

**CPH3318**

Ultrahigh-Speed Switching Applications

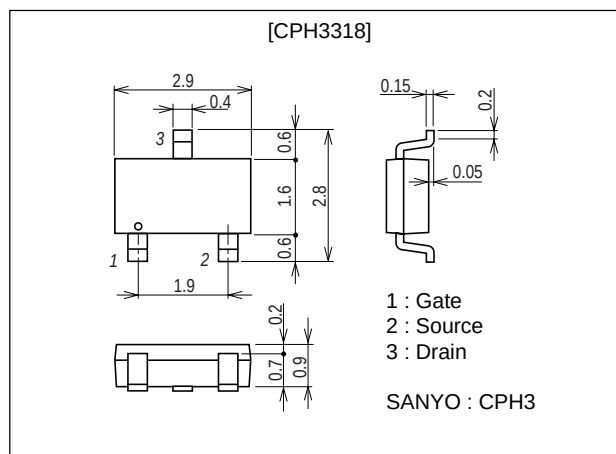
Features

- 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 _{DSS}		-30	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		-1	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-4	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (900mm²×0.8mm)	0.9	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-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} =±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	y _{fs}	V _{DS} =-10V, I _D =-500mA	0.57	0.82		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-500mA, V _{GS} =-10V		420	550	mΩ
	R _{DS(on)2}	I _D =-300mA, V _{GS} =-4V		720	1000	mΩ

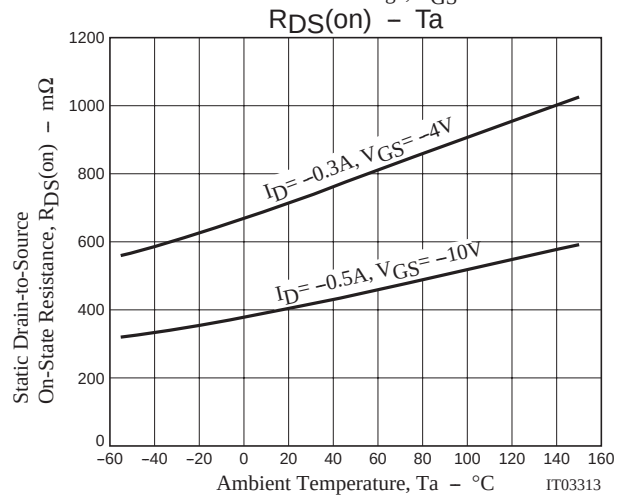
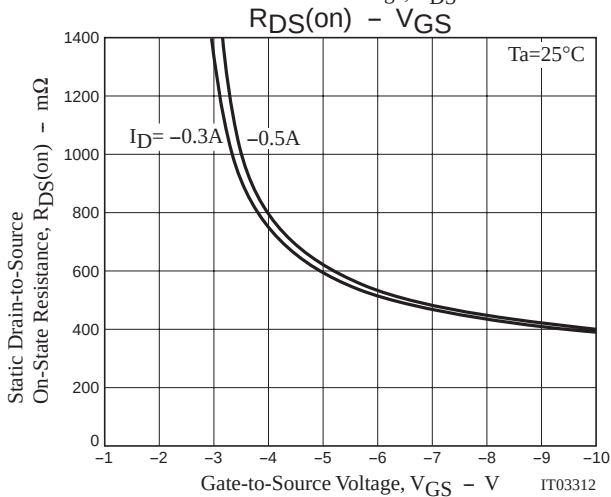
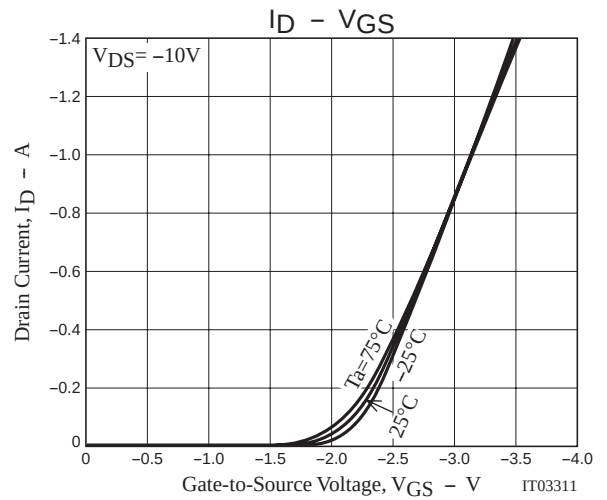
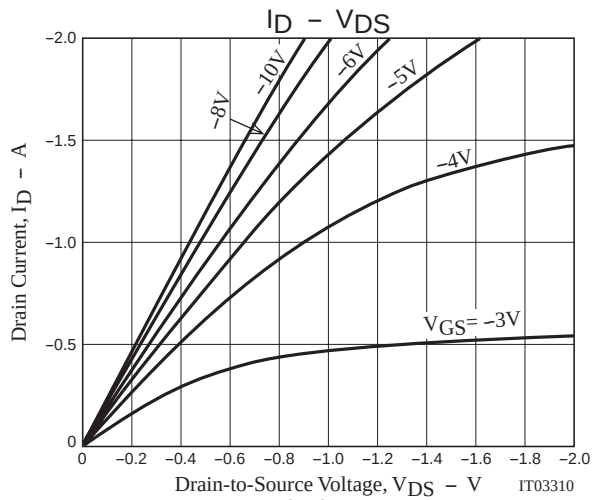
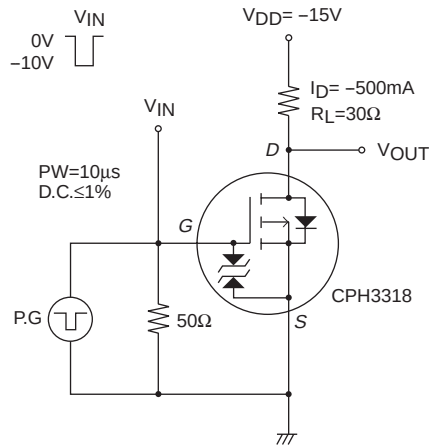
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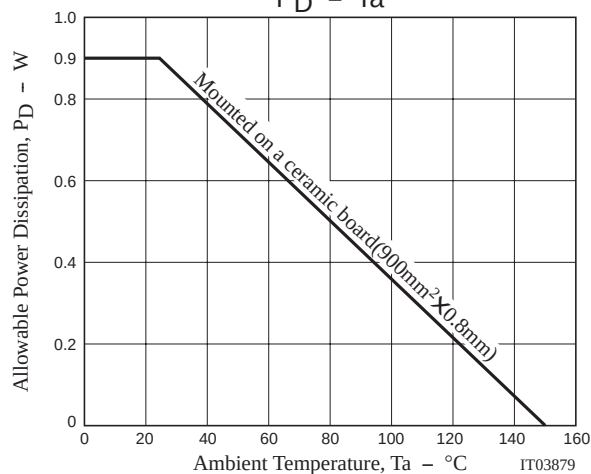
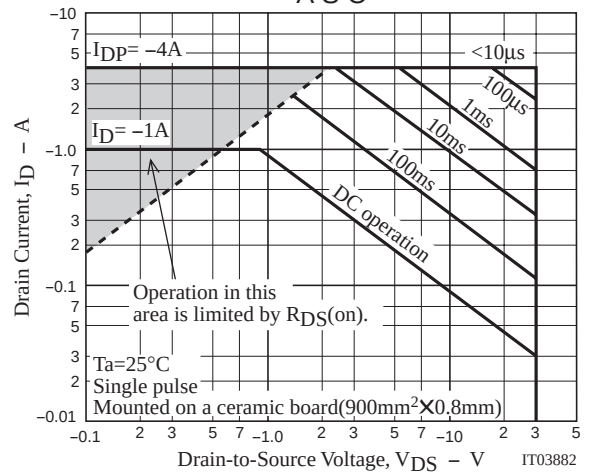
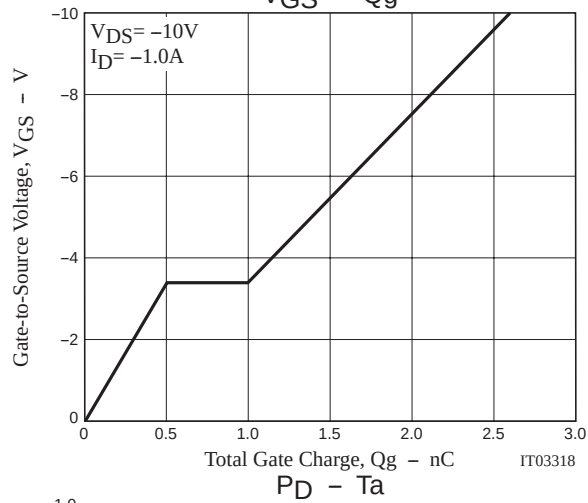
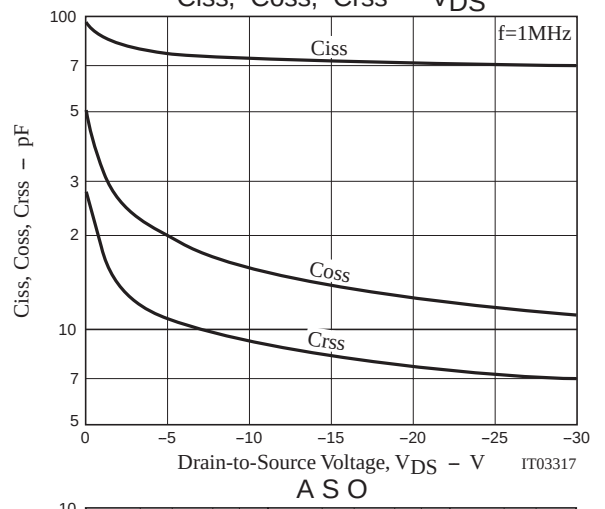
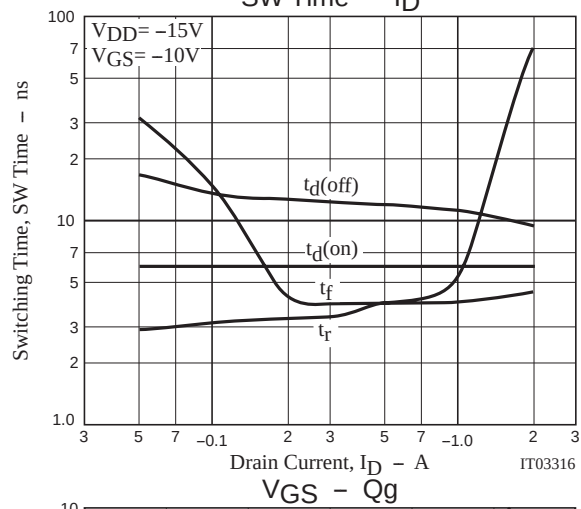
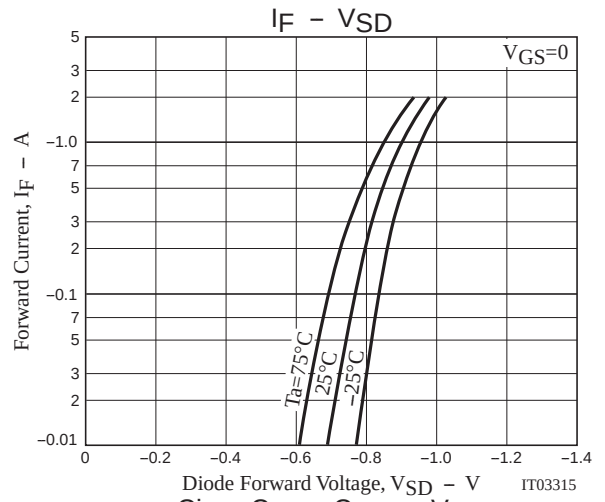
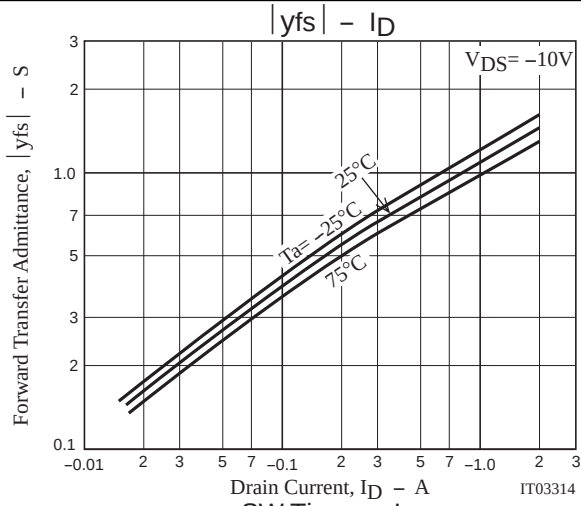
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	C_{iss}	$V_{DS} = -10V, f = 1MHz$		75		pF
Output Capacitance	C_{oss}	$V_{DS} = -10V, f = 1MHz$		16		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = -10V, f = 1MHz$		9		pF
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.		12		ns
Fall Time	t_f	See specified Test Circuit.		4		ns
Total Gate Charge	Q_g	$V_{DS} = -10V, V_{GS} = -10V, I_D = -1A$		2.6		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS} = -10V, V_{GS} = -10V, I_D = -1A$		0.5		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS} = -10V, V_{GS} = -10V, I_D = -1A$		0.5		nC
Diode Forward Voltage	V_{SD}	$I_S = -1A, V_{GS} = 0$		-0.89	-1.5	V

Switching Time Test Circuit



Note on usage : Since the CPH3318 is designed for high-speed switching applications, please avoid using this device in the vicinity of highly charged objects.

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