



CPH5611

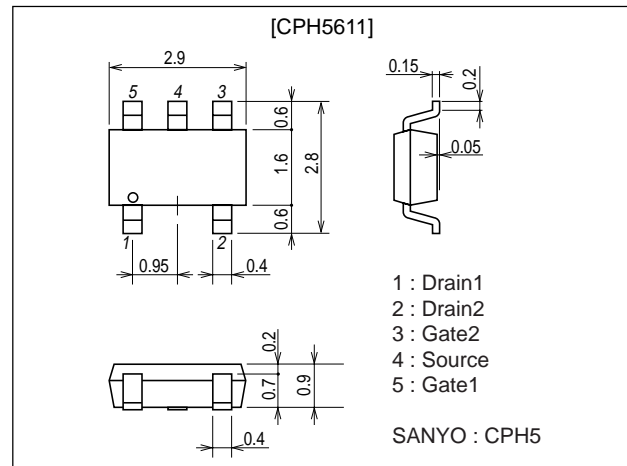
Ultrahigh-Speed Switching Applications

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_{DS}		20	V
Gate-to-Source Voltage	V_{GS}		± 10	V
Drain Current (DC)	I_D		3	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	12	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (600mm ² ×0.8mm) 1unit	0.9	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	$V_{(BR)DSS}$	$I_D=1mA$, $V_{GS}=0$	20			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=20V$, $V_{GS}=0$			1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 8V$, $V_{DS}=0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V$, $I_D=1mA$	0.4		1.3	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V$, $I_D=1.5A$	3.4	4.8		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=1.5A$, $V_{GS}=4V$		54	70	$m\Omega$
	$R_{DS(on)2}$	$I_D=0.7A$, $V_{GS}=2.5V$		73	102	$m\Omega$

Marking : FR

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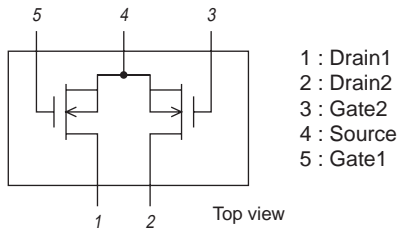
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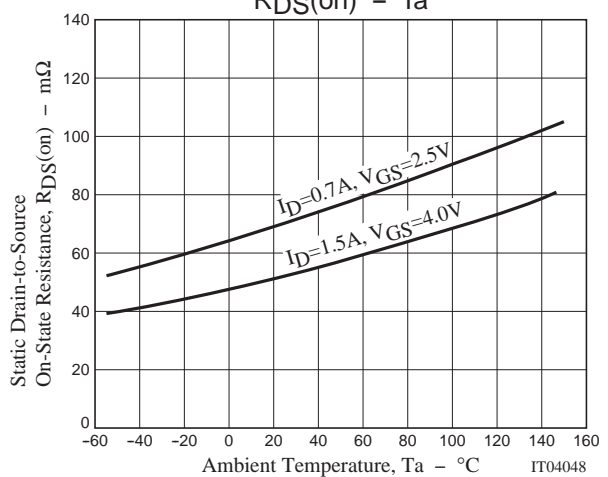
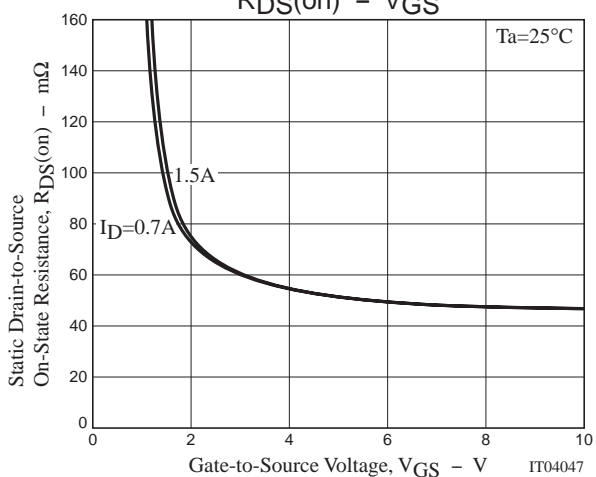
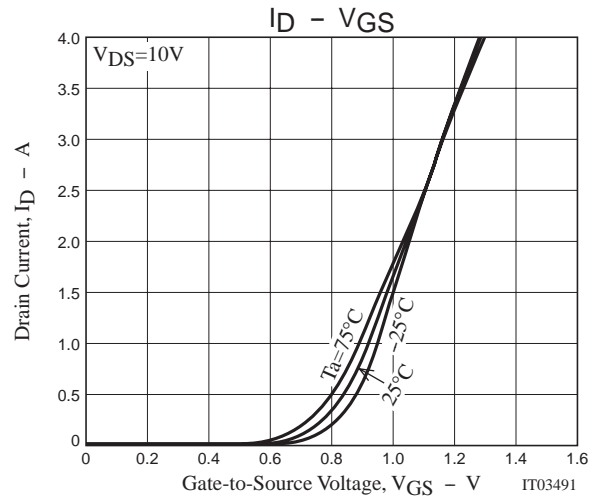
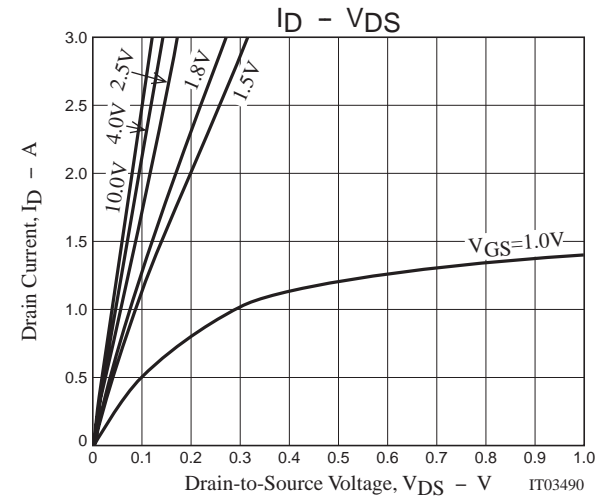
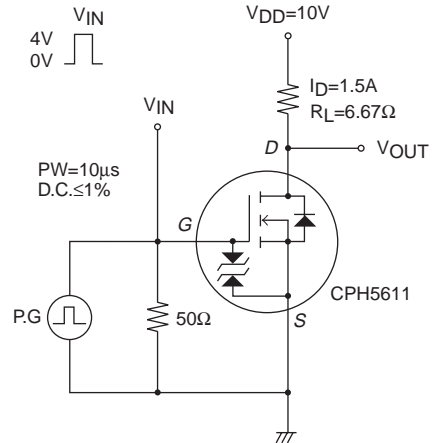
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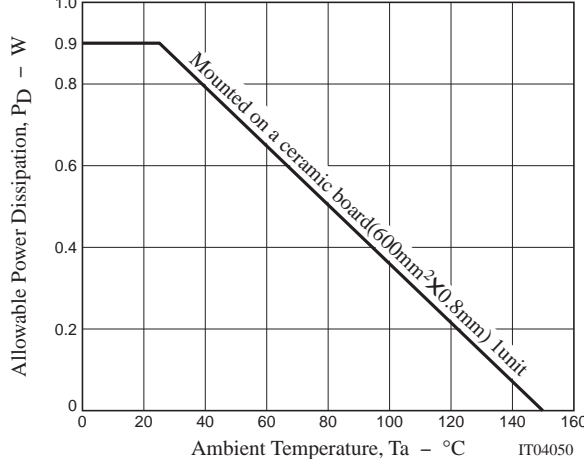
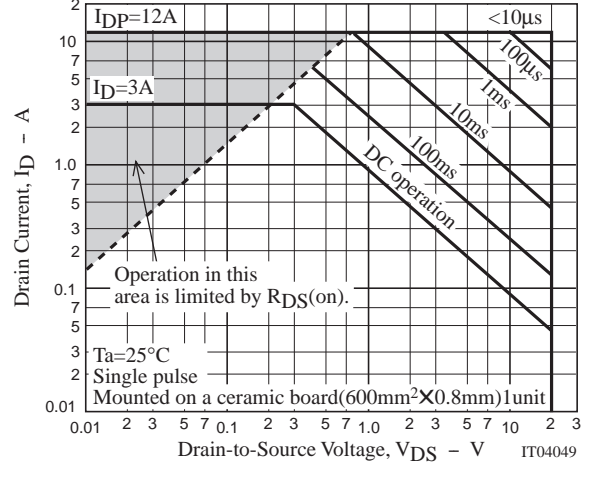
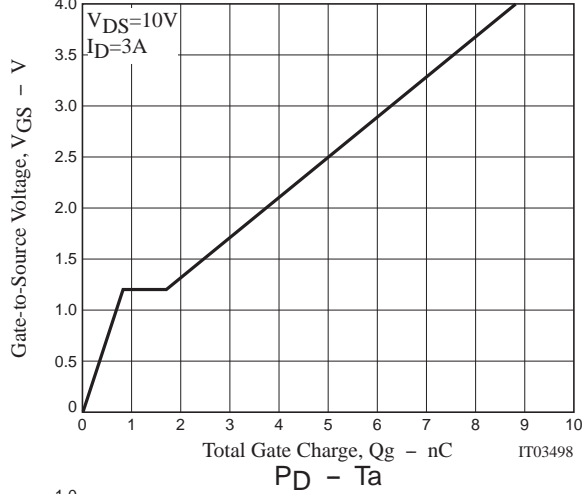
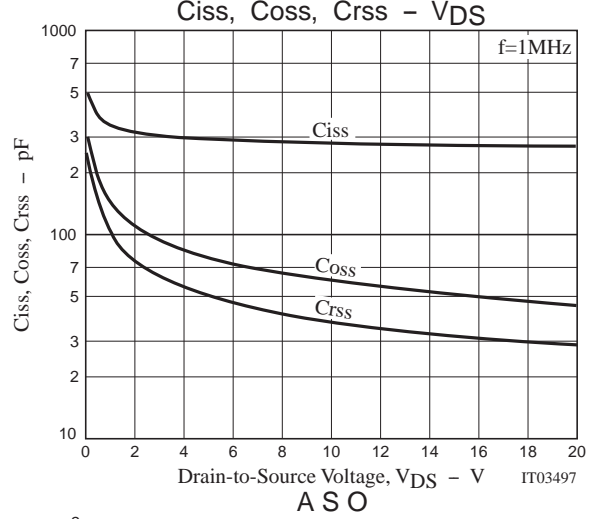
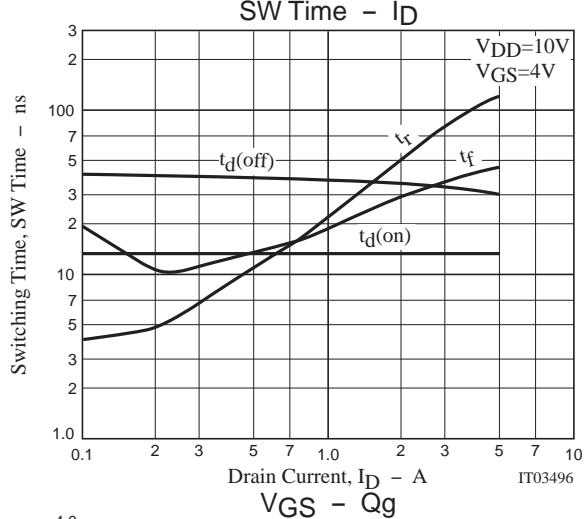
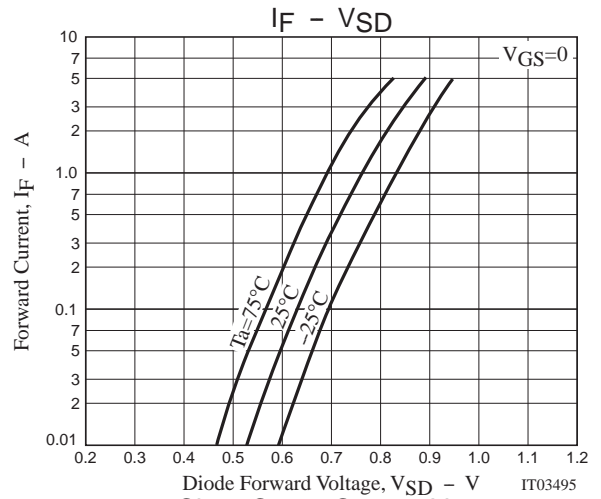
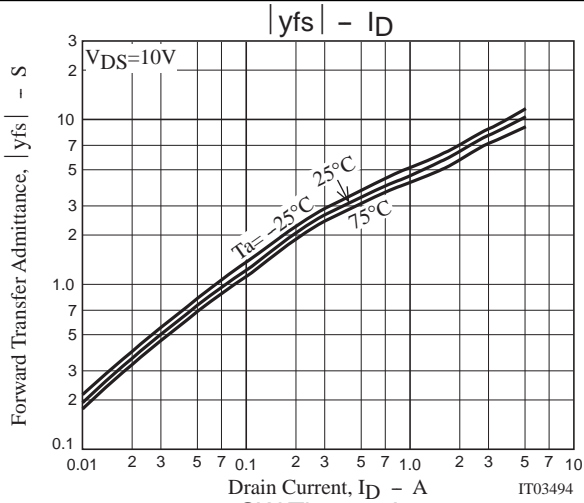
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V _{DS} =10V, f=1MHz		280		pF
Output Capacitance	Coss	V _{DS} =10V, f=1MHz		60		pF
Reverse Transfer Capacitance	Crss	V _{DS} =10V, f=1MHz		38		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		13		ns
Rise Time	t _r	See specified Test Circuit.		35		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		35		ns
Fall Time	t _f	See specified Test Circuit.		25		ns
Total Gate Charge	Q _g	V _{DS} =10V, V _{GS} =4V, I _D =3A		8.8		nC
Gate-to-Source Charge	Q _{gs}	V _{DS} =10V, V _{GS} =4V, I _D =3A		0.85		nC
Gate-to-Drain "Miller" Charge	Q _{gd}	V _{DS} =10V, V _{GS} =4V, I _D =3A		0.85		nC
Diode Forward Voltage	V _{SD}	I _S =3A, V _{GS} =0		0.84	1.2	V

Electrical Connection



Switching Time Test Circuit





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