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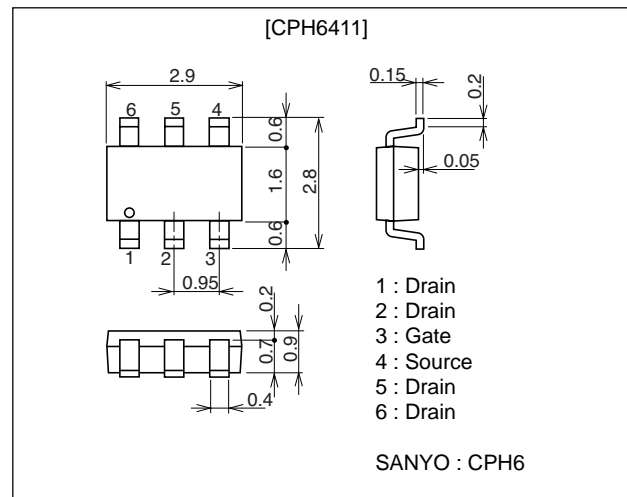
Ultrahigh-Speed Switching Applications

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}		20	V
Gate-to-Source Voltage	V _{GSS}		±10	V
Drain Current (DC)	I _D		6	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	24	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (900mm ² X0.8mm)	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	20			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =20V, 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	7.7	11		S

Marking : KM

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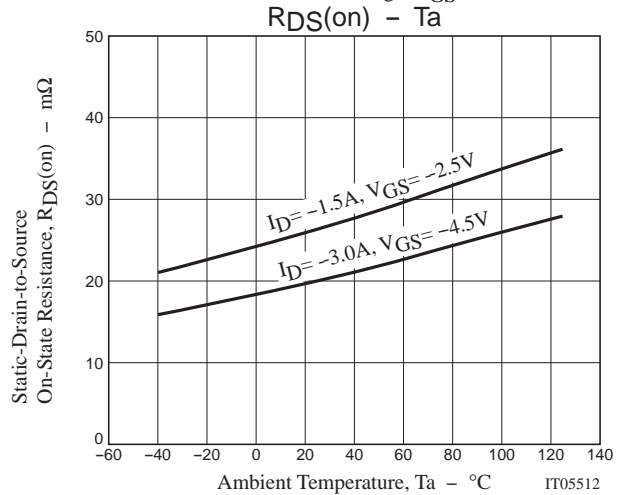
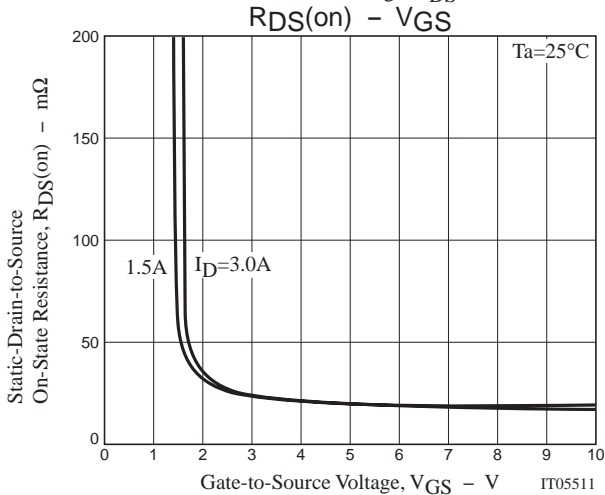
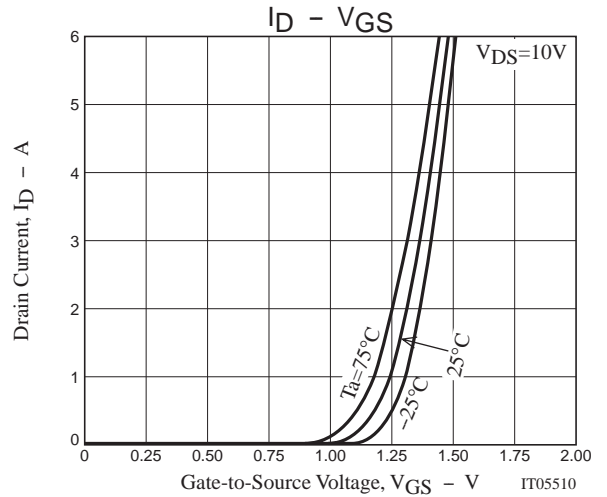
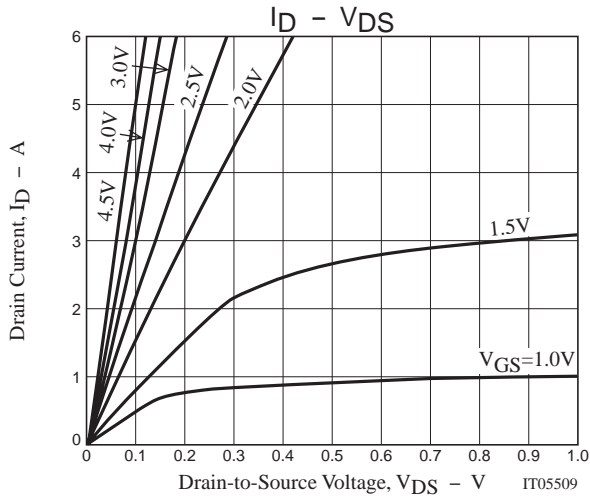
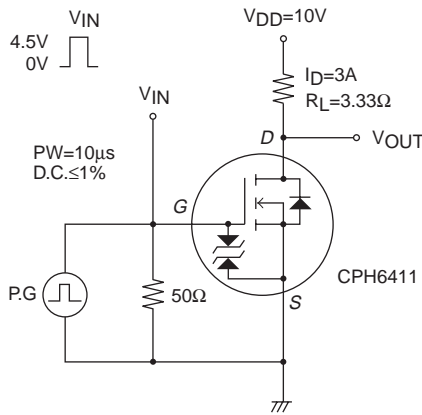
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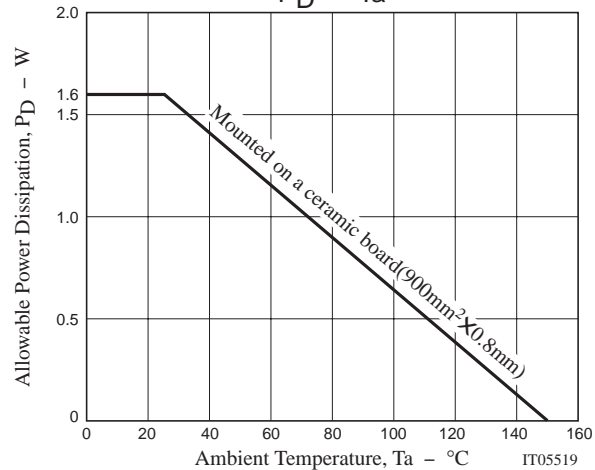
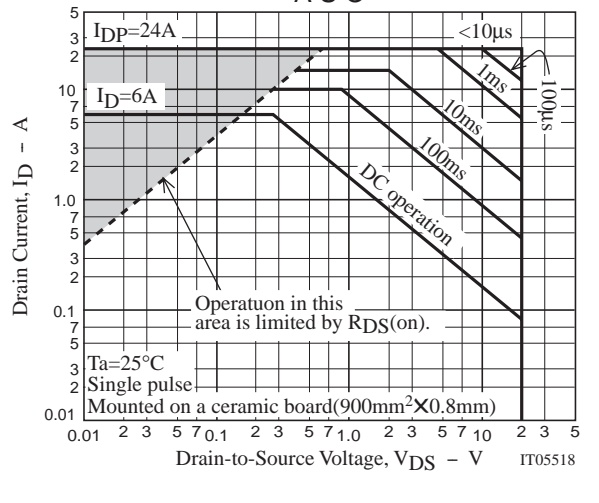
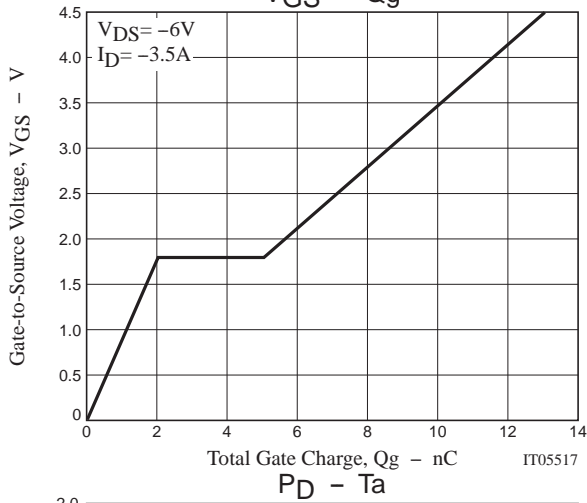
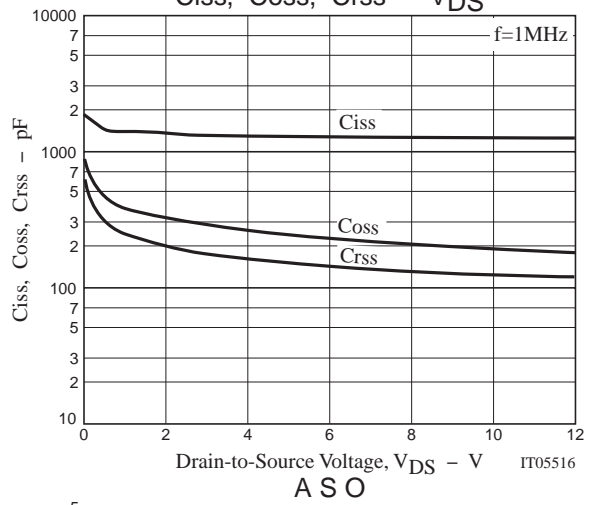
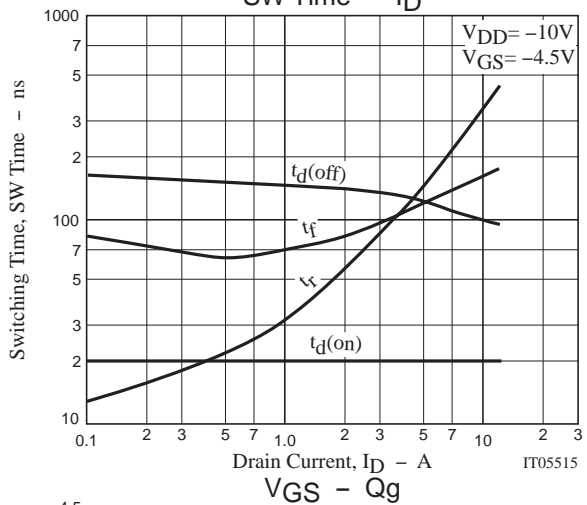
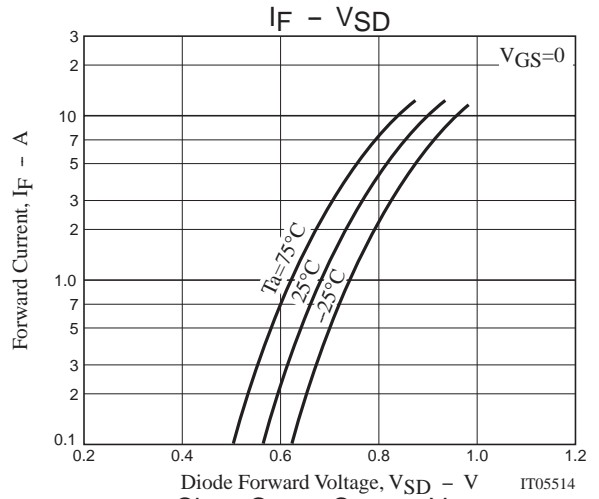
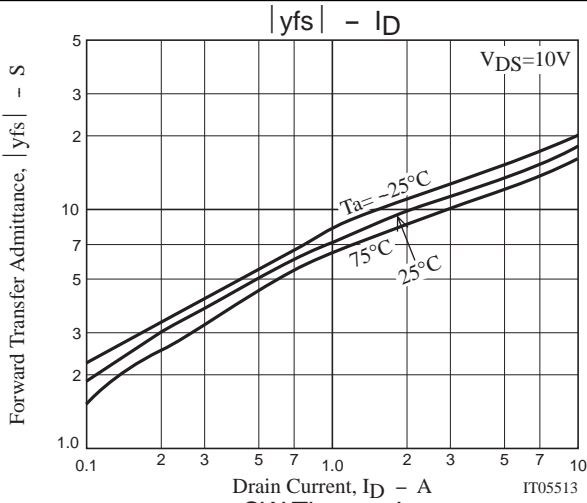
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=3A, V_{GS}=4.5V$		20	26	$m\Omega$
	$R_{DS(on)2}$	$I_D=1.5A, V_{GS}=2.5V$		26	37	$m\Omega$
Input Capacitance	C_{iss}	$V_{DS}=10V, f=1MHz$		1200		pF
Output Capacitance	C_{oss}	$V_{DS}=10V, f=1MHz$		200		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=10V, f=1MHz$		140		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		20		ns
Rise Time	t_r	See specified Test Circuit.		90		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		130		ns
Fall Time	t_f	See specified Test Circuit.		100		ns
Total Gate Charge	Q_g	$V_{DS}=10V, V_{GS}=4.5V, I_D=6A$		13		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS}=10V, V_{GS}=4.5V, I_D=6A$		2		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS}=10V, V_{GS}=4.5V, I_D=6A$		3		nC
Diode Forward Voltage	V_{SD}	$I_S=6A, V_{GS}=0$		0.82	1.2	V

Switching Time Test Circuit



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