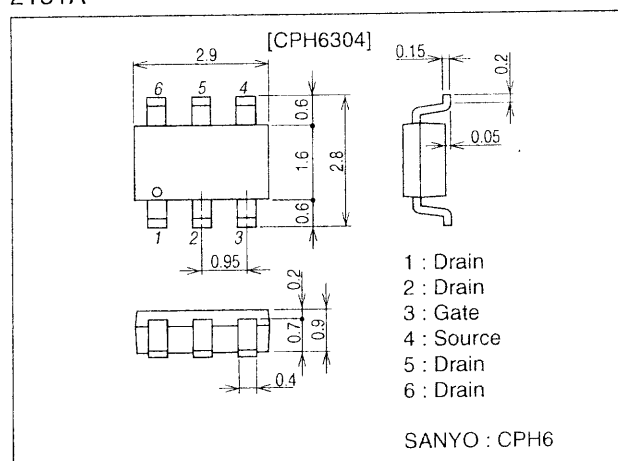


CPH6304**SANYO****High-Speed Switching Applications****Features**

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

Package Dimensions

unit : mm
2151A

**Specifications**Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

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		-4	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	-16	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (900mm ² ×0.8mm)	1.6	W
Channel Temperature	T_{ch}		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = -1\text{mA}$, $V_{GS} = 0$	-30			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -30\text{V}$, $V_{GS} = 0$			-1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 16\text{V}$, $V_{DS} = 0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = -10\text{V}$, $I_D = -1\text{mA}$	-1.0		-2.4	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = -10\text{V}$, $I_D = -2\text{A}$	3.1	4.5		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = -2\text{A}$, $V_{GS} = -10\text{V}$		60	78	$\text{m}\Omega$
	$R_{DS(on)2}$	$I_D = -1\text{A}$, $V_{GS} = -4.5\text{V}$		90	126	$\text{m}\Omega$
	$R_{DS(on)3}$	$I_D = -1\text{A}$, $V_{GS} = -4\text{V}$		100	140	$\text{m}\Omega$

Marking : JD

Continued on next page.

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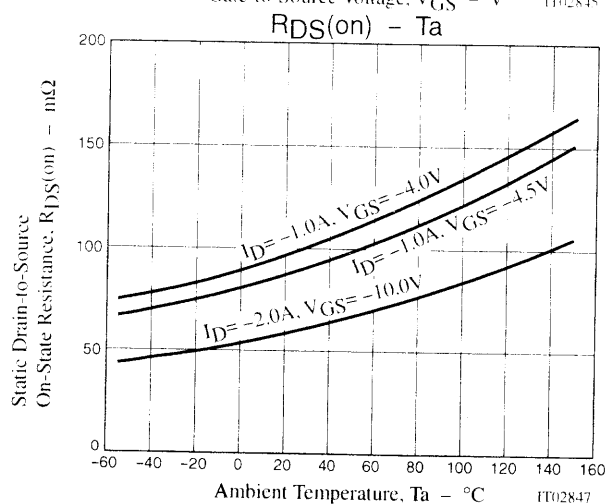
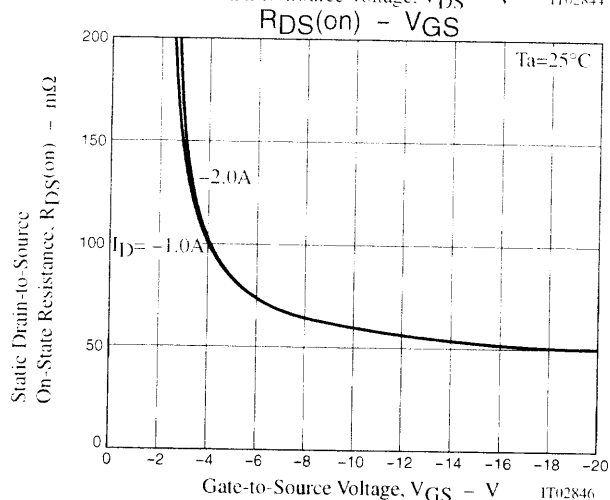
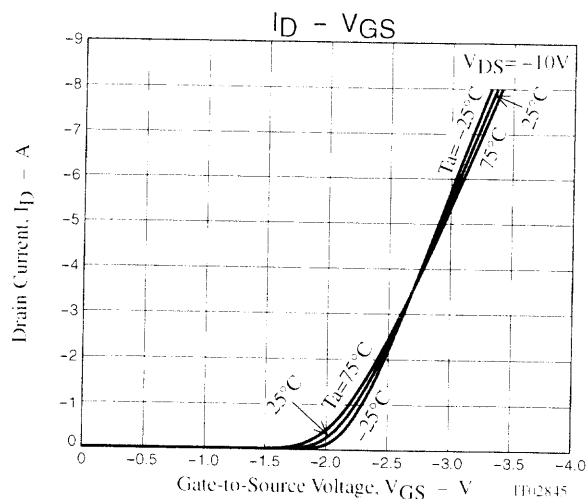
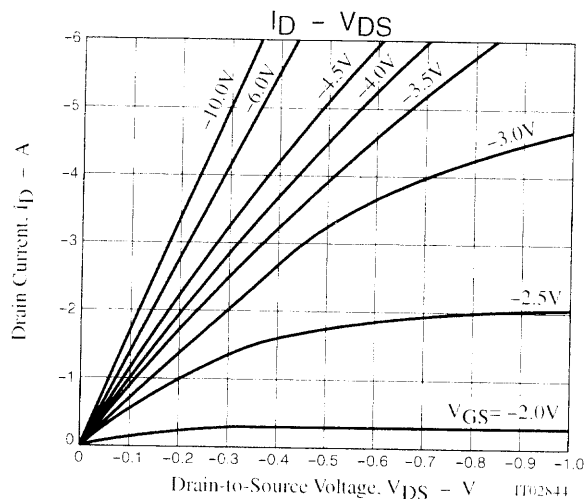
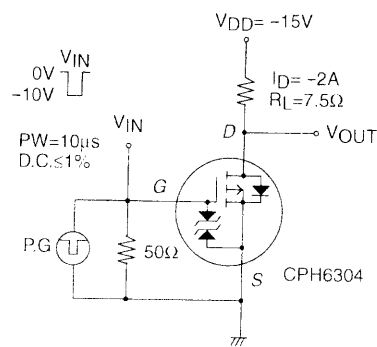
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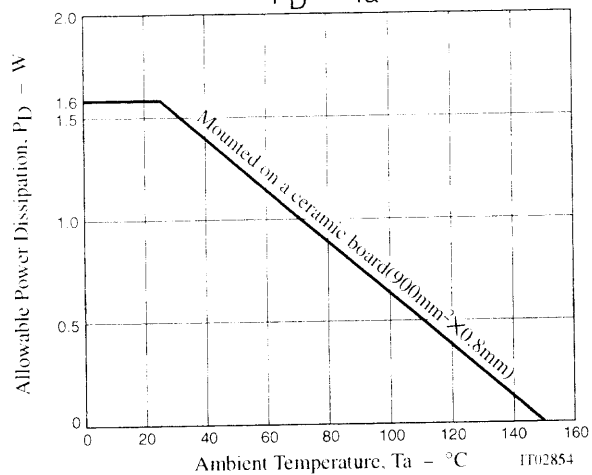
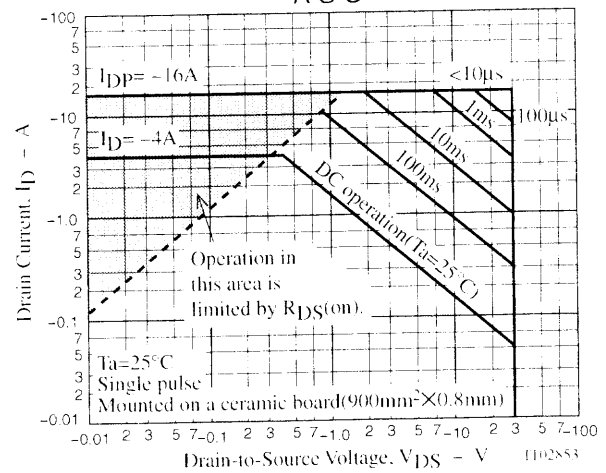
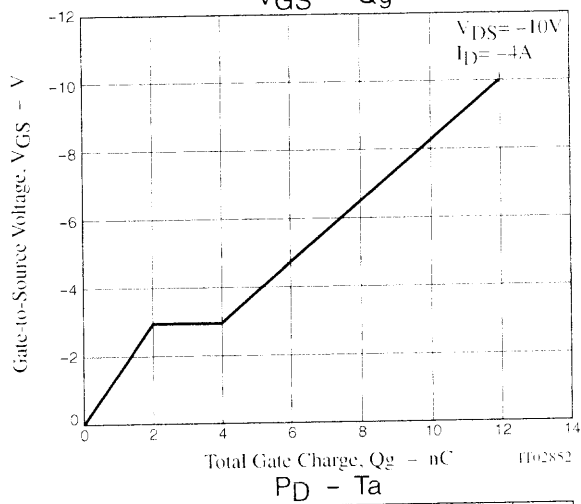
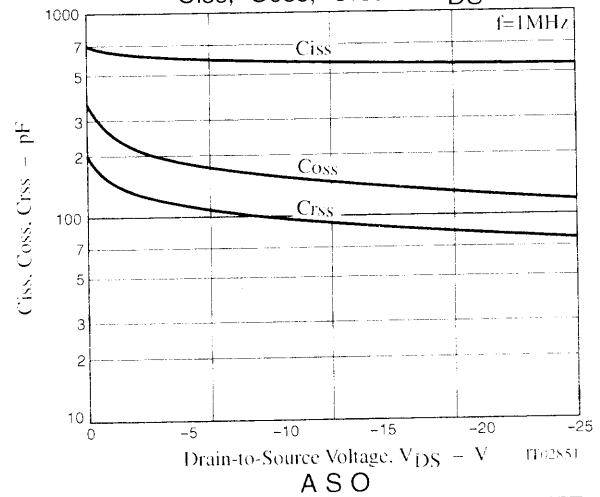
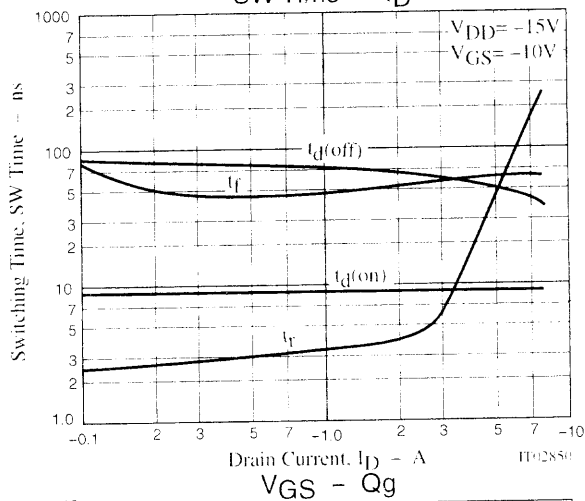
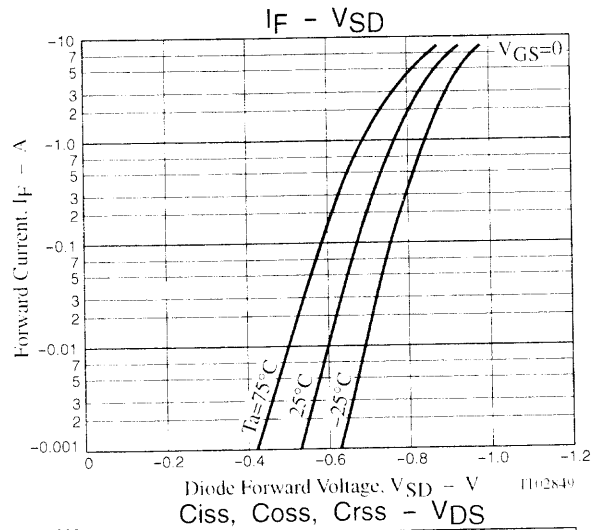
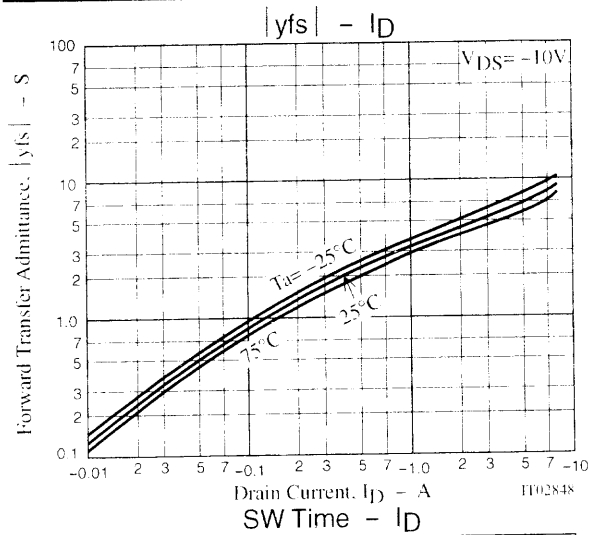
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	VDS=-10V, f=1MHz		560		pF
Output Capacitance	Coss	VDS=-10V, f=1MHz		150		pF
Reverse Transfer Capacitance	Crss	VDS=-10V, f=1MHz		95		pF
Turn-ON Delay Time	td(on)	See specified Test Circuit		9		ns
Rise Time	tr	See specified Test Circuit		4		ns
Turn-OFF Delay Time	td(off)	See specified Test Circuit		70		ns
Fall Time	tf	See specified Test Circuit		55		ns
Total Gate Charge	Qg	VDS=-10V, VGS=-10V, ID=-4A		12		nC
Gate-to-Source Charge	Qgs	VDS=-10V, VGS=-10V, ID=-4A		2		nC
Gate-to-Drain "Miller" Charge	Qgd	VDS=-10V, VGS=-10V, ID=-4A		2		nC
Diode Forward Voltage	VSD	IS=-4A, VGS=0		-0.83	-1.5	V

Switching Time Test Circuit





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