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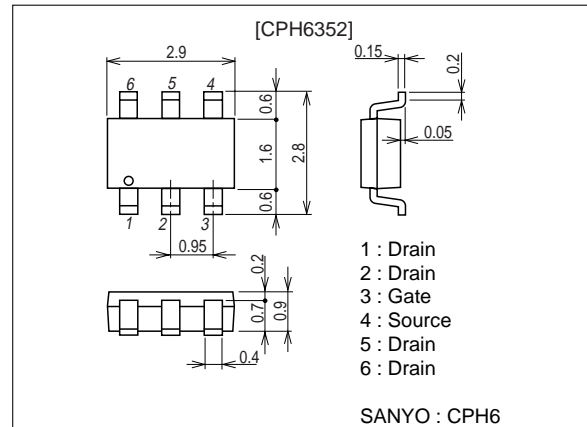
Ultrahigh-Speed Switching Applications

Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 2.5V 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}		±10	V
Drain Current (DC)	I _D		-3	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-12	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			-10	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		-1.4	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-10V, I _D =-1.5A	3	4.4		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-1.5A, V _{GS} =-4V		120	160	mΩ
	R _{DS(on)2}	I _D =-0.5A, V _{GS} =-2.5V		170	240	mΩ

Marking : JF

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SANYO Electric Co.,Ltd. Semiconductor Company
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

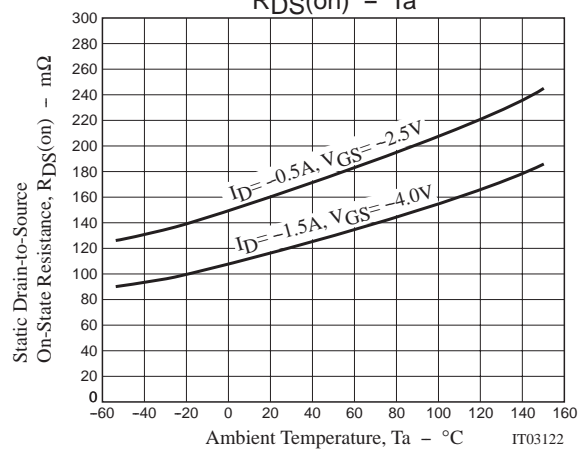
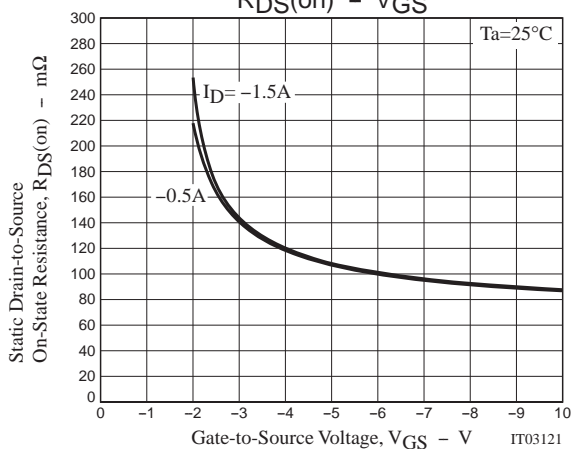
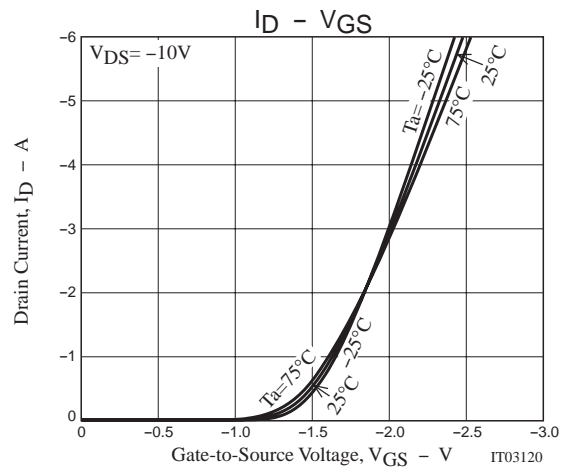
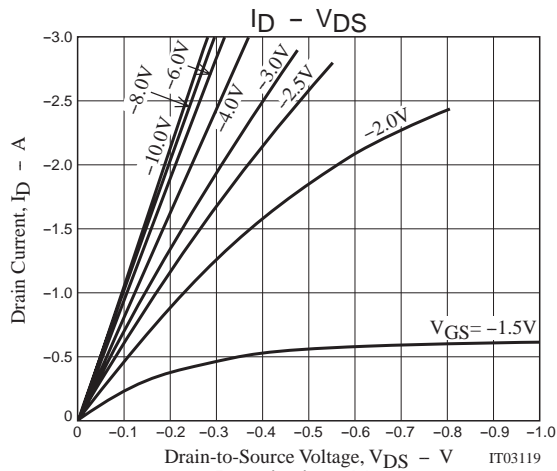
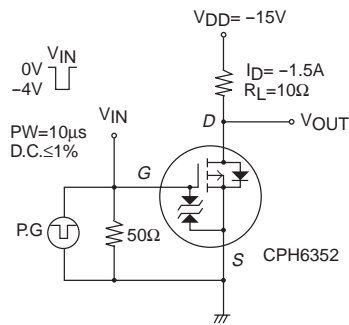
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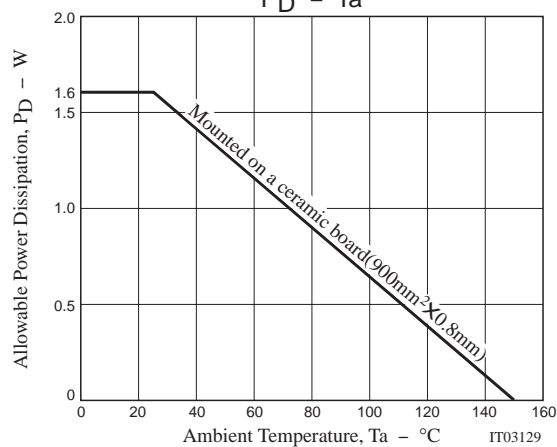
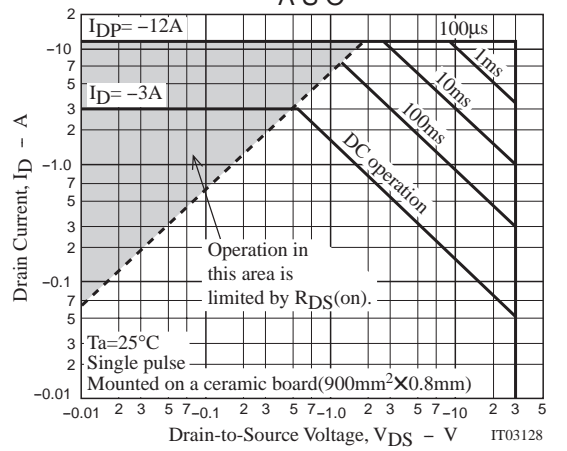
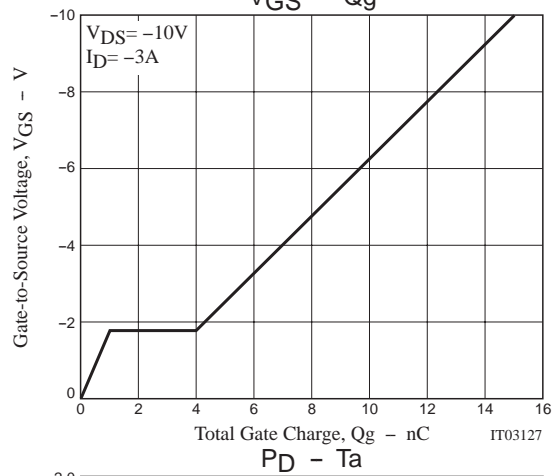
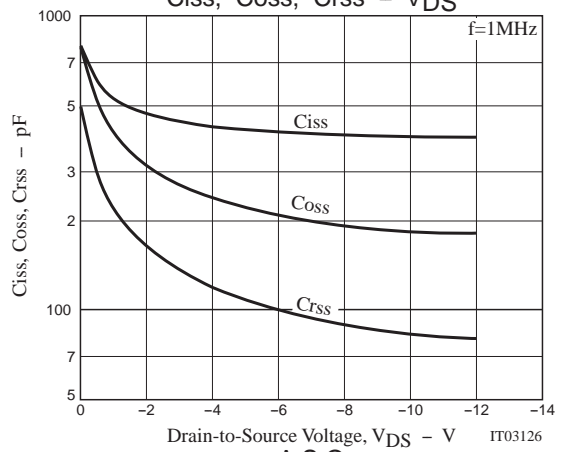
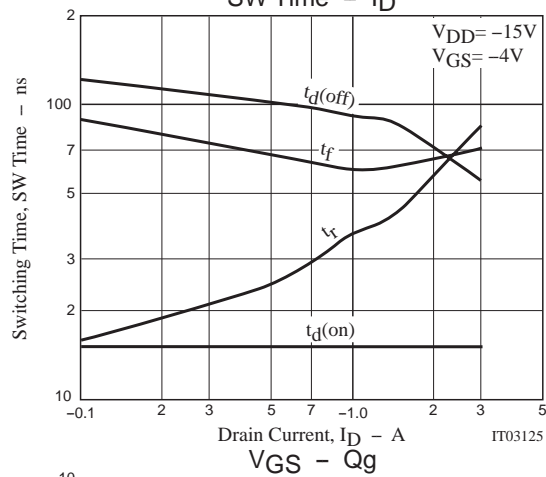
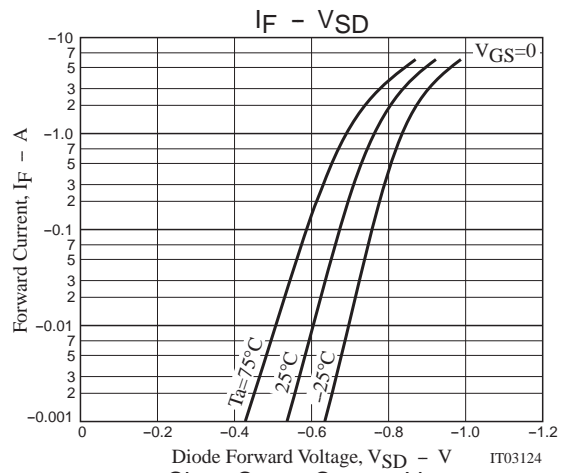
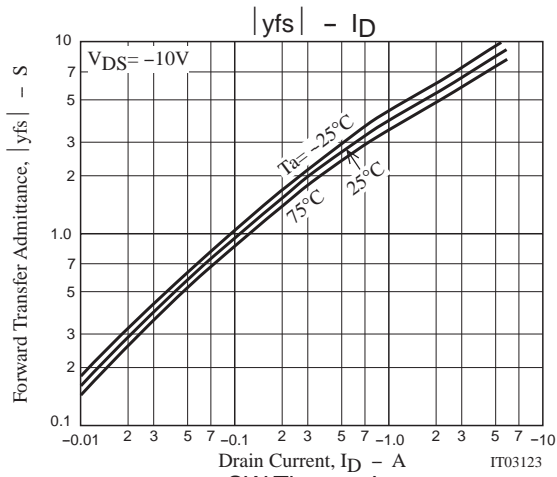
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	$V_{DS} = -10V, f = 1MHz$		380		pF
Output Capacitance	Coss	$V_{DS} = -10V, f = 1MHz$		180		pF
Reverse Transfer Capacitance	Crss	$V_{DS} = -10V, f = 1MHz$		80		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit		15		ns
Rise Time	t_r	See specified Test Circuit		45		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit		85		ns
Fall Time	t_f	See specified Test Circuit		62		ns
Total Gate Charge	Qg	$V_{DS} = -10V, V_{GS} = -10V, I_D = -3A$		15		nC
Gate-to-Source Charge	Qgs	$V_{DS} = -10V, V_{GS} = -10V, I_D = -3A$		1		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS} = -10V, V_{GS} = -10V, I_D = -3A$		3		nC
Diode Forward Voltage	VSD	$I_S = -3A, V_{GS} = 0$		-0.85	-1.5	V

Switching Time Test Circuit





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