



Ultrahigh-Speed Switching Applications

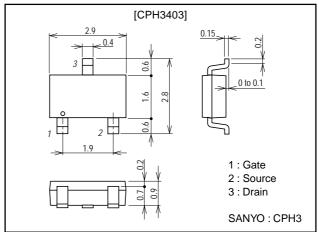
Features

- · 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	Α
Drain Current (pulse)	I _{DP}	PW≤10µs, duty cycle≤1%	8.8	Α
Allowable Power Dissipation	PD	Mounted on a ceramic board (900mm²×0.8mm)	1.0	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	Offic
Drain-to-Source Breakdown Voltage	V(BR)DSS	I _D =1mA, V _{GS} =0	20			V
Zero-Gate Voltage Drain Current	IDSS	V _{DS} =20V, V _{GS} =0			10	μΑ
Gate-to-Source Leakage Current	I _{GSS}	$V_{GS}=\pm 8V$, $V_{DS}=0$			±10	μΑ
Cutoff Voltage	VGS(off)	V _{DS} =10V, I _D =1mA	0.4		1.3	V
Forward Transfer Admittance	yfs	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	Ciss	V _{DS} =10V, f=1MHz		170		pF
Output Capacitance	Coss	V _{DS} =10V, f=1MHz		90		pF
Reverse Transfer Capacitance	Crss	V _{DS} =10V, f=1MHz		43		pF

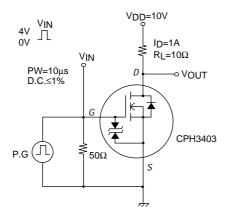
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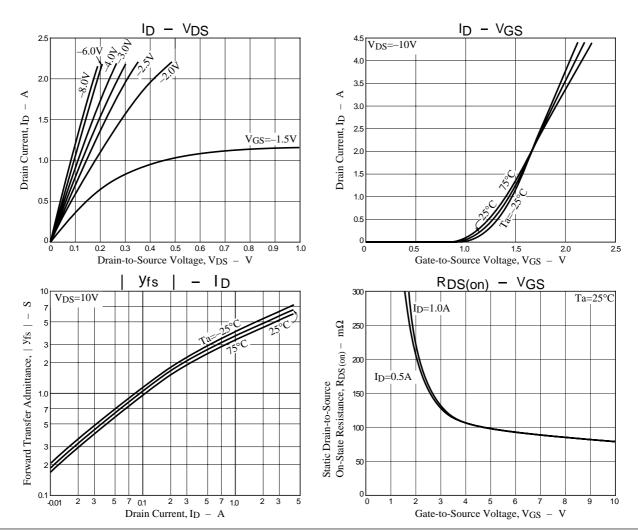
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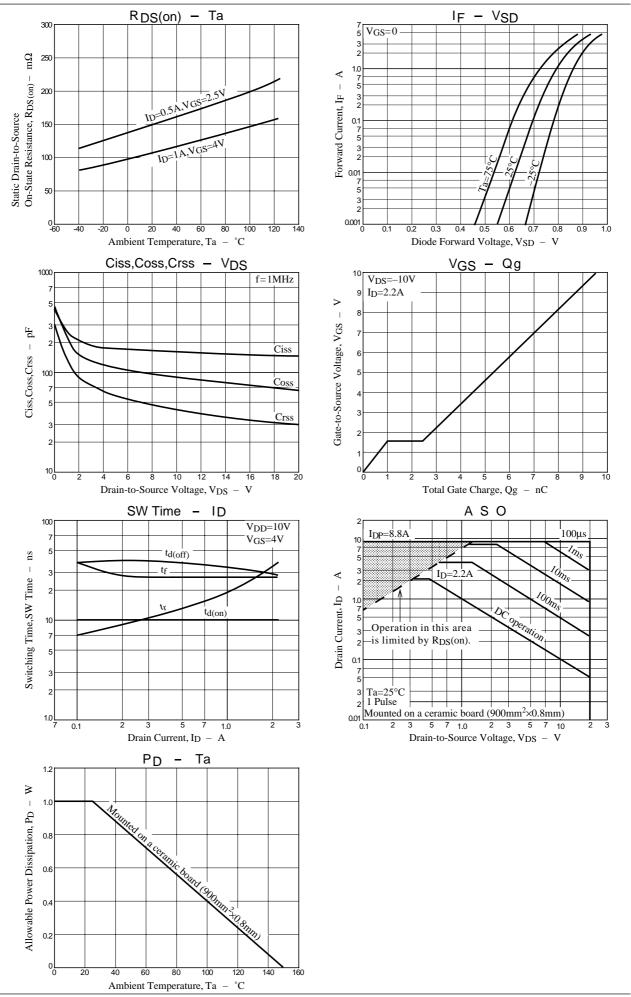
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Offic
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit		10		ns
Rise Time	t _r	See specified Test Circuit		20		ns
Turn-OFF Delay Time	t _d (off)	See specified Test Circuit		36		ns
Fall Time	t _f	See specified Test Circuit		27		ns
Total 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





CPH3403



CPH3403

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