



CPH3403

Ultrahigh-Speed Switching Applications

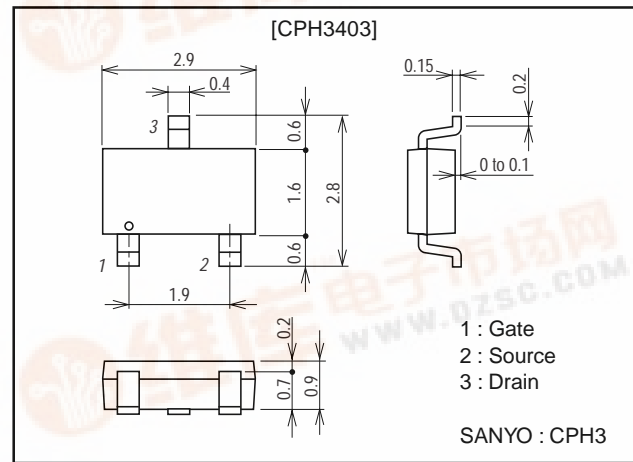
Features

- Low ON resistance.
- Ultrahigh-speed switching.
- 2.5V drive.

Package Dimensions

unit:mm

2152



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}		±12	V
Drain Current (DC)	I _D		2.2	A
Drain Current (pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	8.8	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (900mm ² ×0.8mm)	1.0	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			10	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±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 =1A	2.5	3.6		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =1A, V _{GS} =4V		115	150	mΩ
	R _{DS(on)2}	I _D =0.5A, V _{GS} =2.5V		160	220	mΩ
Input Capacitance	C _{iss}	V _{DS} =10V, f=1MHz		170		pF
Output Capacitance	C _{oss}	V _{DS} =10V, f=1MHz		90		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =10V, f=1MHz		43		pF

Marking : KC

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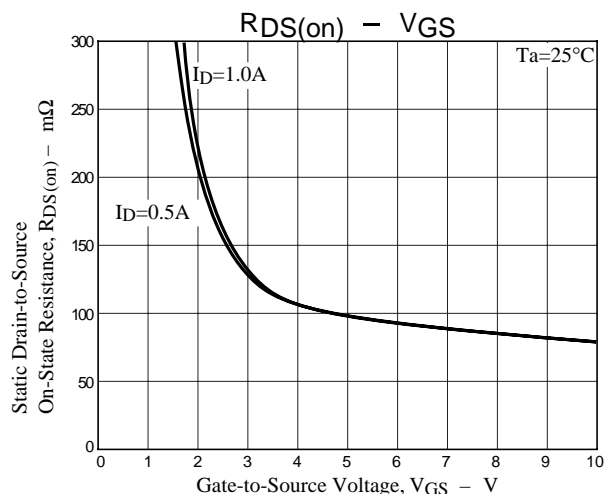
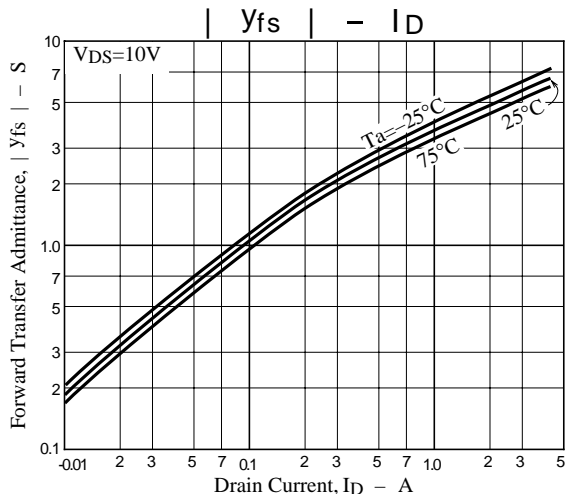
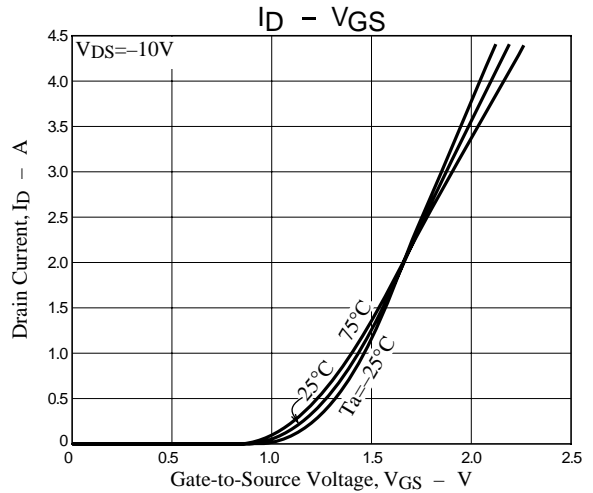
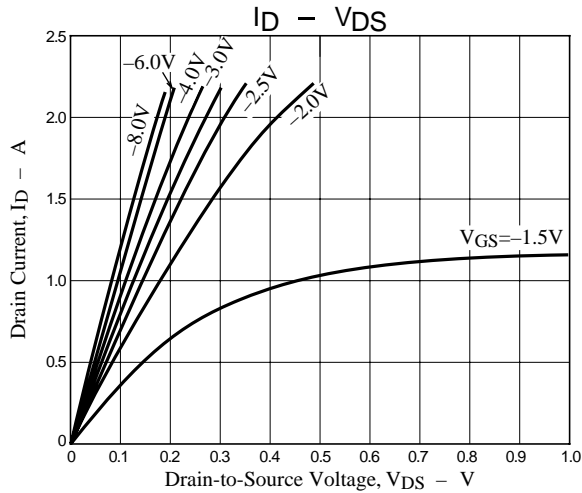
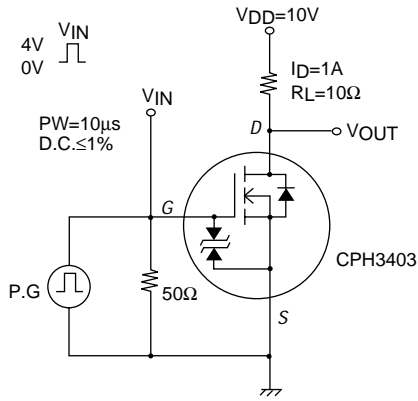


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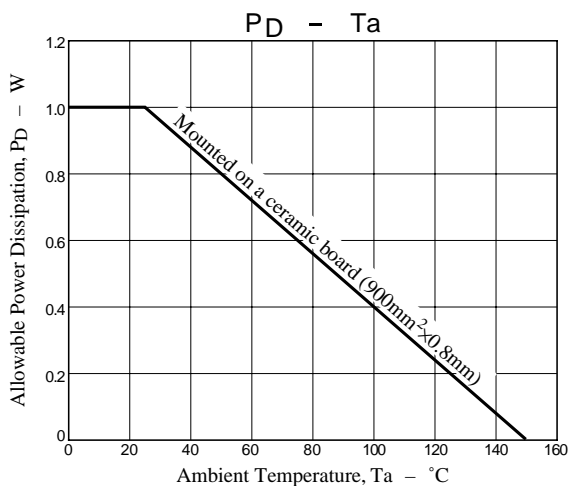
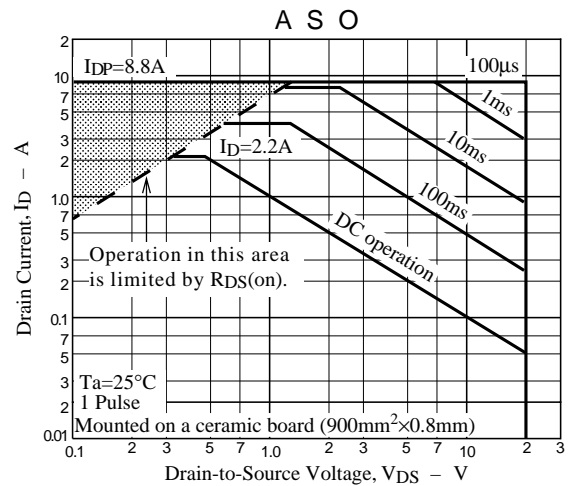
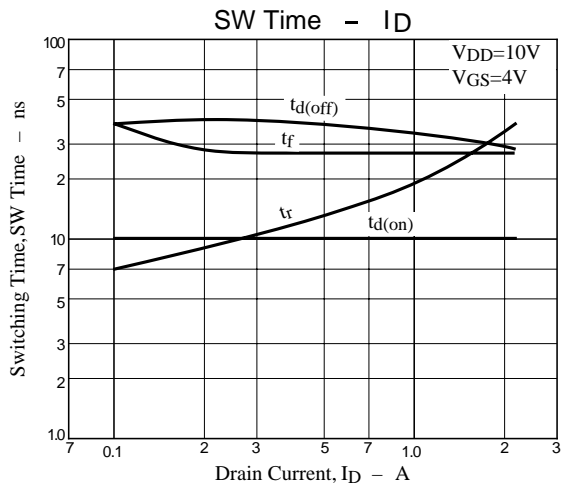
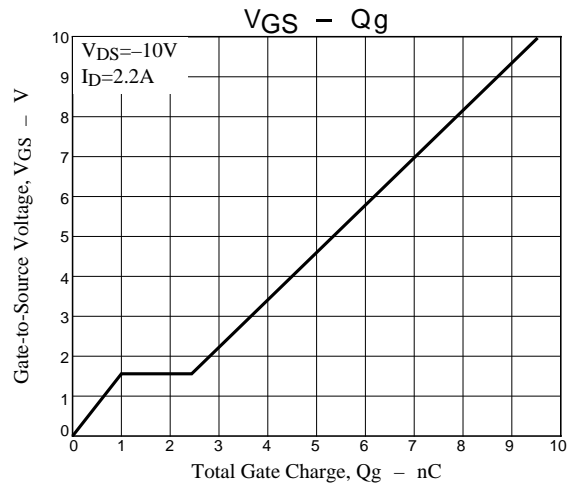
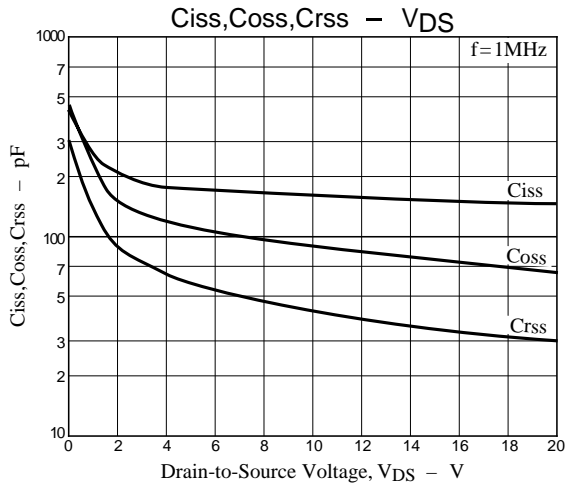
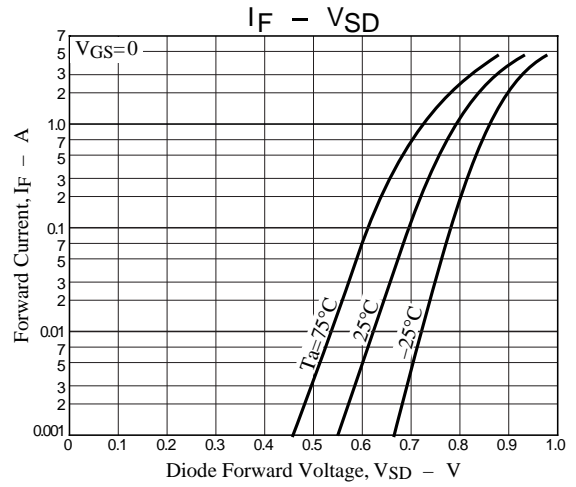
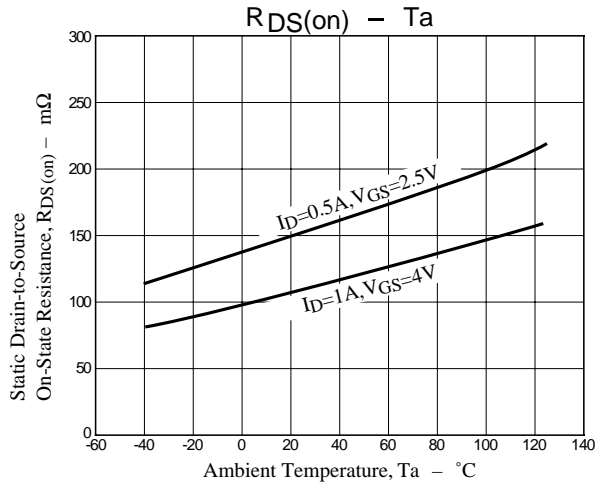
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		10		ns
Rise Time	t_r	See specified Test Circuit		20		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		36		ns
Fall Time	t_f	See specified Test Circuit		27		ns
Total Gate Charge	Qg	$V_{DS}=10V, V_{GS}=10V, I_D=2.2A$		9.5		nC
Gate-to-Source Charge	Qgs	$V_{DS}=10V, V_{GS}=10V, I_D=2.2A$		1		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=10V, V_{GS}=10V, I_D=2.2A$		1.5		nC
Diode Forward Voltage	V_{SD}	$I_S=2.2A, V_{GS}=0$		1.0	1.2	V

Switching Time Test Circuit



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