

**CPH3314**

Ultrahigh-Speed Switching Applications

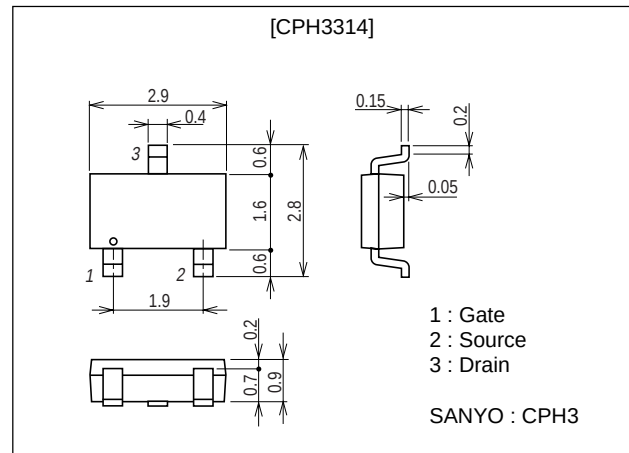
Features

- 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}		-30	V
Gate-to-Source Voltage	V_{GS}		±20	V
Drain Current (DC)	I_D		-1.6	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	-6.4	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	$V_{(BR)DSS}$	$I_D = -1mA, V_{GS} = 0$	-30			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -30V, V_{GS} = 0$			-1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 16V, V_{DS} = 0$			±10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = -10V, I_D = -1mA$	-1.2		-2.6	V
Forward Transfer Admittance	yfs	$V_{DS} = -10V, I_D = -0.8A$	1.0	1.5		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = -0.8A, V_{GS} = -10V$		210	270	mΩ
	$R_{DS(on)2}$	$I_D = -0.4A, V_{GS} = -4V$		360	500	mΩ
Input Capacitance	C_{iss}	$V_{DS} = -10V, f = 1MHz$		185		pF
Output Capacitance	C_{oss}	$V_{DS} = -10V, f = 1MHz$		30		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = -10V, f = 1MHz$		20		pF

Marking : JP

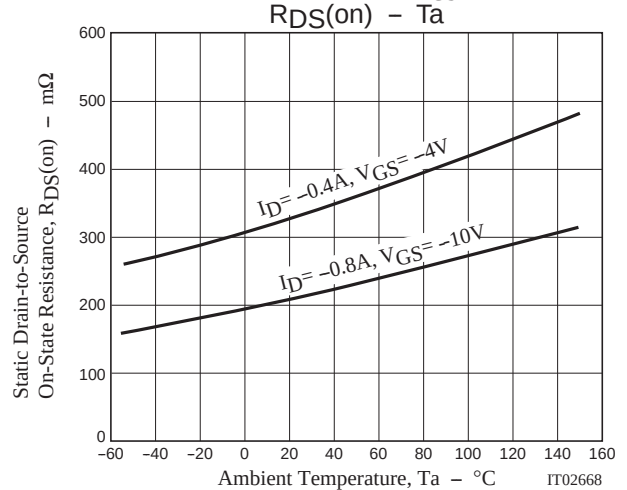
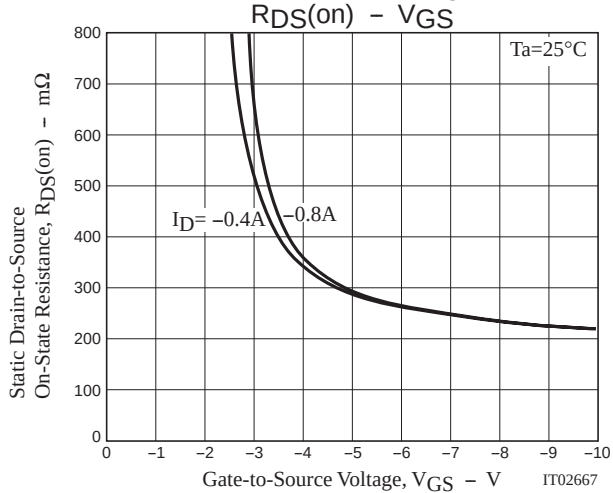
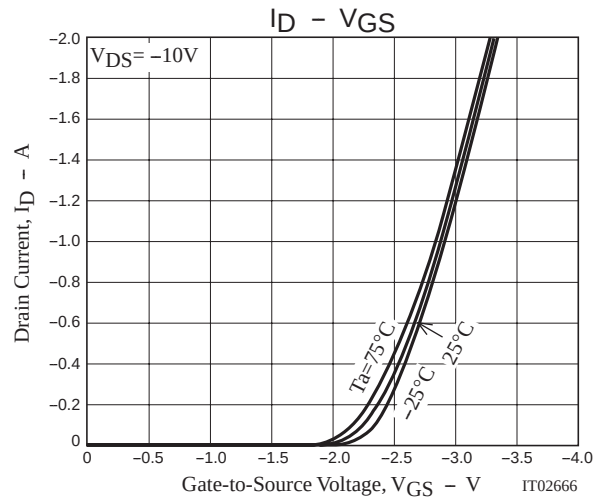
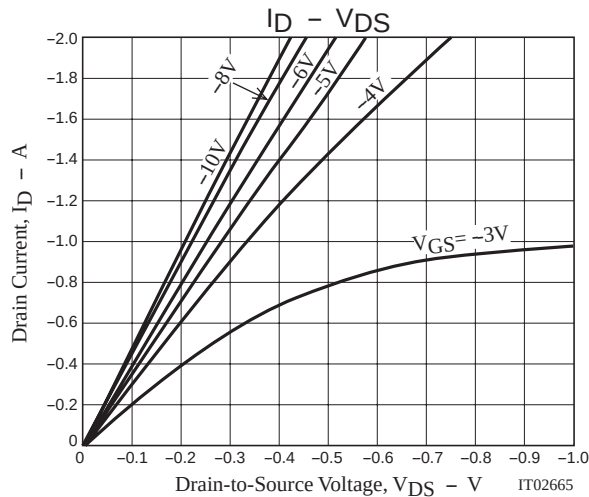
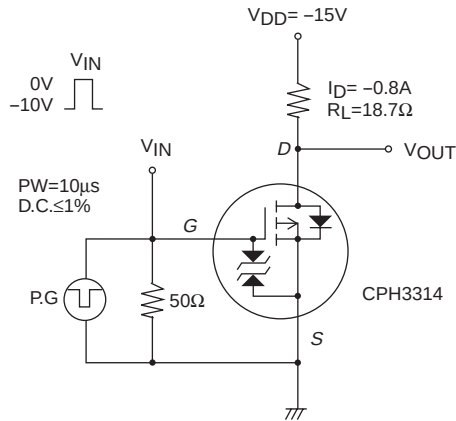
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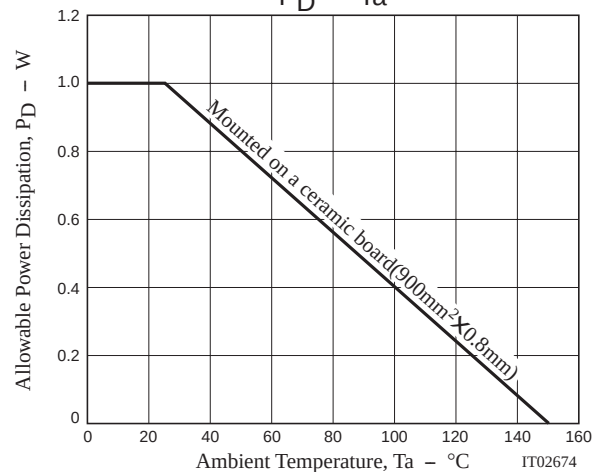
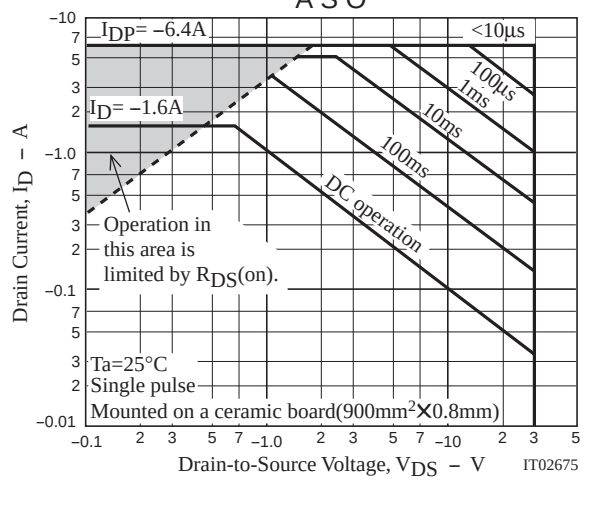
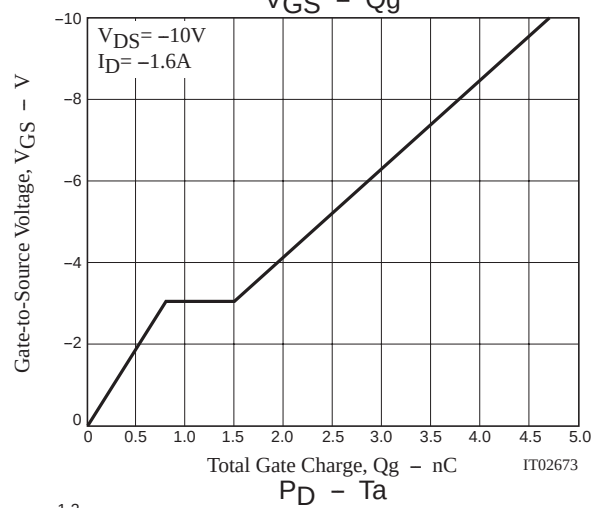
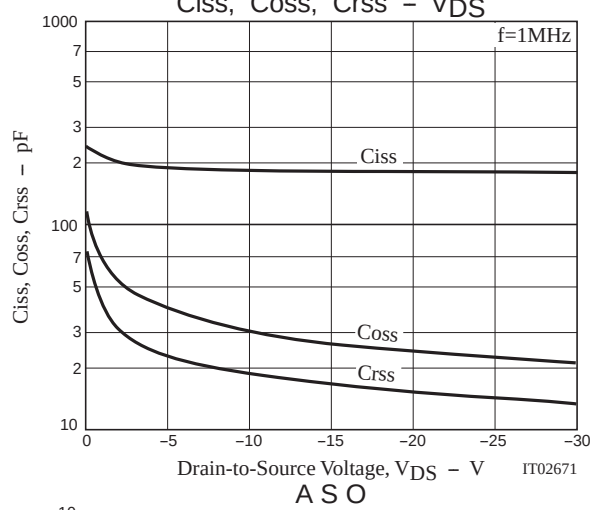
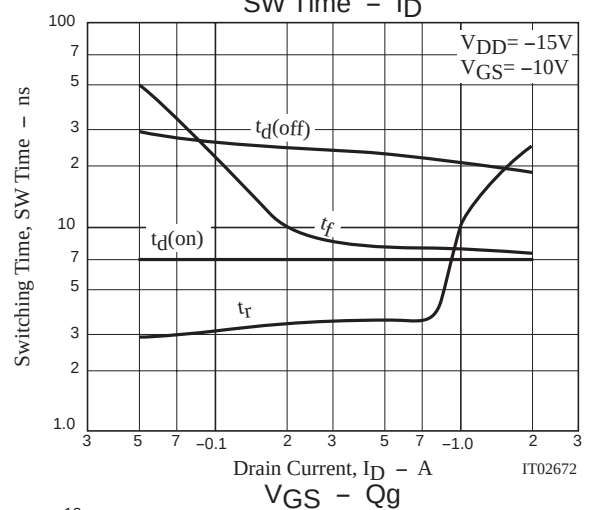
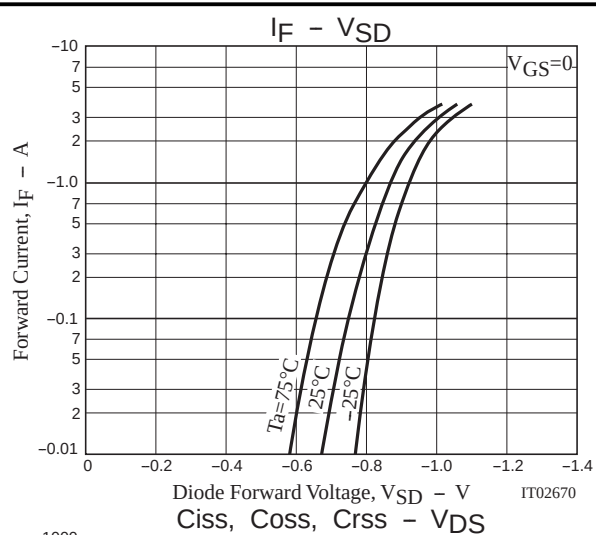
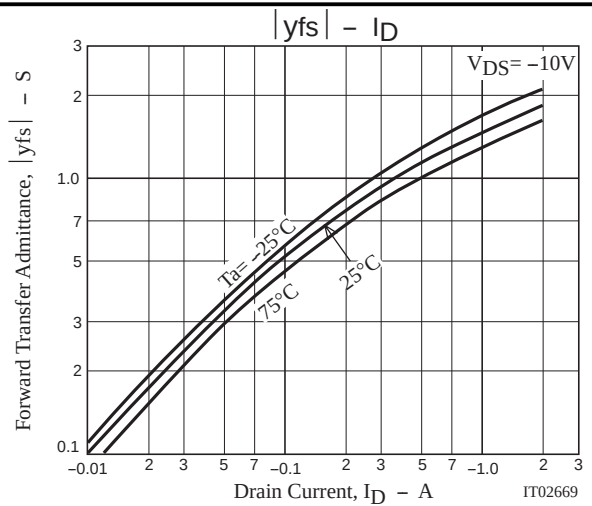
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		7		ns
Rise Time	t_r	See specified Test Circuit		4		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		22		ns
Fall Time	t_f	See specified Test Circuit		8		ns
Total Gate Charge	Q_g	$V_{DS}=-10V$, $V_{GS}=-10V$, $I_D=-1.6A$		4.7		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS}=-10V$, $V_{GS}=-10V$, $I_D=-1.6A$		0.8		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS}=-10V$, $V_{GS}=-10V$, $I_D=-1.6A$		0.7		nC
Diode Forward Voltage	V_{SD}	$I_S=-1.6A$, $V_{GS}=0$		-0.9	-1.5	V

Switching Time Test Circuit





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