



CPH6604

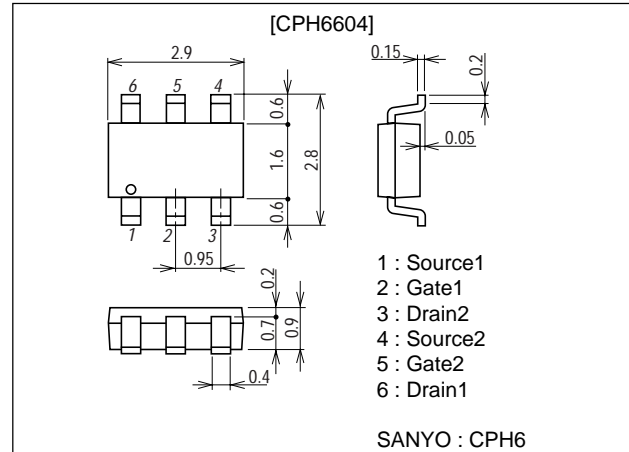
Ultrahigh-Speed Switching Applications

Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 4V drive.

Package Dimensions

unit : mm
2202



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		30	V
Gate-to-Source Voltage	V_{GSS}		± 20	V
Drain Current (DC)	I_D		2.0	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	8.0	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (900mm ² X0.8mm)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	$V_{(BR)DSS}$	$I_D=1mA$, $V_{GS}=0$	30			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V$, $V_{GS}=0$			1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 16V$, $V_{DS}=0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V$, $I_D=1mA$	1.2		2.6	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V$, $I_D=1A$	1.3	1.8		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=1A$, $V_{GS}=10V$		115	150	$m\Omega$
	$R_{DS(on)2}$	$I_D=0.5A$, $V_{GS}=4V$		190	270	$m\Omega$

Marking : FP

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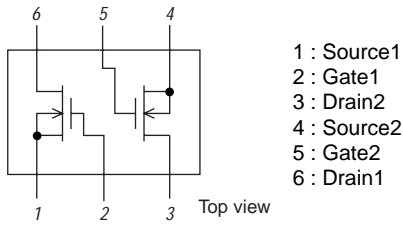
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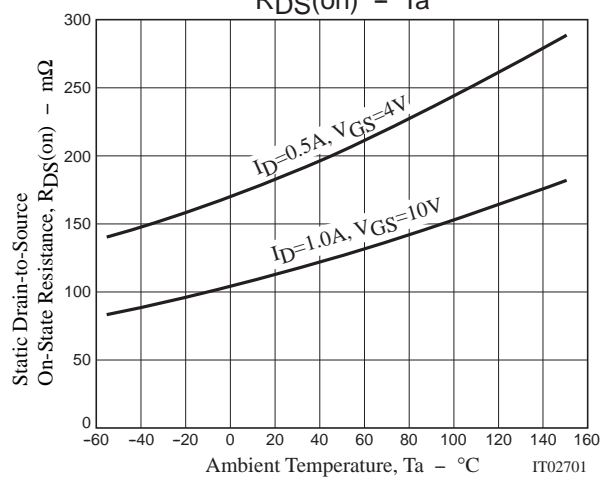
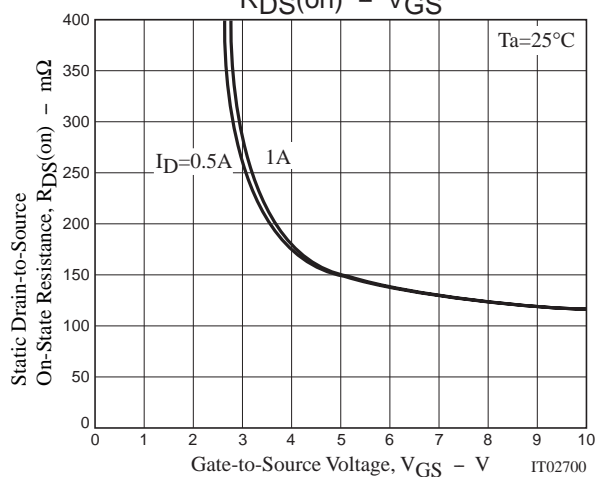
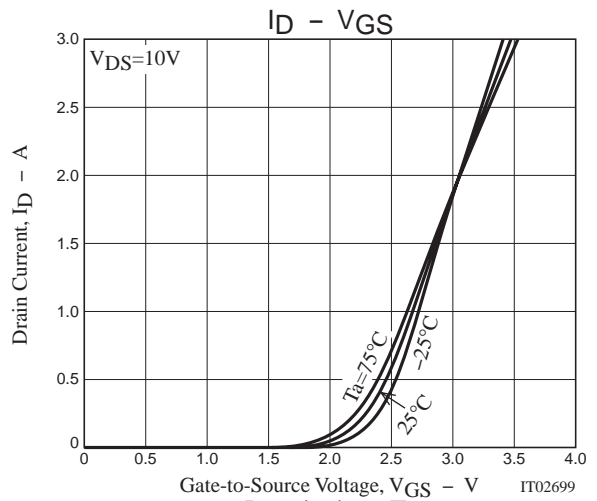
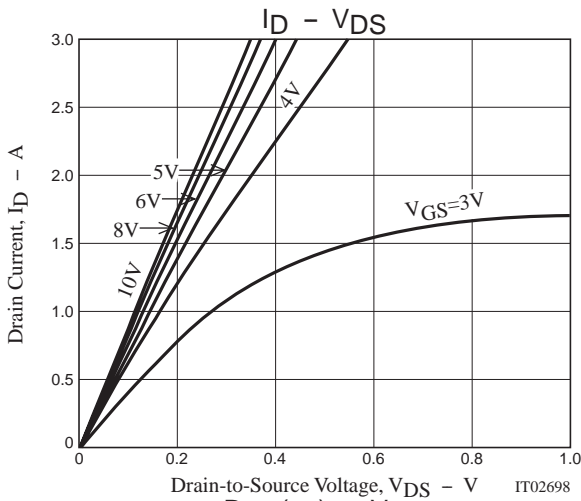
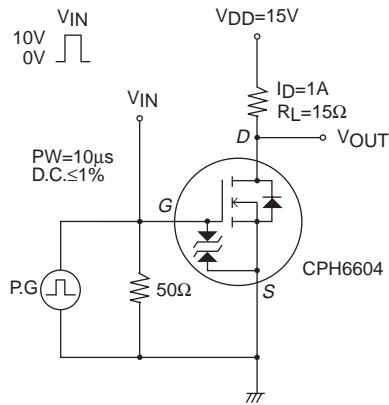
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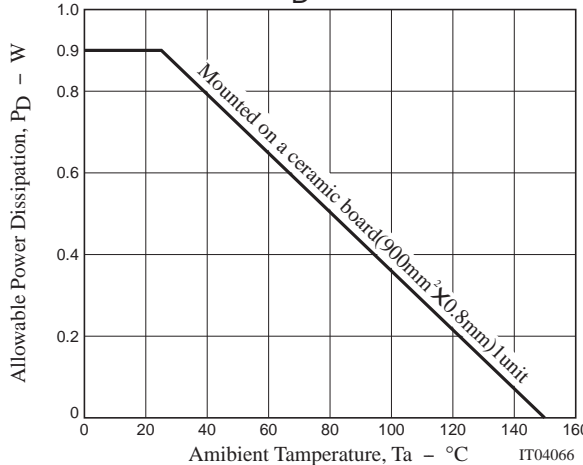
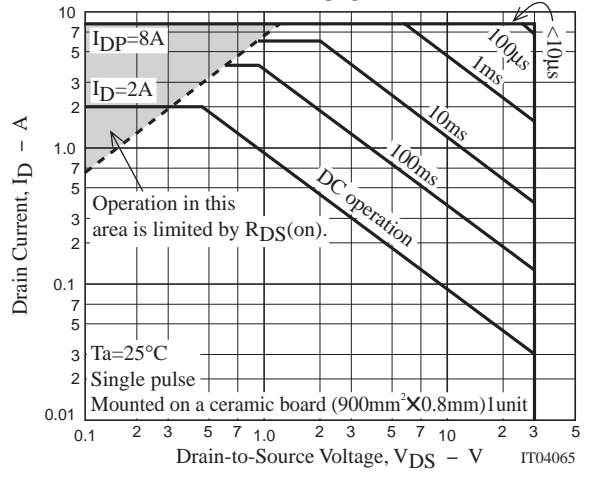
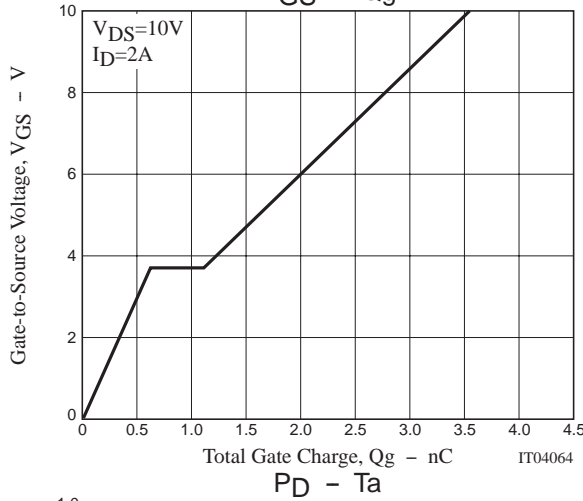
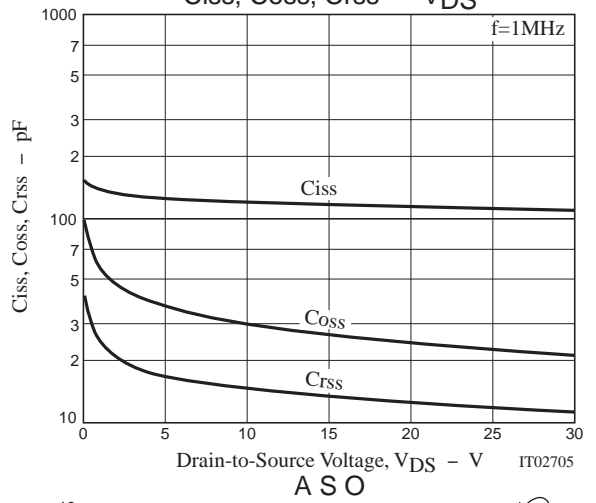
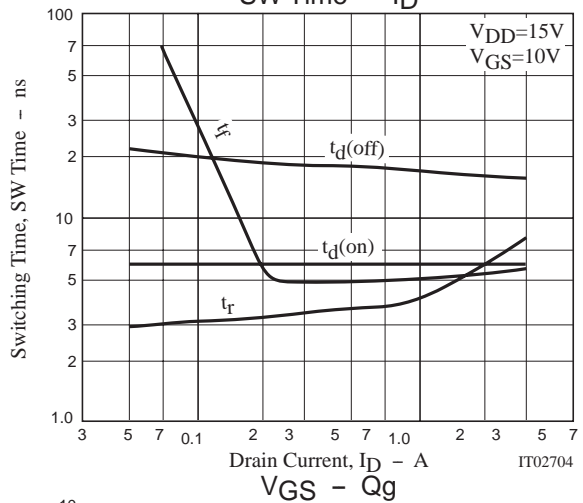
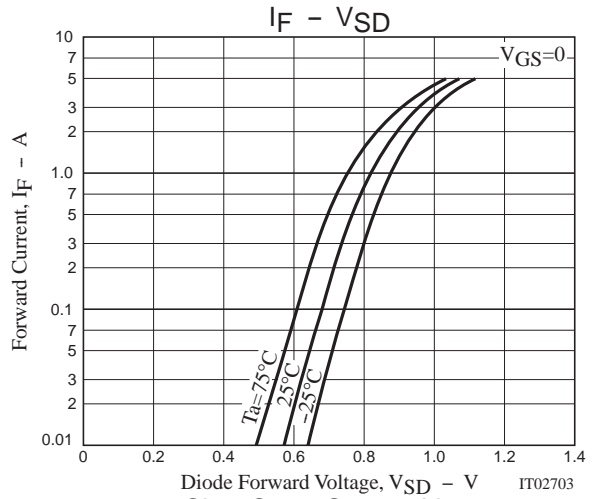
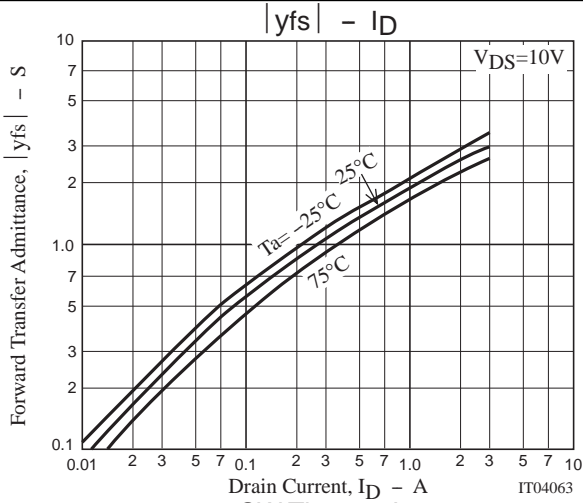
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V _{DS} =10V, f=1MHz		120		pF
Output Capacitance	Coss	V _{DS} =10V, f=1MHz		30		pF
Reverse Transfer Capacitance	Crss	V _{DS} =10V, f=1MHz		15		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		6		ns
Rise Time	t _r	See specified Test Circuit.		4		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		17		ns
Fall Time	t _f	See specified Test Circuit.		5		ns
Total Gate Charge	Qg	V _{DS} =10V, V _{GS} =10V, I _D =2.0A		3.6		nC
Gate-to-Source Charge	Qgs	V _{DS} =10V, V _{GS} =10V, I _D =2.0A		0.6		nC
Gate-to-Drain "Miller" Charge	Qgd	V _{DS} =10V, V _{GS} =10V, I _D =2.0A		0.5		nC
Diode Forward Voltage	V _{SD}	I _S =2.0A, V _{GS} =0		0.87	1.2	V

Electrical Connection



Switching Time Test Circuit





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