



P-Channel Silicon MOSFET

MCH6635 — General-Purpose Switching Device Applications

Features

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

Specifications

Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		-20	V
Gate-to-Source Voltage	V_{GSS}		± 10	V
Drain Current (DC)	I_D		-0.8	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	-3.2	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board(900mm \times 90.8mm) 1unit	0.8	W
Channel Temperature	T_{ch}		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=-1\text{mA}$, $V_{GS}=0$	-20			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-20\text{V}$, $V_{GS}=0$			-1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 8\text{V}$, $V_{DS}=0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=-10\text{V}$, $I_D=-100\mu\text{A}$	-0.4		-1.3	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=-10\text{V}$, $I_D=-400\text{mA}$	0.5	0.85		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=-400\text{mA}$, $V_{GS}=-4\text{V}$		0.69	0.9	Ω
	$R_{DS(on)2}$	$I_D=-200\text{mA}$, $V_{GS}=-2.5\text{V}$		0.96	1.35	Ω
Input Capacitance	C_{iss}	$V_{DS}=-10\text{V}$, $f=1\text{MHz}$		76		pF
Output Capacitance	C_{oss}	$V_{DS}=-10\text{V}$, $f=1\text{MHz}$		17.5		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=-10\text{V}$, $f=1\text{MHz}$		11		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit		8.2		ns
Rise Time	t_r	See specified Test Circuit		15		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit		12		ns
Fall Time	t_f	See specified Test Circuit		11.5		ns

Marking : WK

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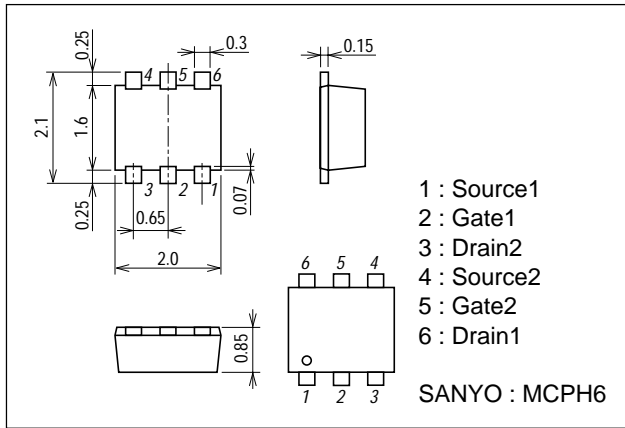
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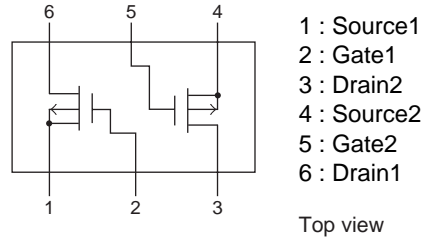
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	$V_{DS}=-10V, V_{GS}=-4V, I_D=-800mA$		1.18		nC
Gate-to-Source Charge	Qgs	$V_{DS}=-10V, V_{GS}=-4V, I_D=-800mA$		0.32		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=-10V, V_{GS}=-4V, I_D=-800mA$		0.24		nC
Diode Forward Voltage	V_{SD}	$I_S=-800mA, V_{GS}=0$		-0.95	-1.5	V

Package Dimensions

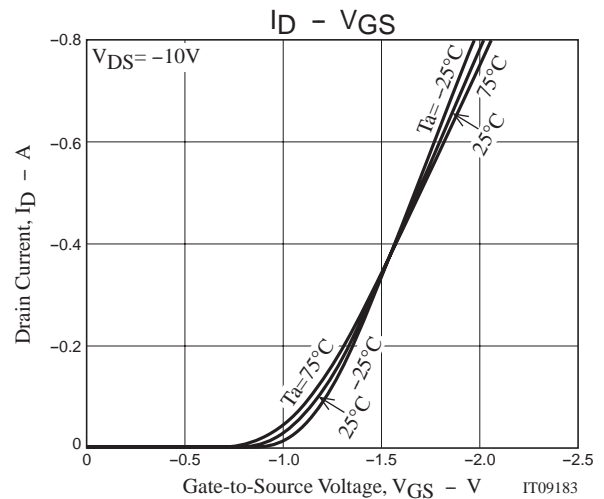
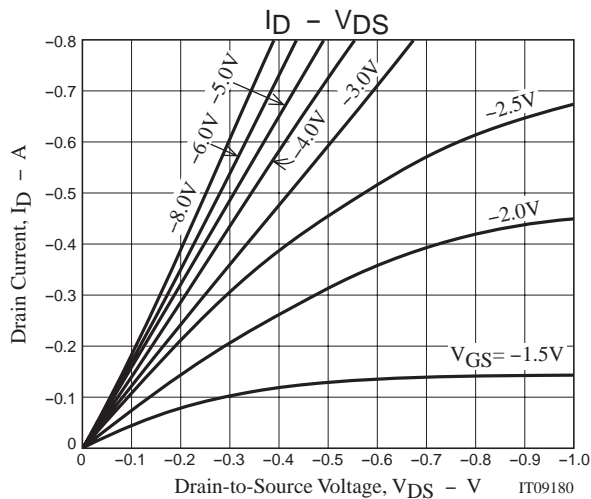
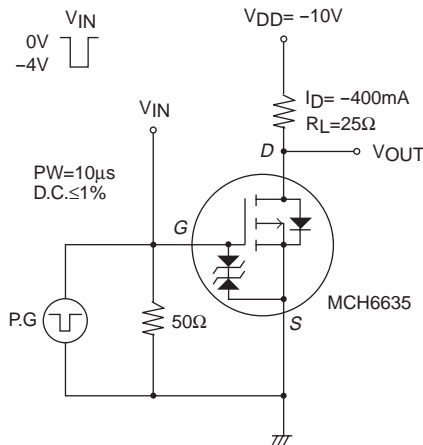
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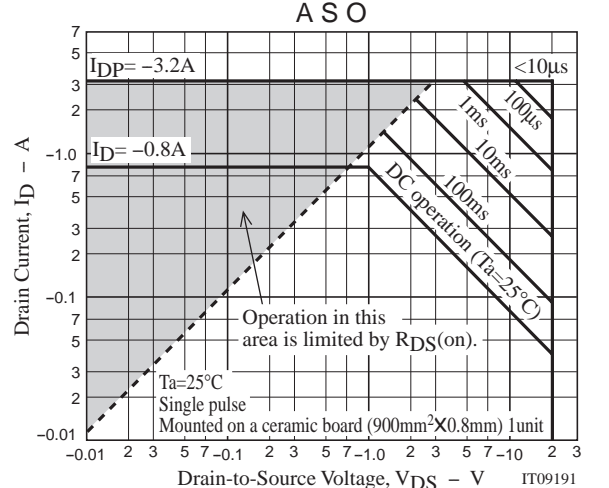
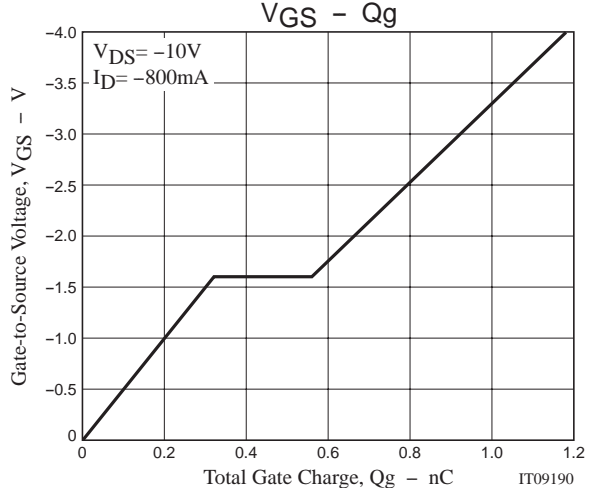
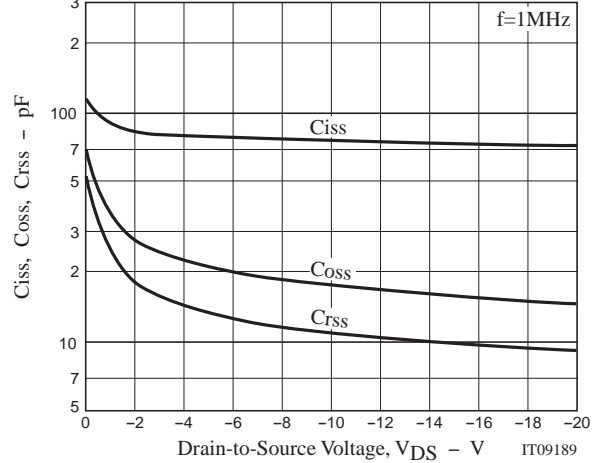
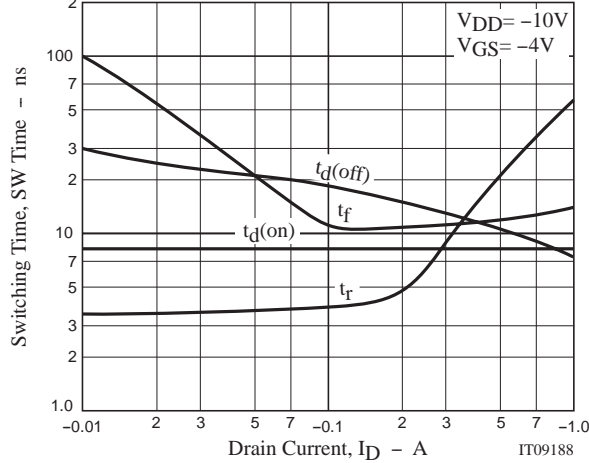
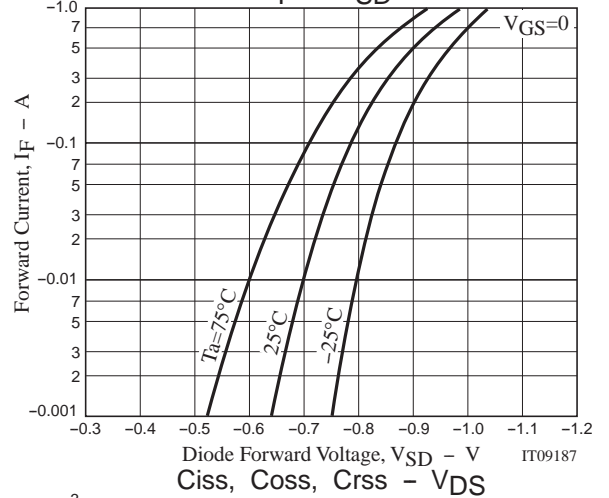
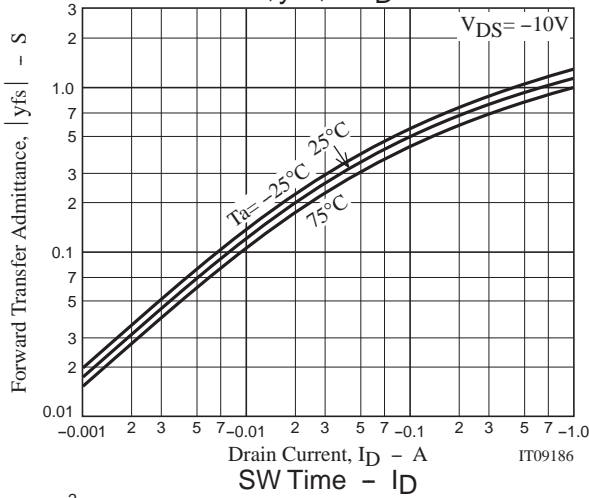
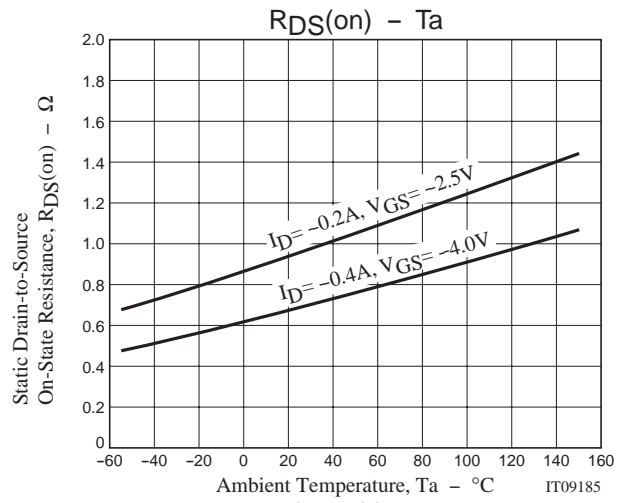
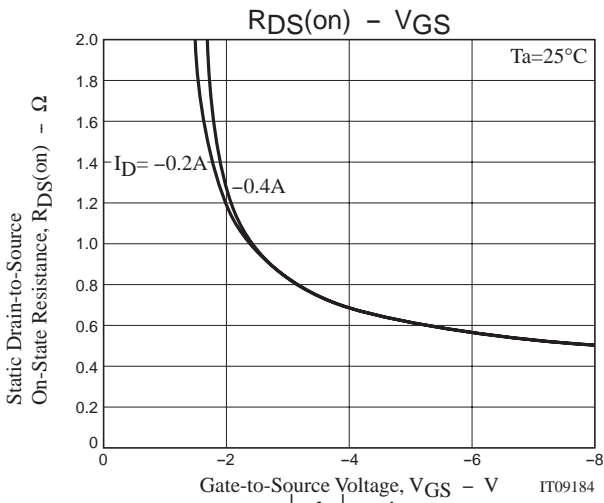
Electrical Connection



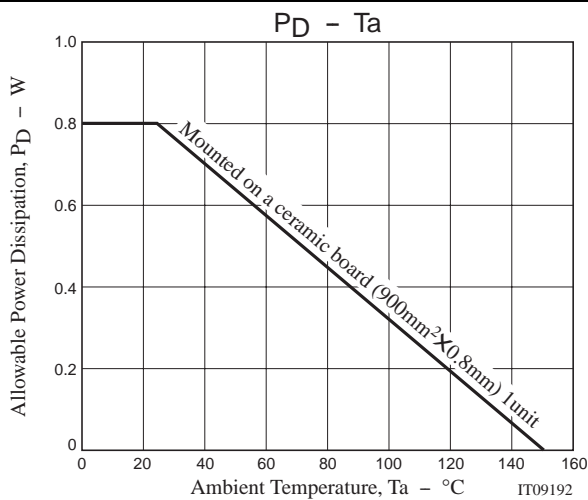
Switching Time Test Circuit



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Note on usage : Since the MCH6635 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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