



# CPH3305

## Ultrahigh-Speed Switching Applications

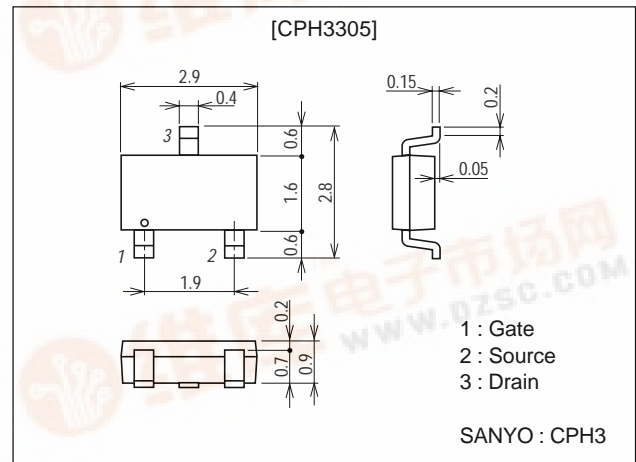
### Features

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

### Package Dimensions

unit:mm

2152A



### Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DS}$		-60	V
Gate-to-Source Voltage	$V_{GS}$		±20	V
Drain Current (DC)	$I_D$		-0.8	A
Drain Current (pulse)	$I_{DP}$	PW≤10μs, duty cycle≤1%	-3.2	A
Allowable Power Dissipation	$P_D$	Mounted on a ceramic board (900mm²×0.8mm)	1	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	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=-1mA, V_{GS}=0$	-60			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=-60V, V_{GS}=0$			-10	μA
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 16V, V_{DS}=0$			±10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=-10V, I_D=-1mA$	-1.0		-2.4	V
Forward Transfer Admittance	yfs	$V_{DS}=-10V, I_D=-0.4A$	0.5	0.8		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=-0.4A, V_{GS}=-10V$		980	1300	mΩ
	$R_{DS(on)2}$	$I_D=-0.2A, V_{GS}=-4V$		1300	1800	mΩ
Input Capacitance	Ciss	$V_{DS}=-20V, f=1MHz$		75		pF
Output Capacitance	Coss	$V_{DS}=-20V, f=1MHz$		22		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=-20V, f=1MHz$		7		pF

Marking : JE

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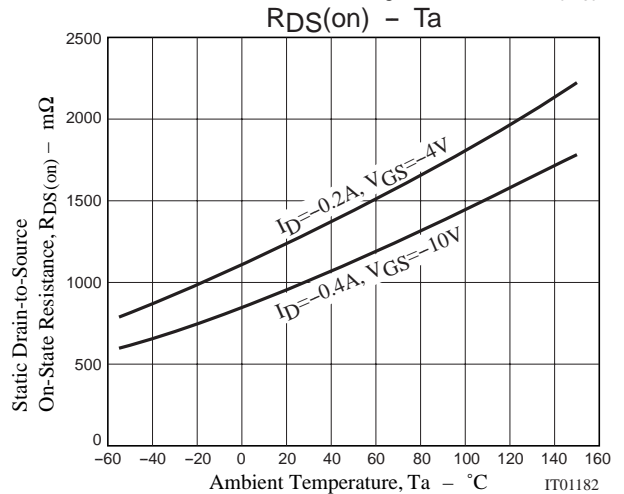
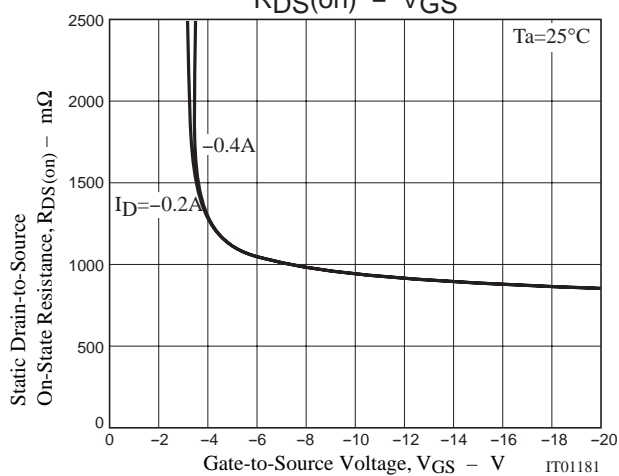
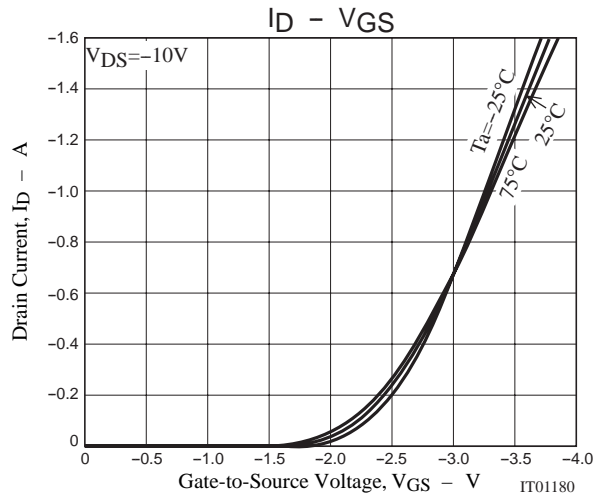
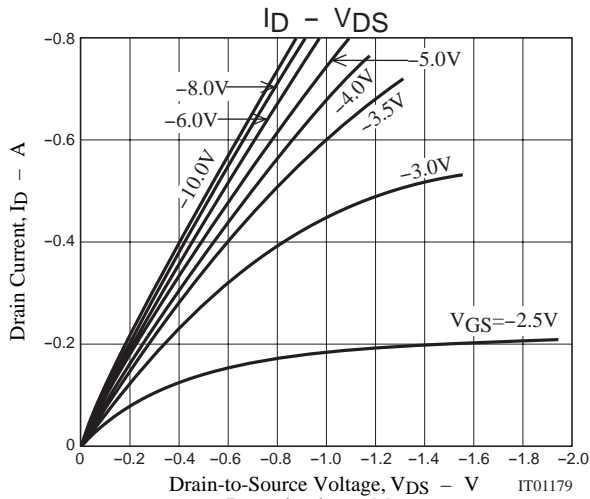
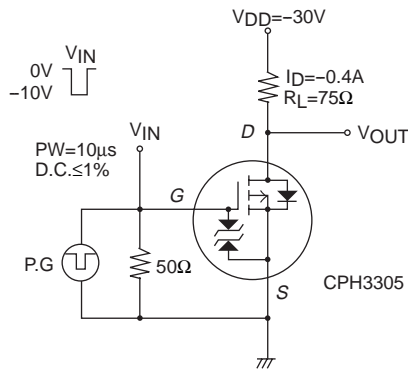


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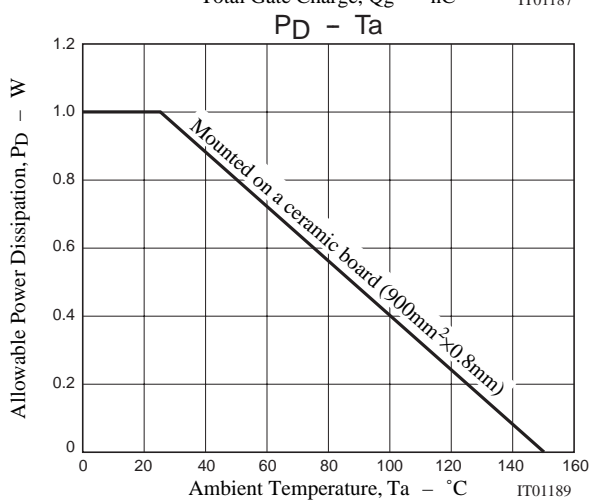
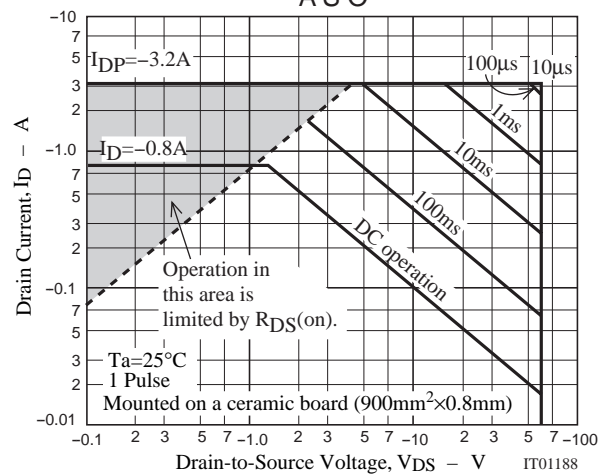
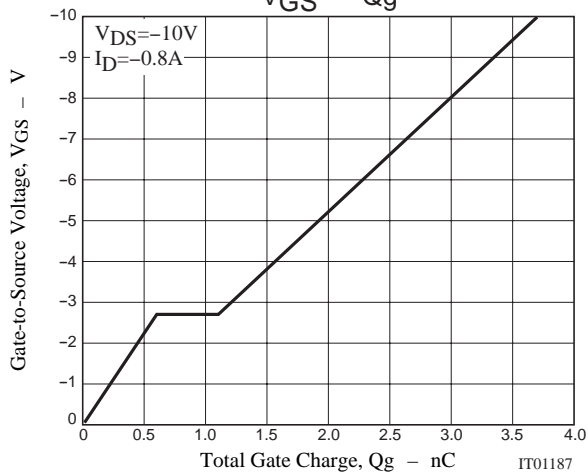
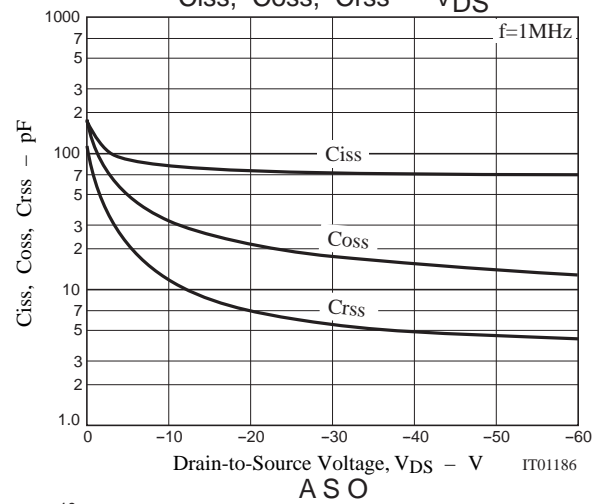
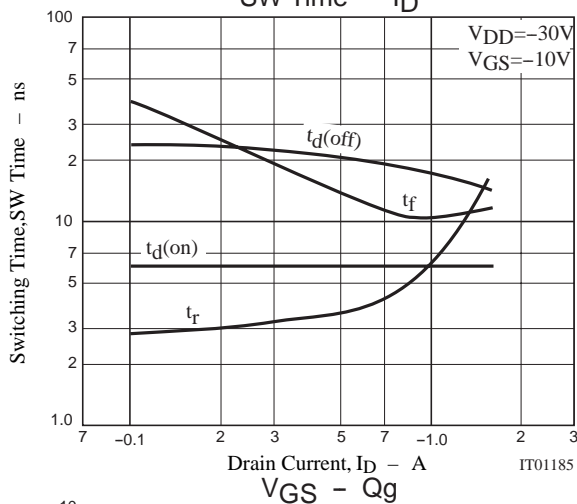
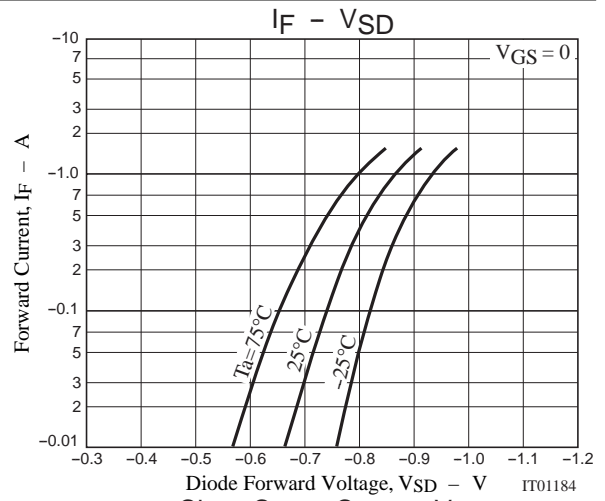
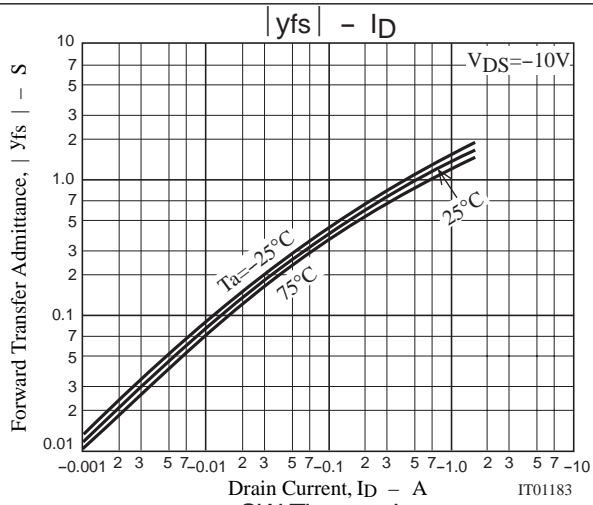
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		6		ns
Rise Time	$t_r$	See specified Test Circuit		4		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		21		ns
Fall Time	$t_f$	See specified Test Circuit		16		ns
Total Gate Charge	Qg	$V_{DS}=-10V, V_{GS}=-10V, I_D=-0.8A$		3.7		nC
Gate-to-Source Charge	Qgs	$V_{DS}=-10V, V_{GS}=-10V, I_D=-0.8A$		0.6		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=-10V, V_{GS}=-10V, I_D=-0.8A$		0.5		nC
Diode Forward Voltage	$V_{SD}$	$I_S=-0.8A, V_{GS}=0$		-0.84	-1.2	V

## Switching Time Test Circuit



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