



CPH5608

Ultrahigh-Speed Switching Applications

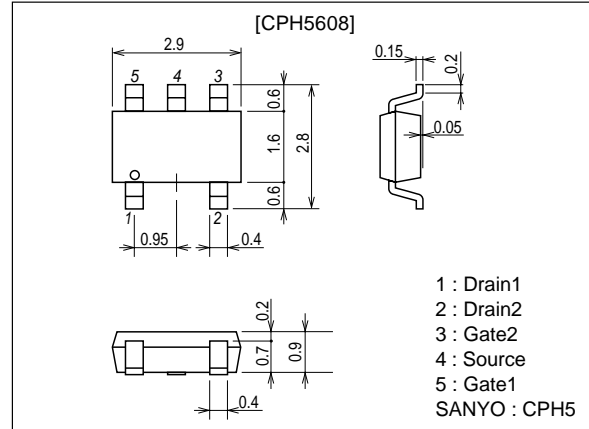
Features

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

Package Dimensions

unit:mm

2168



Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		100	V
Gate-to-Source Voltage	V_{GSS}		± 10	V
Drain Current (DC)	I_D		0.4	A
Drain Current (pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	1.6	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (600mm ² ×0.8mm) 1unit	0.9	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	$V_{(BR)DSS}$	$I_D=1\text{mA}$, $V_{GS}=0$	100			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=100\text{V}$, $V_{GS}=0$			10	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 8\text{V}$, $V_{DS}=0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10\text{V}$, $I_D=1\text{mA}$	0.5		1.5	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10\text{V}$, $I_D=200\text{mA}$	520	750		mS
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=200\text{mA}$, $V_{GS}=4\text{V}$		2.5	3.3	Ω
	$R_{DS(on)2}$	$I_D=100\text{mA}$, $V_{GS}=2.5\text{V}$		2.7	3.8	Ω
Input Capacitance	C_{iss}	$V_{DS}=20\text{V}$, $f=1\text{MHz}$		50		pF
Output Capacitance	C_{oss}	$V_{DS}=20\text{V}$, $f=1\text{MHz}$		15		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=20\text{V}$, $f=1\text{MHz}$		4		pF

Marking : FH

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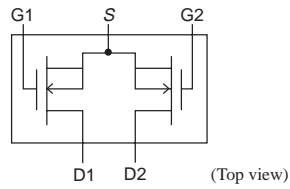
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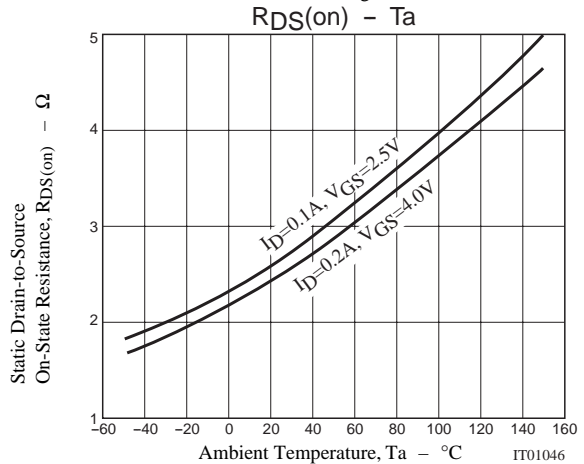
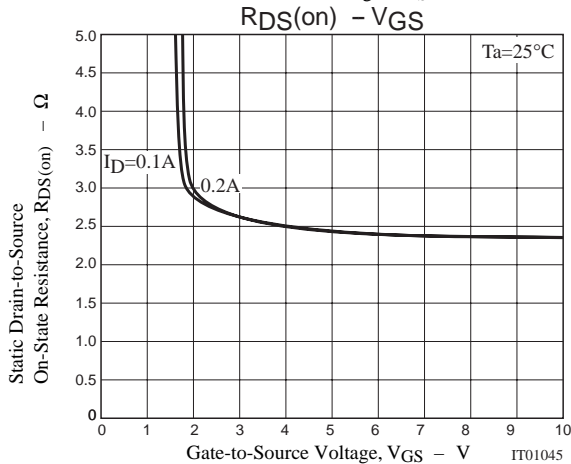
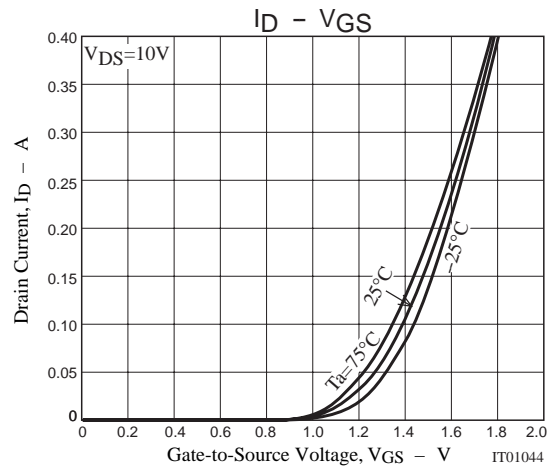
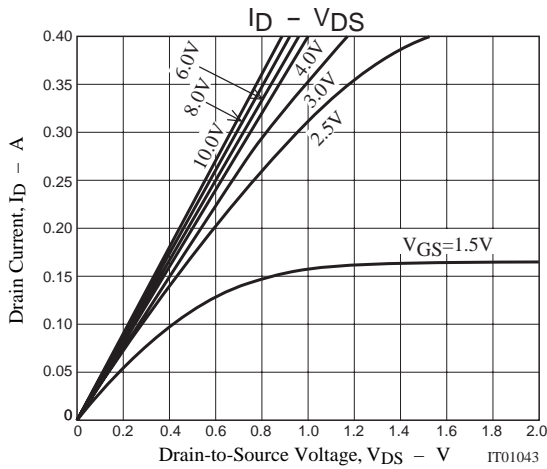
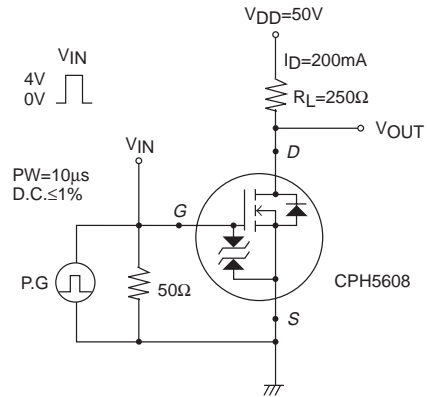
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		15		ns
Rise Time	t_r	See specified Test Circuit		10		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		20		ns
Fall Time	t_f	See specified Test Circuit		20		ns
Total Gate Charge	Qg	$V_{DS}=10V, V_{GS}=10V, I_D=400mA$		5		nC
Gate-to-Source Charge	Qgs	$V_{DS}=10V, V_{GS}=10V, I_D=400mA$		1		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=10V, V_{GS}=10V, I_D=400mA$		2		nC
Diode Forward Voltage	V_{SD}	$I_S=400mA, V_{GS}=0$		1.0	1.2	V

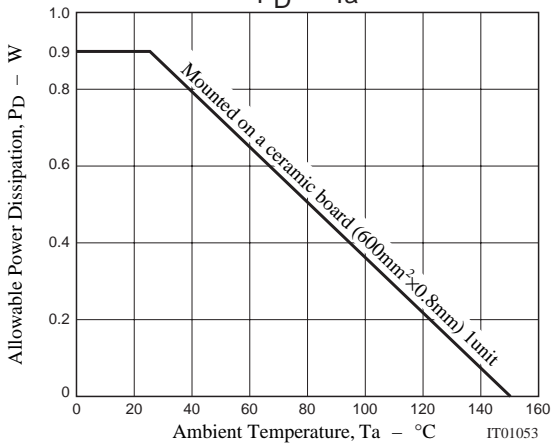
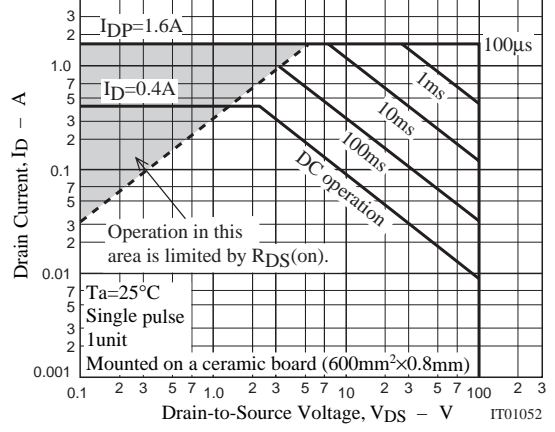
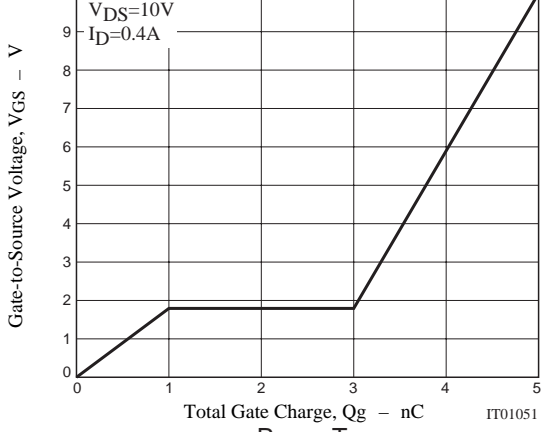
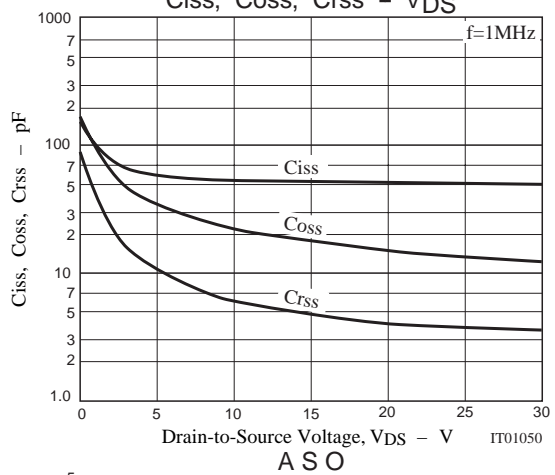
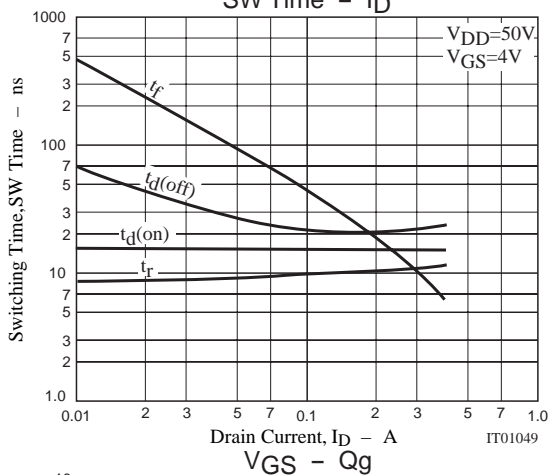
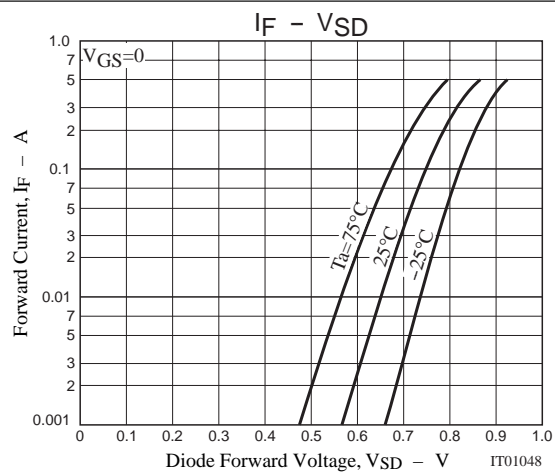
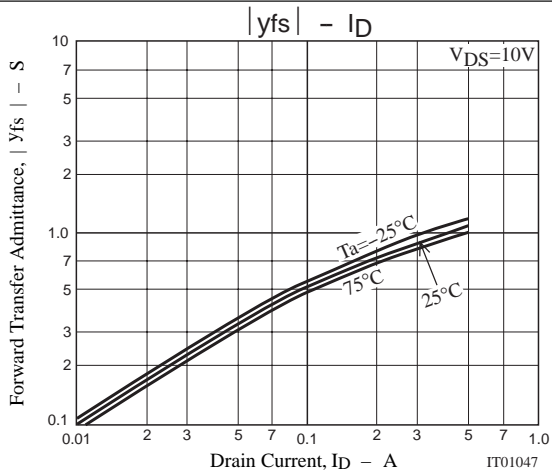
Electrical Connection



Switching Time Test Circuit



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