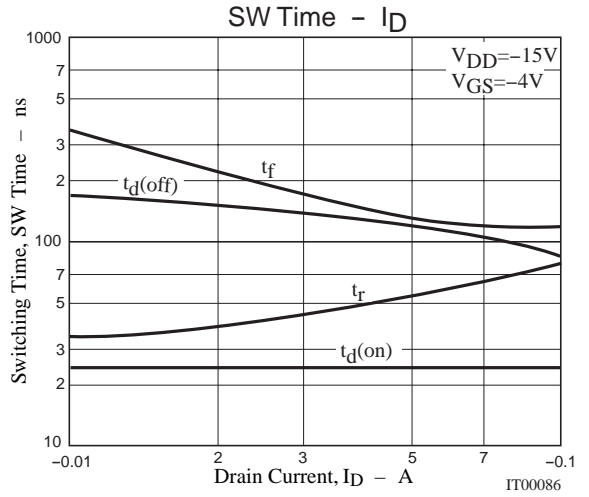
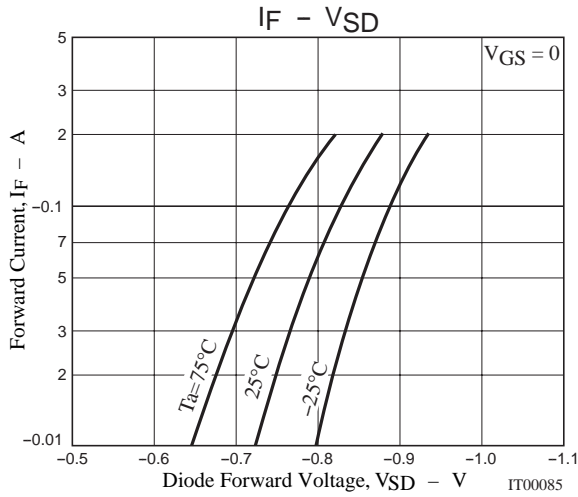
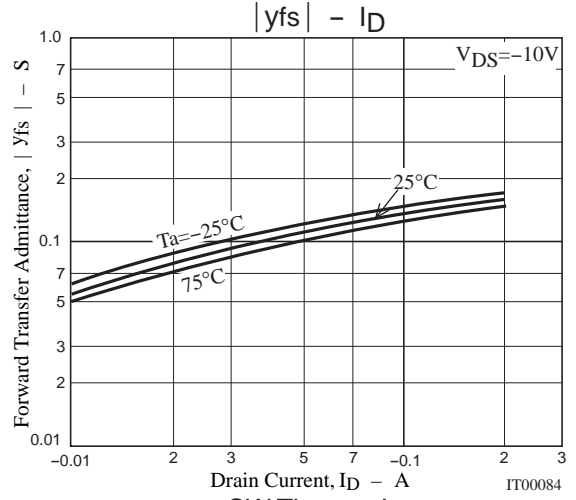
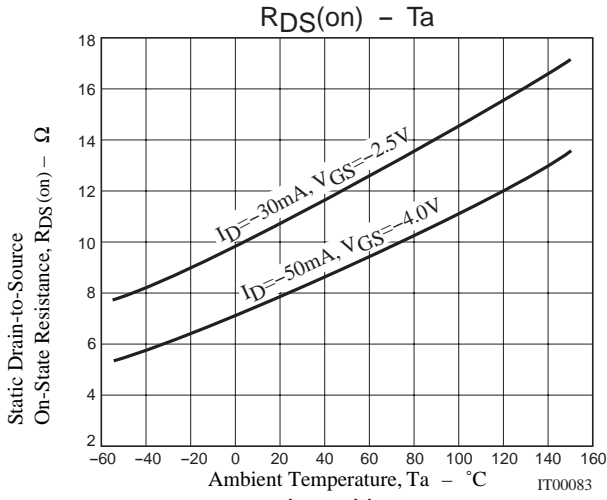
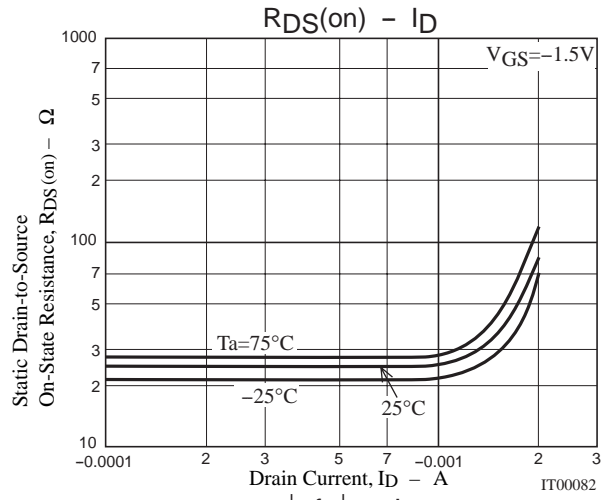
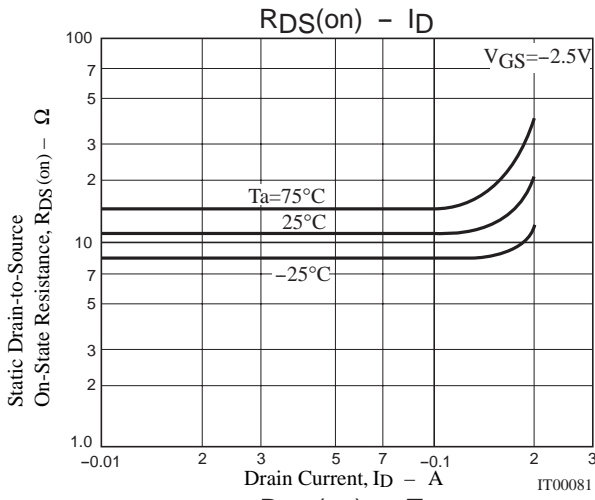
Electrical Connection



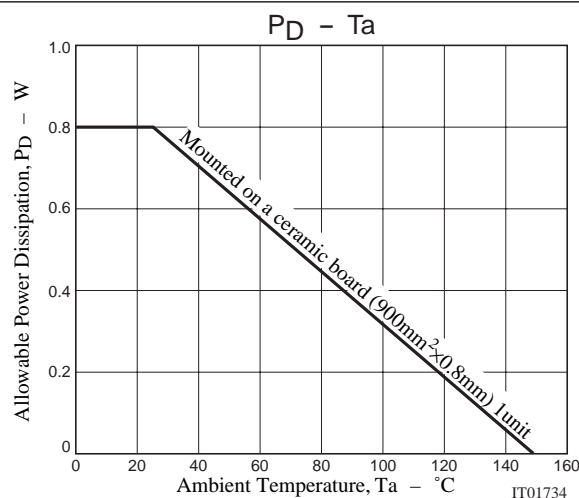
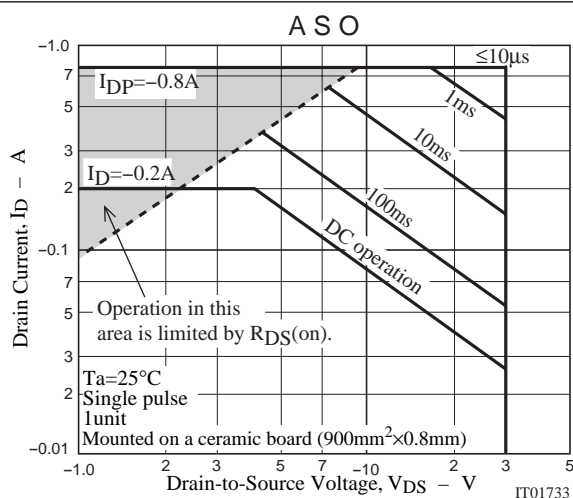
Switching Time Test Circuit



MCH6601



MCH6601



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