



CPH6304

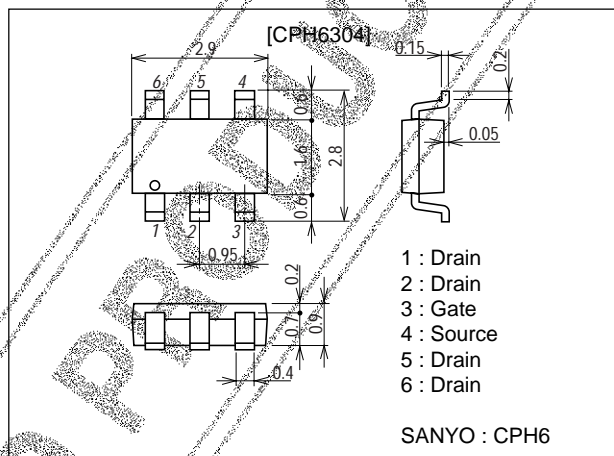
High-Speed Switching Applications

Features

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

Package Dimensions

unit : mm
2151A



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		-4	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-16	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (900mm²×0.8mm)	1.6	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	-1.0		-2.4	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-10V, I _D =-2A	3.1	4.5		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-2A, V _{GS} =-10V		60	78	mΩ
	R _{DS(on)2}	I _D =-1A, V _{GS} =-4.5V		90	126	mΩ
	R _{DS(on)3}	I _D =-1A, V _{GS} =-4V		100	140	mΩ

Marking : JD

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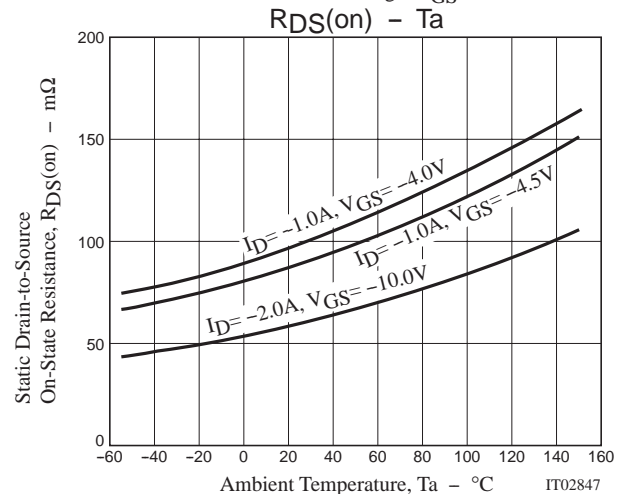
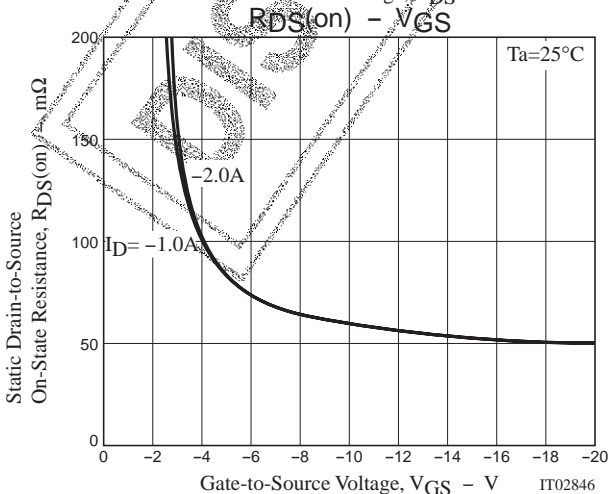
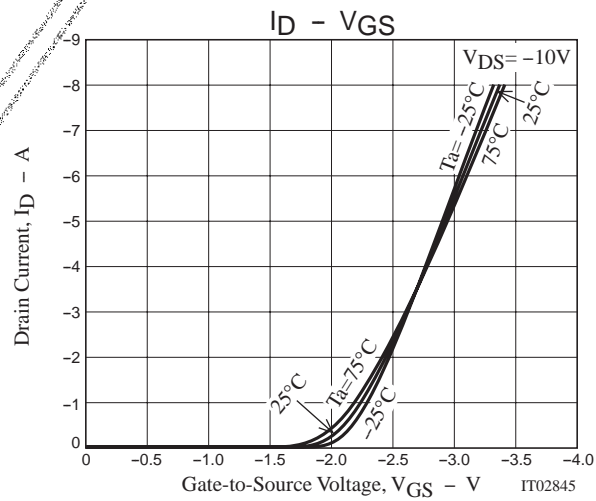
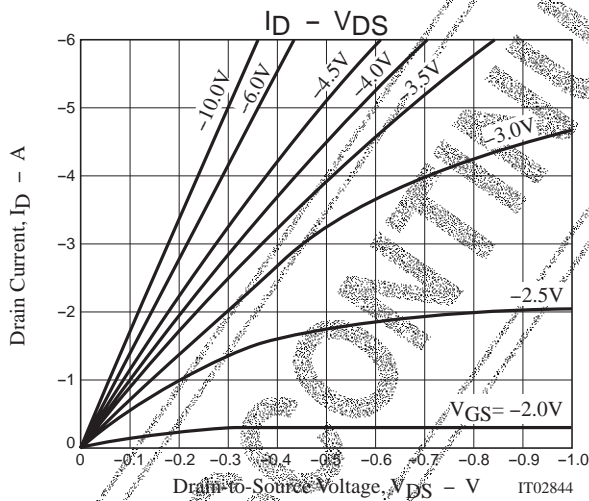
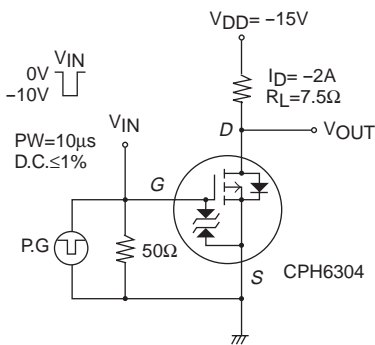
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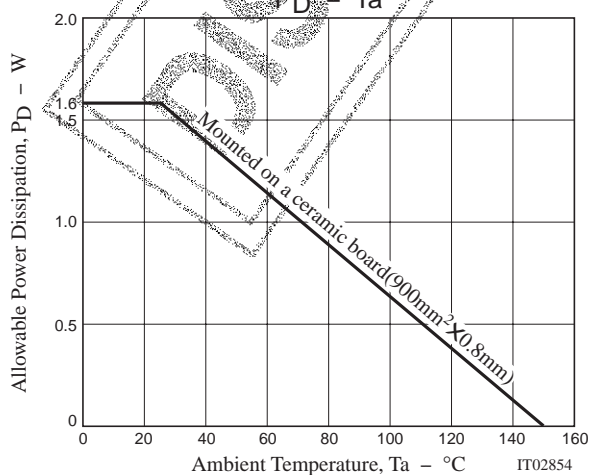
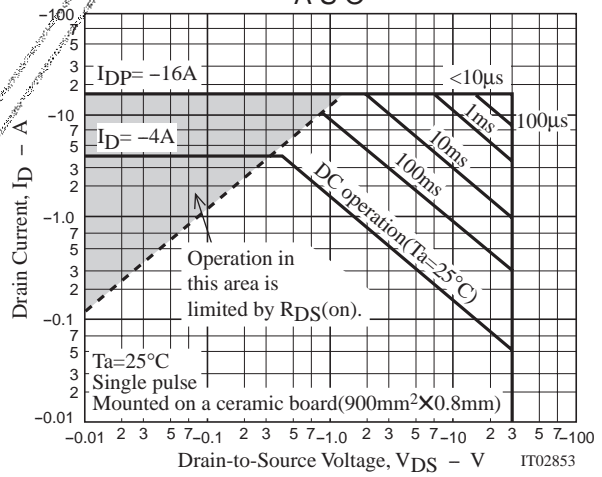
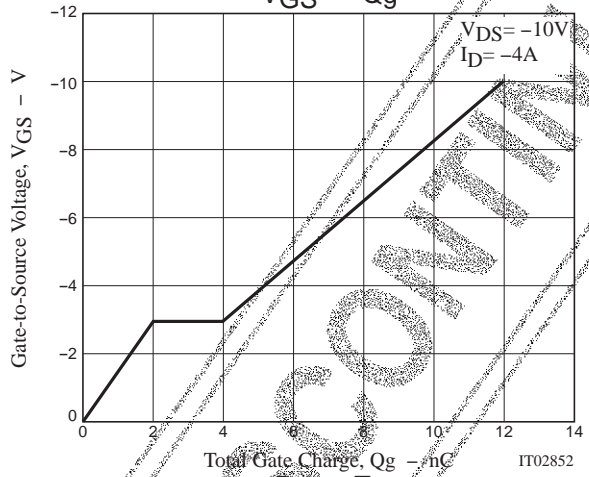
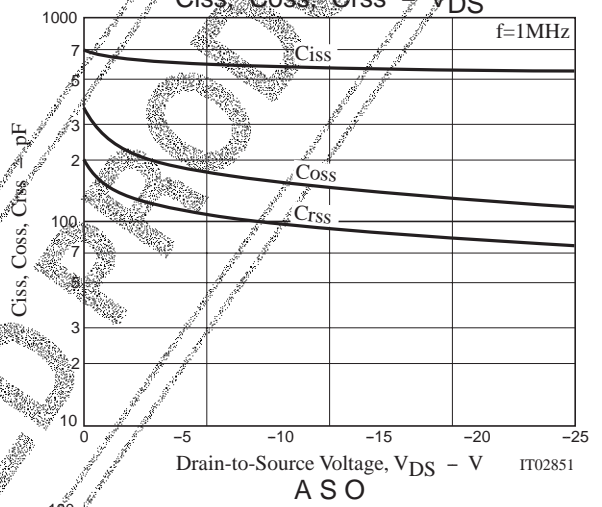
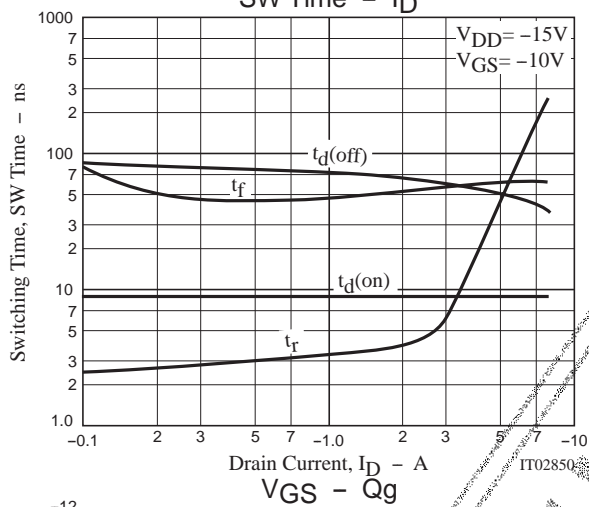
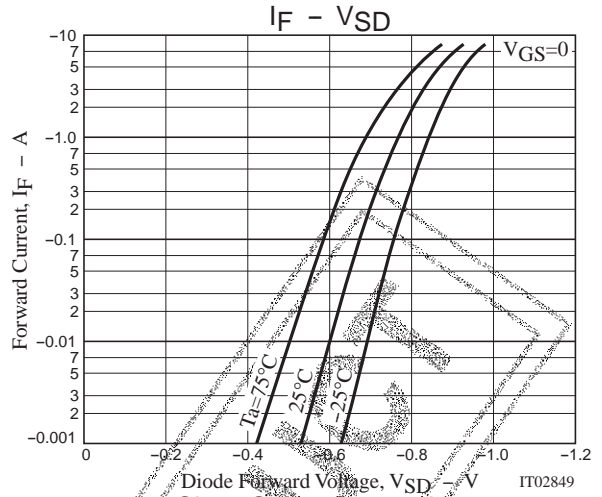
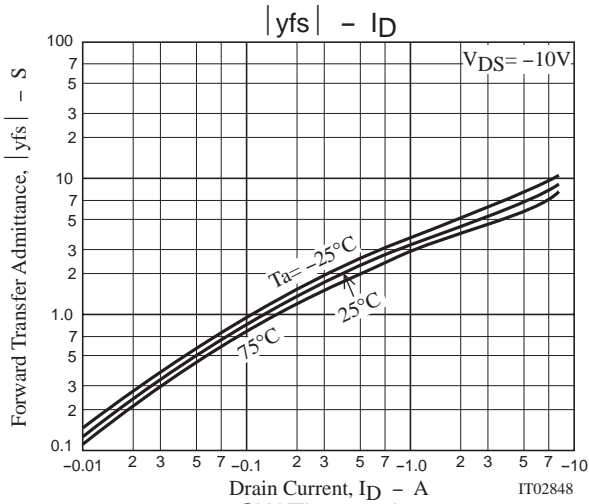
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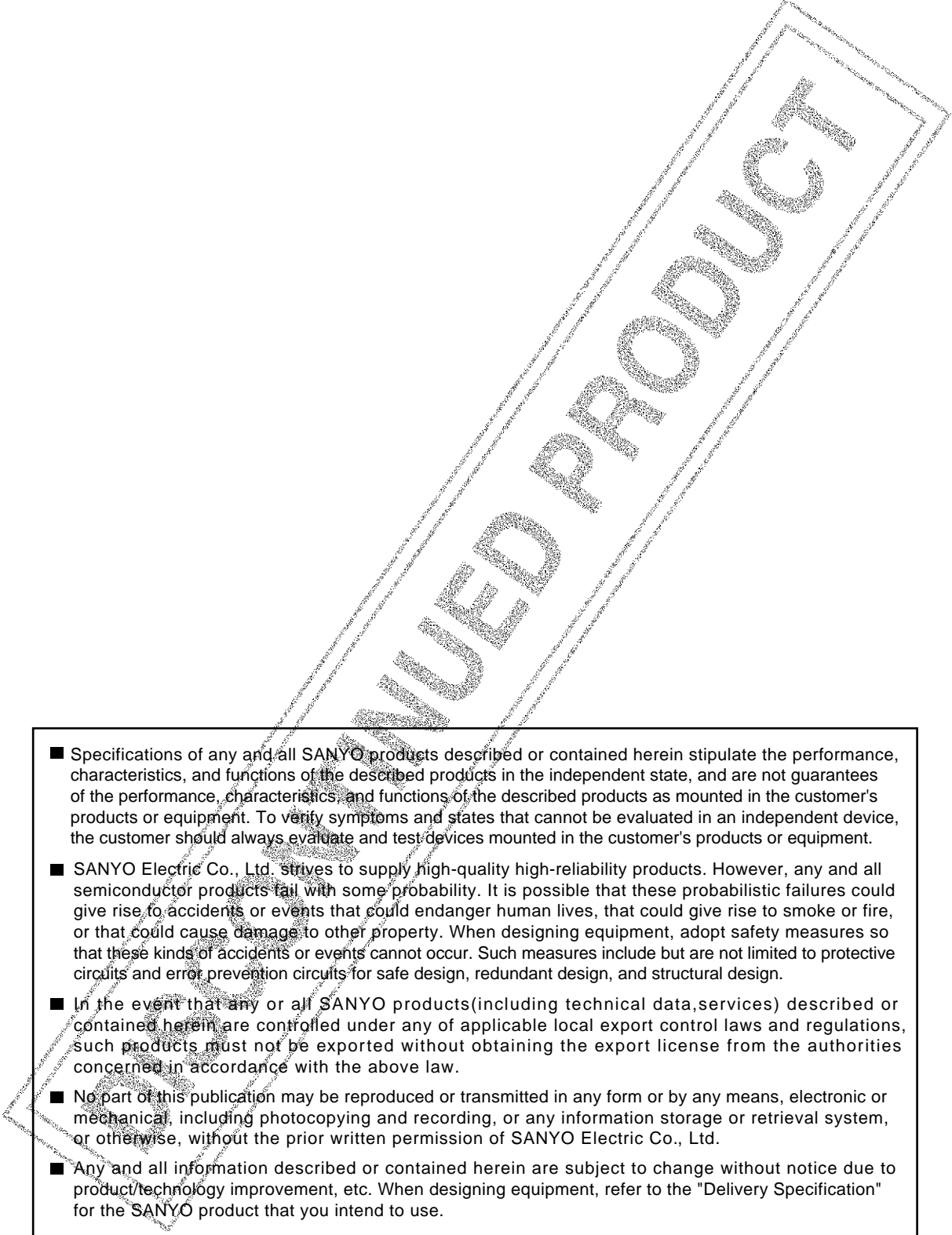
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V _{DS} =-10V, f=1MHz		560		pF
Output Capacitance	Coss	V _{DS} =-10V, f=1MHz		150		pF
Reverse Transfer Capacitance	Crss	V _{DS} =-10V, f=1MHz		95		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit		9		ns
Rise Time	t _r	See specified Test Circuit		4		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit		70		ns
Fall Time	t _f	See specified Test Circuit		55		ns
Total Gate Charge	Q _g	V _{DS} =-10V, V _{GS} =-10V, I _D =-4A		12		nC
Gate-to-Source Charge	Q _{gs}	V _{DS} =-10V, V _{GS} =-10V, I _D =-4A		2		nC
Gate-to-Drain "Miller" Charge	Q _{gd}	V _{DS} =-10V, V _{GS} =-10V, I _D =-4A		2		nC
Diode Forward Voltage	V _{SD}	I _S =-4A, V _{GS} =0		-0.83	-1.5	V

Switching Time Test Circuit





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