

CPH3303

Ultrahigh-Speed Switching Applications

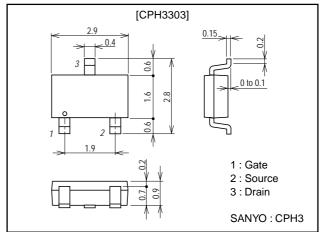
Features

- · 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}		±10	V
Drain Current (DC)	I _D		-1.6	Α
Drain Current (pulse)	I _{DP}	PW≤10µs, duty cycle≤1%	-6.4	А
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	Oill
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	μA
Gate-to-Source Leakage Current	IGSS	V _{GS} =±8V, V _{DS} =0			±10	μΑ
Cutoff Voltage	VGS(off)	V _{DS} =-10V, I _D =-1mA	-0.4		-1.4	V
Forward Transfer Admittance	yfs	V _{DS} =-10V, I _D =-0.8A	1.6	2.4		S
Static Drain-to-Source On-State Resistance	R _{DS(on)} 1	I _D =-0.8A, V _{GS} =-4V		245	315	mΩ
	R _{DS(on)} 2	I _D =-0.2A, V _G S=-2.5V		340	480	mΩ
Input Capacitance	Ciss	V _{DS} =-10V, f=1MHz		180		pF
Output Capacitance	Coss	V _{DS} =-10V, f=1MHz		90		pF
Reverse Transfer Capacitance	Crss	V _{DS} =-10V, f=1MHz		43		pF

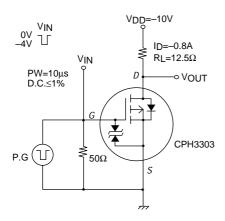
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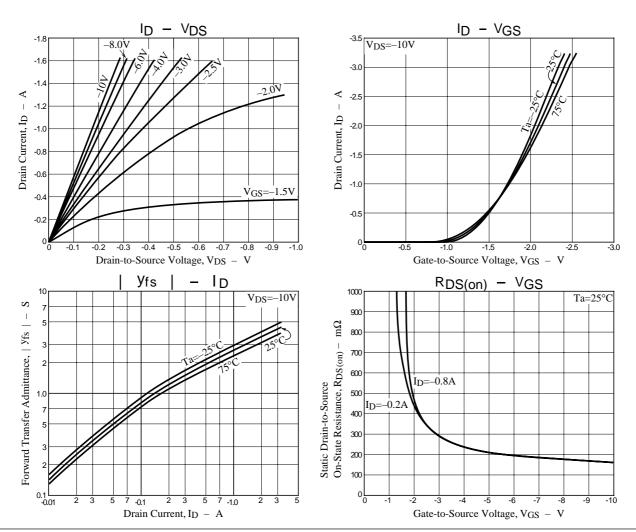
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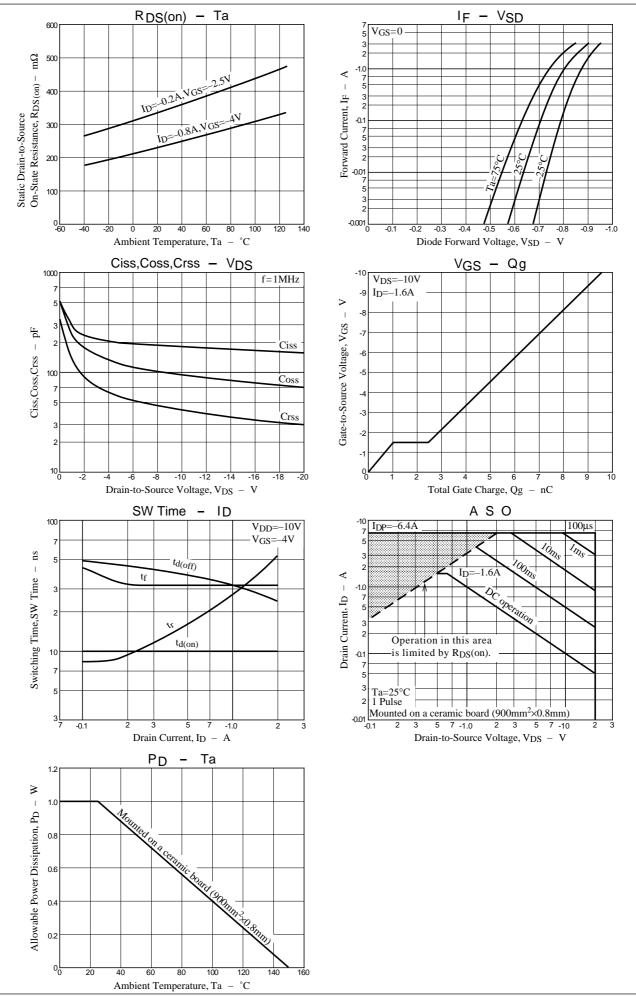
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Parameter	Symbol	Conditions	Ratings			Unit
	Symbol		min	typ	max	Oille
Turn-ON Delay Time	td(on)	See specified Test Circuit		10		ns
Rise Time	t _r	See specified Test Circuit		25		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit		32		ns
Fall Time	t _f	See specified Test Circuit		32		ns
Total Gate Charge	Qg	V _{DS} =-10V, V _{GS} =-10V, I _D =-1.6A		9.5		nC
Gate-to-Source Charge	Qgs	V _{DS} =-10V, V _{GS} =-10V, I _D =-1.6A		1		nC
Gate-to-Drain "Miller" Charge	Qgd	V _{DS} =-10V, V _{GS} =-10V, I _D =-1.6A		1.5		nC
Diode Forward Voltage	V _{SD}	I _S =-1.6A, V _{GS} =0		-1.0	-1.5	V

Switching Time Test Circuit







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