



CPH3409

Ultrahigh-Speed Switching Applications

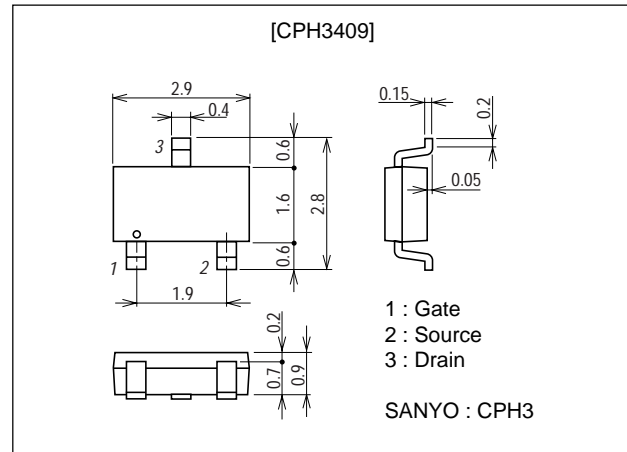
Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 2.5V 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}		±10	V
Drain Current (DC)	I _D		5	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	20	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (900mm²×0.8mm)	1.2	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} =±8V, V _{DS} =0			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =10V, I _D =1mA	0.4		1.3	V
Forward Transfer Admittance	y _{fs}	V _{DS} =10V, I _D =3A	6.3	9		S
Static Drain-to-Source On-State Resistance	R _{DS(on)}	I _D =3A, V _{GS} =4V		32	42	mΩ
	R _{DS(on)}	I _D =1A, V _{GS} =2.5V		40	56	mΩ

Marking : KJ

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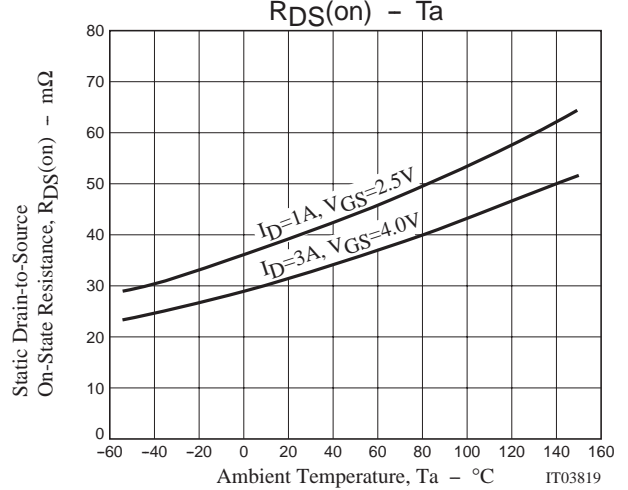
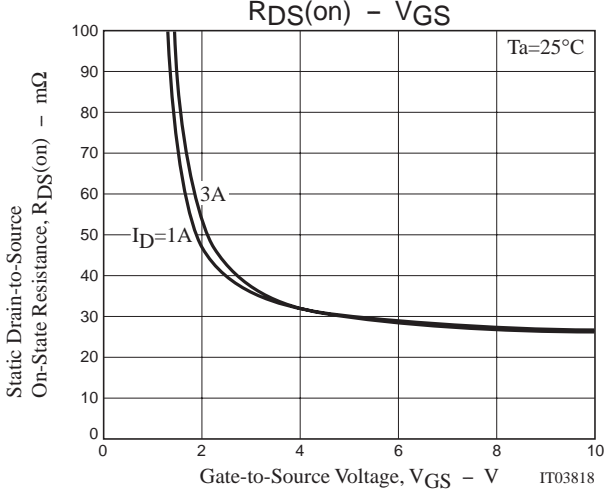
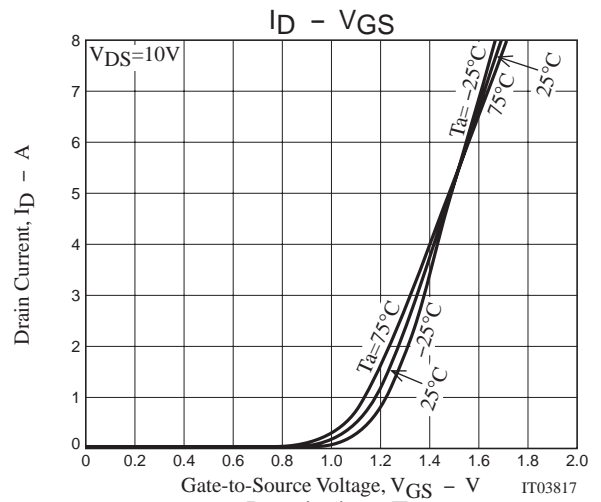
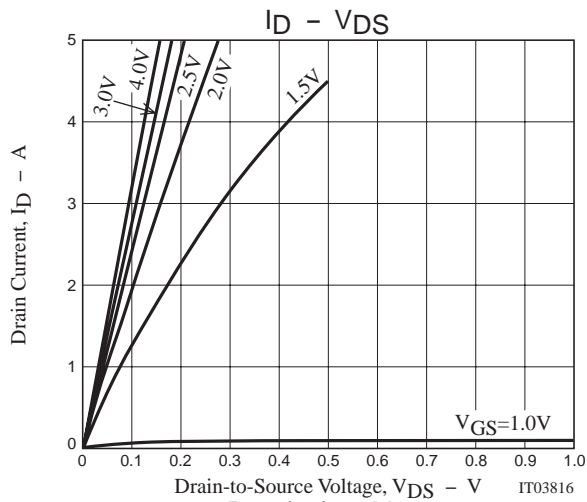
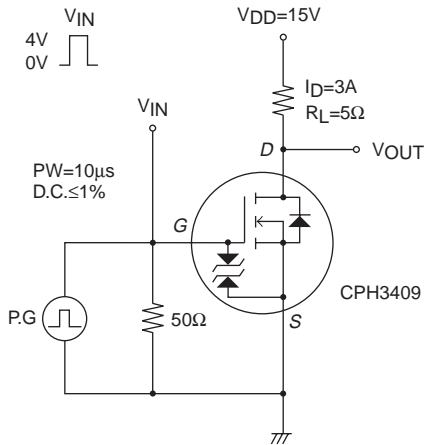
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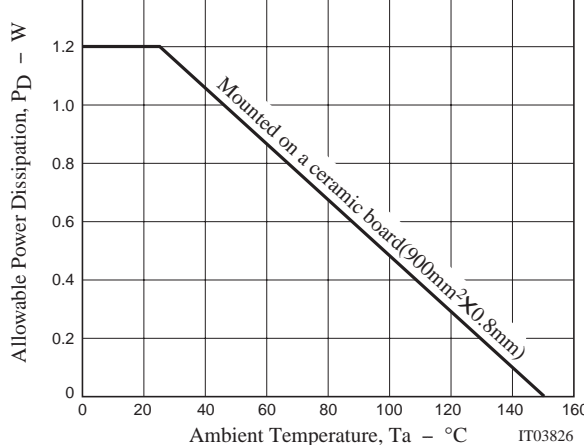
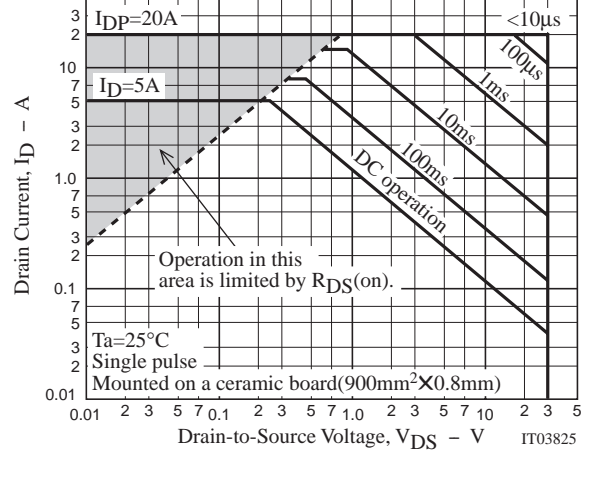
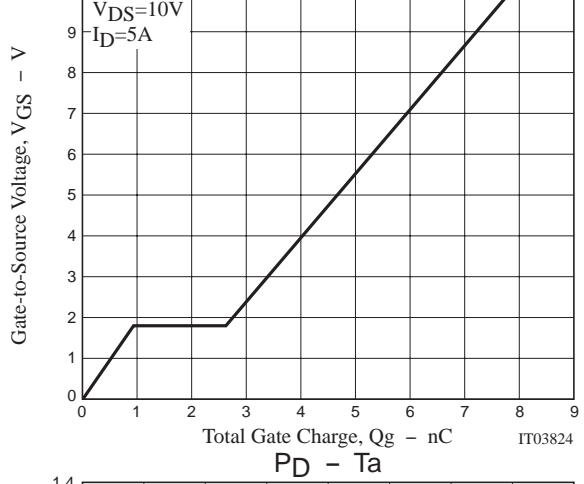
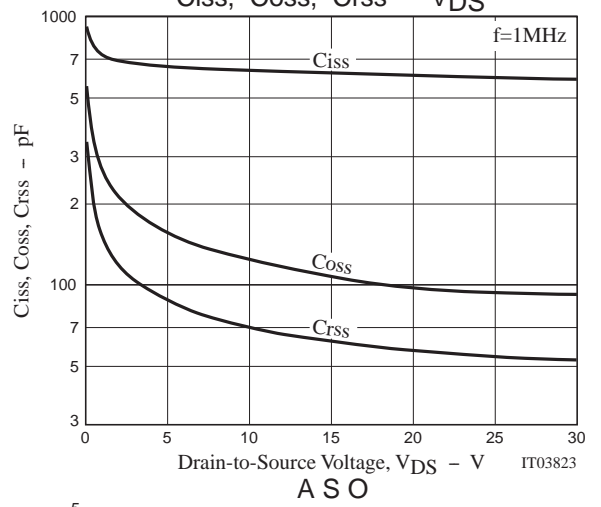
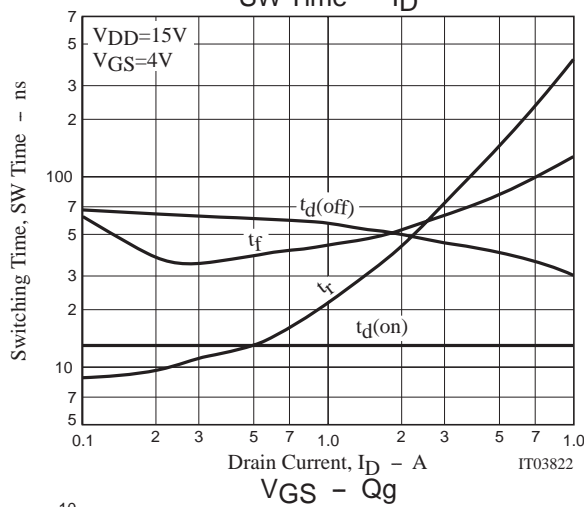
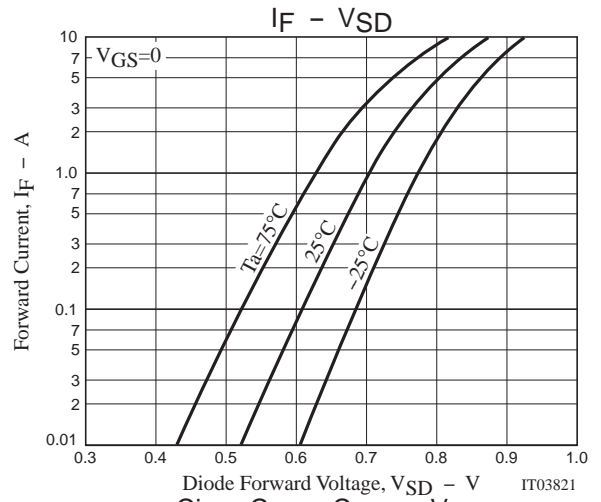
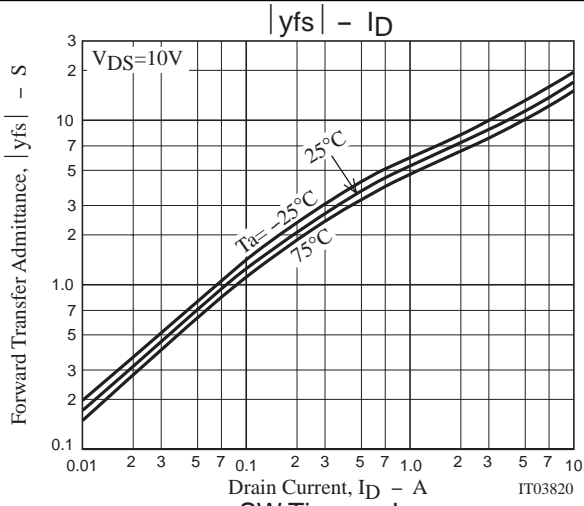
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V _{DS} =10V, f=1MHz		630		pF
Output Capacitance	Coss	V _{DS} =10V, f=1MHz		125		pF
Reverse Transfer Capacitance	Crss	V _{DS} =10V, f=1MHz		70		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		13		ns
Rise Time	t _r	See specified Test Circuit.		75		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		45		ns
Fall Time	t _f	See specified Test Circuit.		68		ns
Total Gate Charge	Q _g	V _{DS} =10V, V _{GS} =4V, I _D =5A		7.9		nC
Gate-to-Source Charge	Q _{gs}	V _{DS} =10V, V _{GS} =4V, I _D =5A		0.9		nC
Gate-to-Drain "Miller" Charge	Q _{gd}	V _{DS} =10V, V _{GS} =4V, I _D =5A		1.7		nC
Diode Forward Voltage	V _{SD}	I _S =5A, V _{GS} =0		0.8	1.2	V

Switching Time Test Circuit





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