



Ultrahigh-Speed Switching Applications

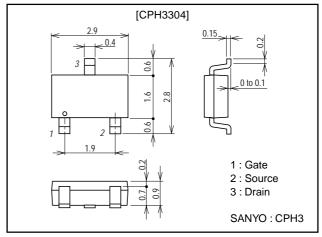
Features

- · Low ON resistance.
- · Ultrahigh-speed switching.
- · 4V 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}		-30	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		-1.6	А
Drain Current (pulse)	I _{DP}	PW≤10µs, duty cycle≤1%	-6.4	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

Symbol	Conditions	Ratings			Unit
		min	typ	max	Offic
V(BR)DSS	I _D =-1mA, V _{GS} =0	-30			V
IDSS	V _{DS} =-30V, V _{GS} =0			-10	μΑ
IGSS	V _{GS} =±16V, V _{DS} =0			±10	μΑ
V _{GS(off)}	V _{DS} =-10V, I _D =-1mA	-1.0		-2.5	V
yfs	V _{DS} =-10V, I _D =-0.8A	1.0	1.5		S
R _{DS(on)} 1	I _D =-0.8A, V _{GS} =-10V		240	315	mΩ
R _{DS(on)} 2	I _D =-0.3A, V _{GS} =-4V		400	550	mΩ
Ciss	V _{DS} =-10V, f=1MHz		160		pF
Coss	V _{DS} =-10V, f=1MHz		90		pF
Crss	V _{DS} =-10V, f=1MHz		38		pF
	V(BR)DSS IDSS IGSS VGS(off) Iyfs RDS(on)1 RDS(on)2 Ciss Coss	V(BR)DSS ID=-1mA, VGS=0 IDSS VDS=-30V, VGS=0 IGSS VGS=±16V, VDS=0 VGS(off) VDS=-10V, ID=-1mA I yfs VDS=-10V, ID=-0.8A RDS(on)1 ID=-0.8A, VGS=-10V RDS(on)2 ID=-0.3A, VGS=-4V Ciss VDS=-10V, f=1MHz Coss VDS=-10V, f=1MHz	min V(BR)DSS ID=-1mA, VGS=0	Symbol Conditions V(BR)DSS ID=-1mA, VGS=0 -30 IDSS VDS=-30V, VGS=0 IGSS VGS=±16V, VDS=0 VGS(off) VDS=-10V, ID=-1mA -1.0 I yfs I VDS=-10V, ID=-0.8A 1.0 1.5 RDS(on)1 ID=-0.8A, VGS=-10V 240 RDS(on)2 ID=-0.3A, VGS=-4V 400 Ciss VDS=-10V, f=1MHz 160 Coss VDS=-10V, f=1MHz 90	Symbol Conditions W(BR)DSS ID=-1mA, VGS=0 -30 IDSS VDS=-30V, VGS=0 -10 IGSS VGS=±16V, VDS=0 ±10 VGS(off) VDS=-10V, ID=-1mA -1.0 -2.5 I yfs I VDS=-10V, ID=-0.8A 1.0 1.5 RDS(on)1 ID=-0.8A, VGS=-10V 240 315 RDS(on)2 ID=-0.3A, VGS=-4V 400 550 Ciss VDS=-10V, f=1MHz 90 Crss VDS=-10V, f=1MHz 38

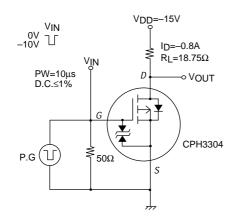
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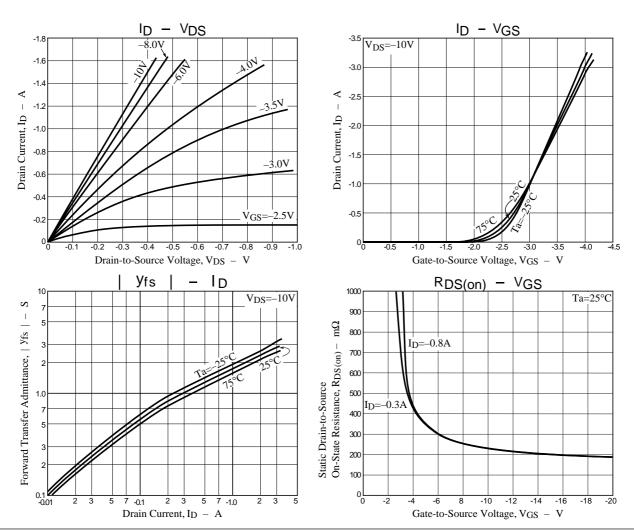
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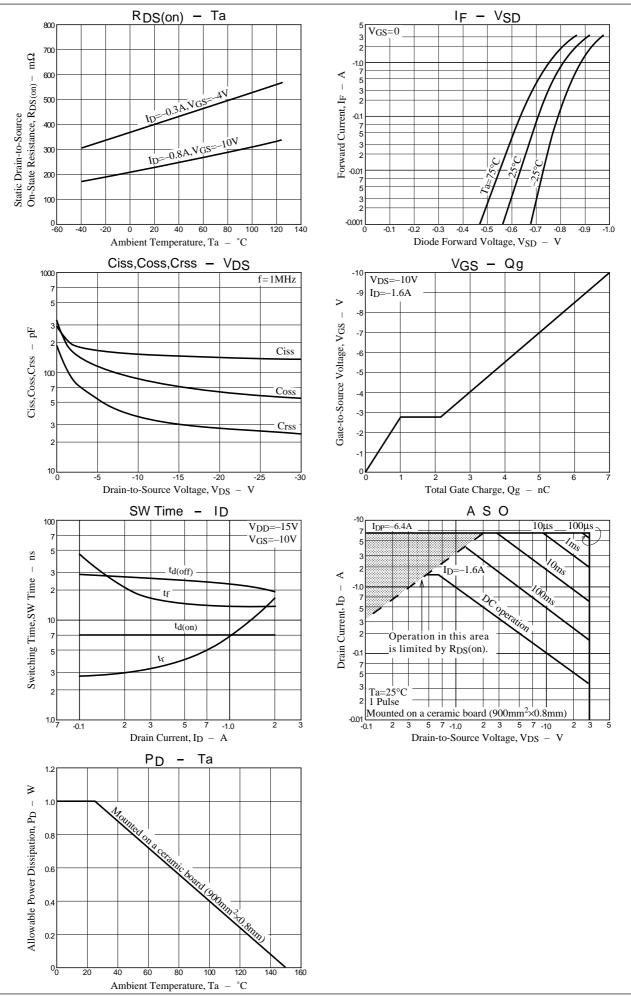
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Onit
Turn-ON Delay Time	t _d (on)	See specified Test Circuit		7		ns
Rise Time	t _r	See specified Test Circuit		6		ns
Turn-OFF Delay Time	t _d (off)	See specified Test Circuit		23		ns
Fall Time	t _f	See specified Test Circuit		15		ns
Total Gate Charge	Qg	V _{DS} =-10V, V _{GS} =-10V, I _D =-1.6A		7		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		1.2		nC
Diode Forward Voltage	V _{SD}	I _S =-1.6A, V _{GS} =0		-1.0	-1.5	V

Switching Time Test Circuit





CPH3304



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