



# CPH5601

## Ultrahigh-Speed Switching Applications

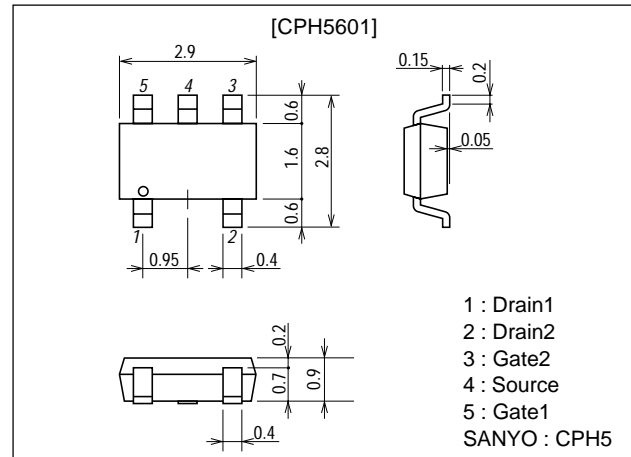
### Features

- 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 Ta = 25°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)	$I_D$		-1.0	A
Drain Current (pulse)	$I_{DP}$	$PW \leq 10\mu s$ , duty cycle $\leq 1\%$	-4.0	A
Allowable Power Dissipation	$P_D$	Mounted on a ceramic board (600mm $\times$ 0.8mm) 1unit	0.9	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

#### Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = -1mA$ , $V_{GS} = 0$	-20			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -20V$ , $V_{GS} = 0$			-10	$\mu A$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 8V$ , $V_{DS} = 0$			±10	$\mu A$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = -10V$ , $I_D = -1mA$	-0.4		-1.4	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = -10V$ , $I_D = -500mA$	1.0	1.4		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = -500mA$ , $V_{GS} = -4V$		420	550	m $\Omega$
	$R_{DS(on)2}$	$I_D = -300mA$ , $V_{GS} = -2.5V$		630	890	m $\Omega$
Input Capacitance	$C_{iss}$	$V_{DS} = -10V$ , $f = 1MHz$		100		pF
Output Capacitance	$C_{oss}$	$V_{DS} = -10V$ , $f = 1MHz$		60		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS} = -10V$ , $f = 1MHz$		25		pF

Marking : FA

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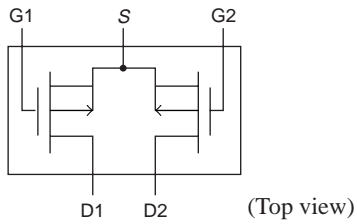
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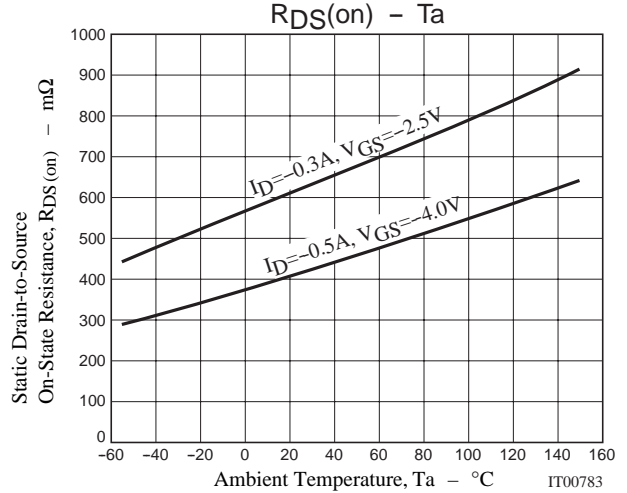
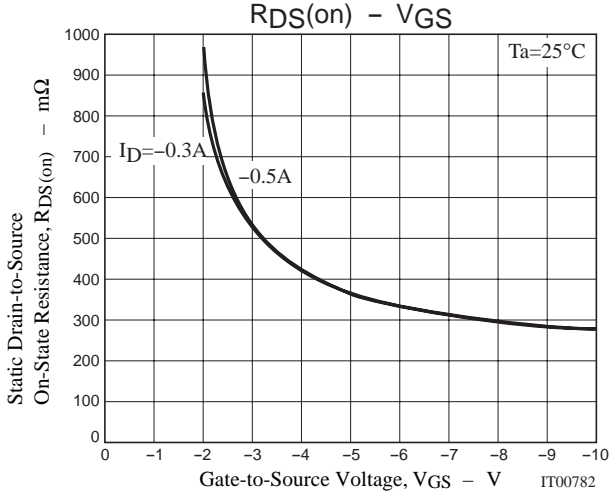
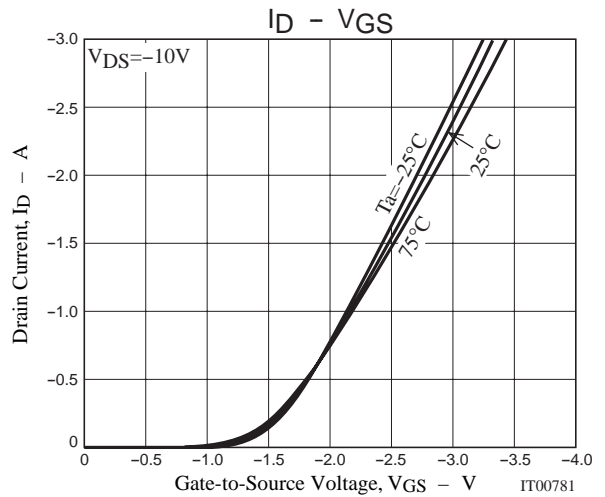
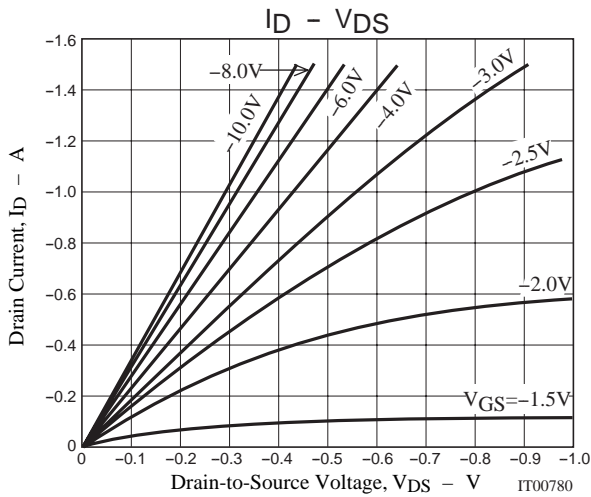
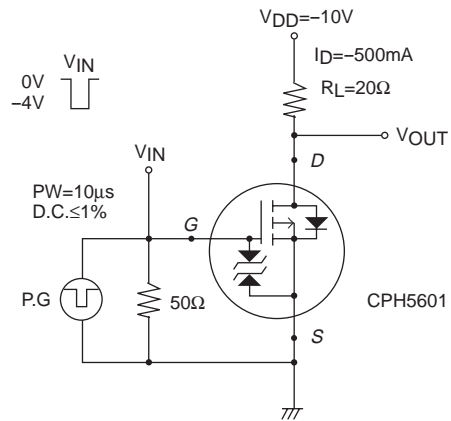
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		10		ns
Rise Time	$t_r$	See specified Test Circuit		25		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		27		ns
Fall Time	$t_f$	See specified Test Circuit		32		ns
Total Gate Charge	$Q_g$	$V_{DS}=-10V, V_{GS}=-10V, I_D=-1.0A$		5		nC
Gate-to-Source Charge	$Q_{gs}$	$V_{DS}=-10V, V_{GS}=-10V, I_D=-1.0A$		1		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$	$V_{DS}=-10V, V_{GS}=-10V, I_D=-1.0A$		1		nC
Diode Forward Voltage	$V_{SD}$	$I_S=-1.0A, V_{GS}=0$		-0.9	-1.5	V

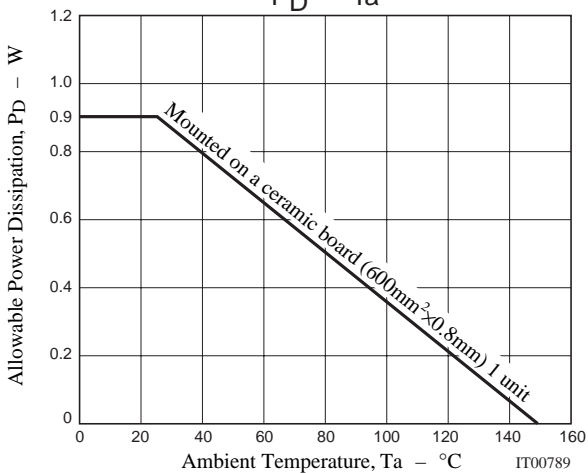
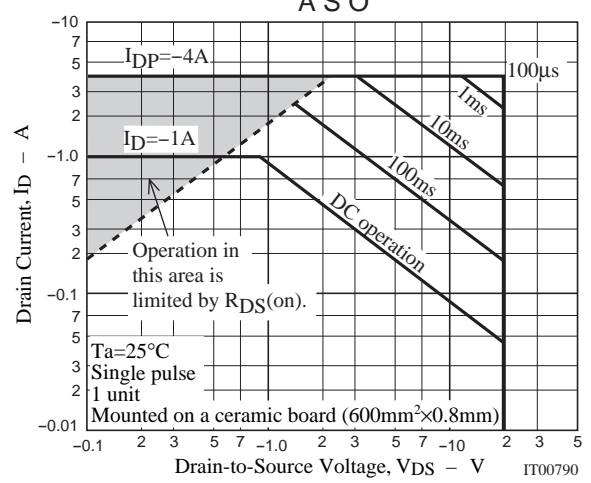
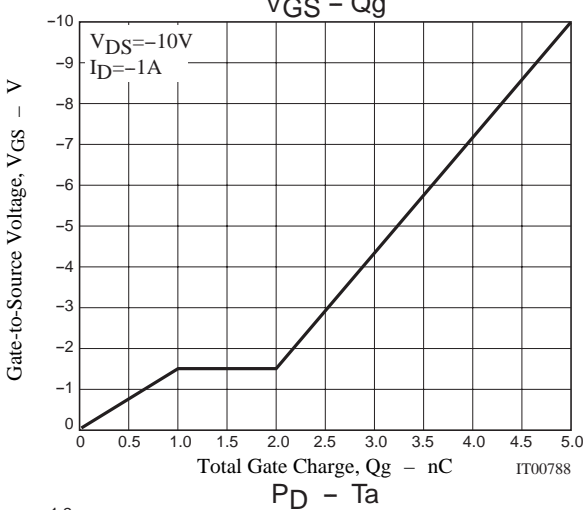
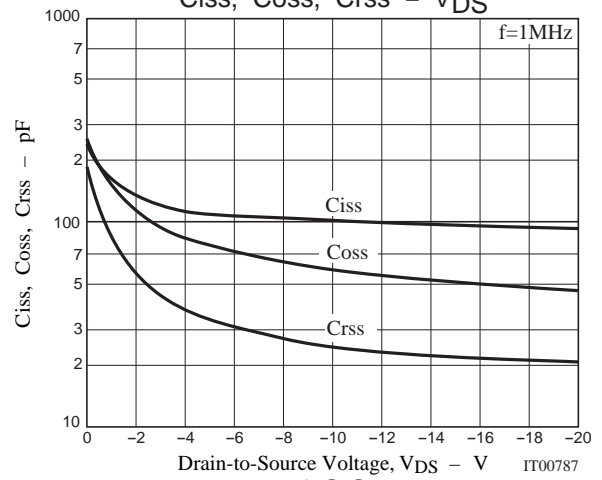
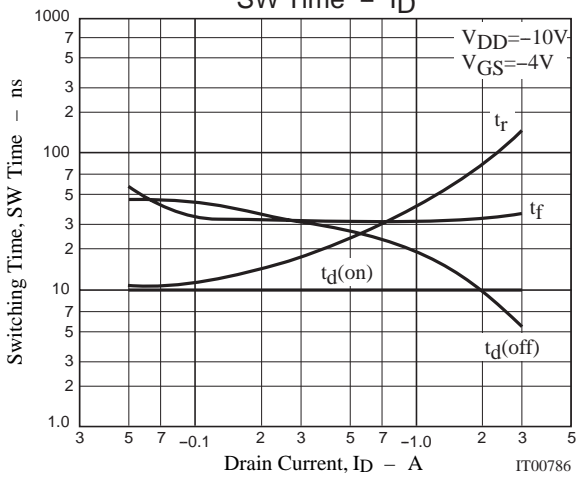
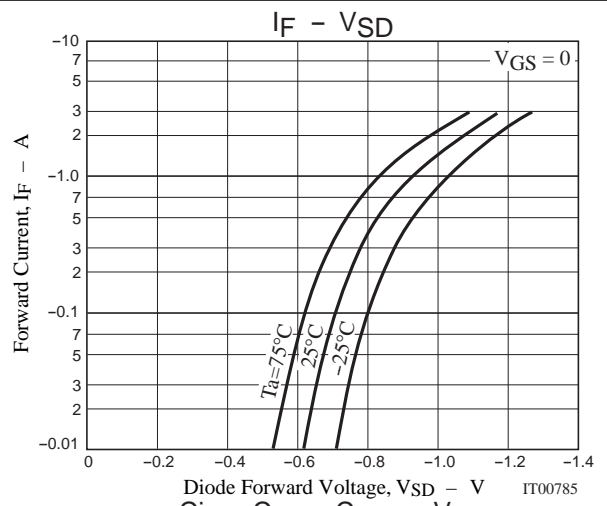
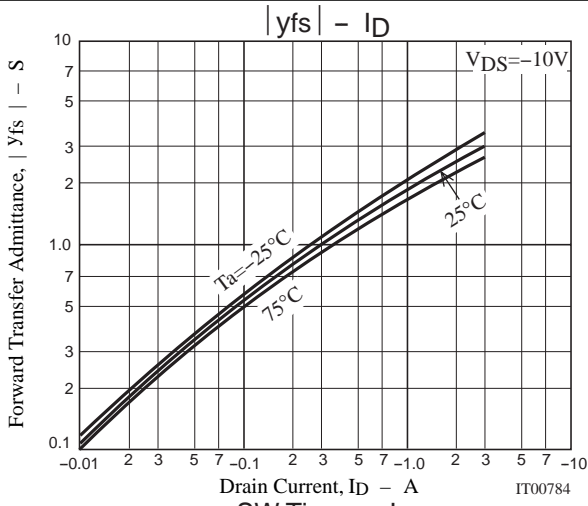
## Electrical Connection



## Switching Time Test Circuit



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