Ordering number : ENN7017

P-Channel Silicon MOSFET

CPH6313

High-Speed Switching Applications

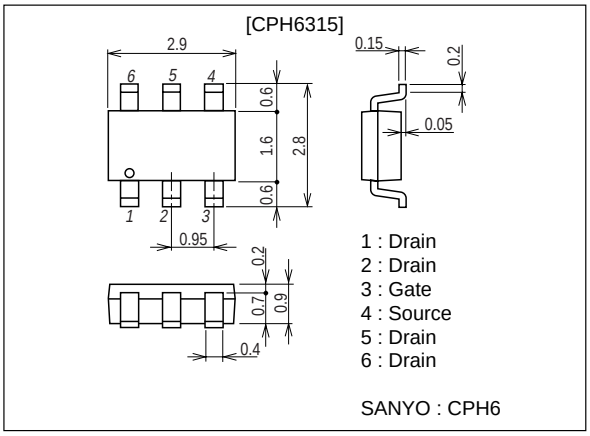
Features

- Low ON-resistance.
- High-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		-4	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	-16	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (1200mm²X0.8mm)	1.6	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-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		-1.4	V
Forward Transfer Admittance	|yfs|	V_{DS}=-10V, I_D=-2A	4	5.8		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	I_D=-2A, V_{GS}=-4.5V		55	72	mΩ
	$R_{DS(on)2}$	I_D=-1A, V_{GS}=-2.5V		80	110	mΩ

Marking : JP

Continued on next page.

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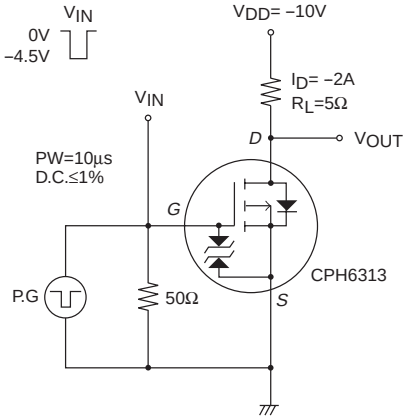
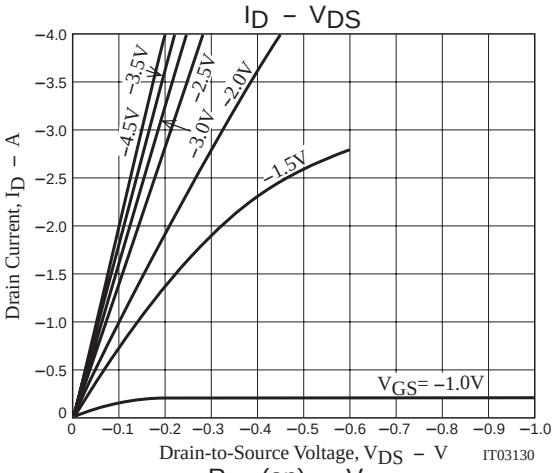
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

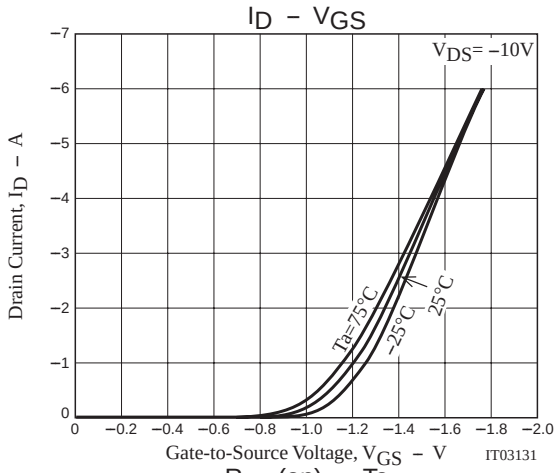
Continued from preceding page.

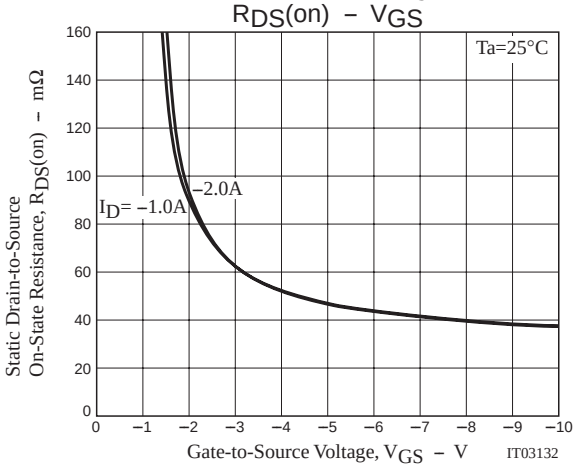
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V_{DS}=−10V, f=1MHz		680		pF
Output Capacitance	Coss	V_{DS}=−10V, f=1MHz		115		pF
Reverse Transfer Capacitance	Crss	V_{DS}=−10V, f=1MHz		80		pF
Turn-ON Delay Time	t_d(on)	See specified Test Circuit.		12		ns
Rise Time	t_r	See specified Test Circuit.		57		ns
Turn-OFF Delay Time	t_d(off)	See specified Test Circuit.		68		ns
Fall Time	t_f	See specified Test Circuit.		58		ns
Total Gate Charge	Qg	V_{DS}=−10V, V_{GS}=−4.5V, I_D=−4A		8.7		nC
Gate-to-Source Charge	Qgs	V_{DS}=−10V, V_{GS}=−4.5V, I_D=−4A		1.5		nC
Gate-to-Drain “Miller” Charge	Qgd	V_{DS}=−10V, V_{GS}=−4.5V, I_D=−4A		1.8		nC
Diode Forward Voltage	V_{SD}	I_S=−4A, V_{GS}=0		−0.85	−1.2	V

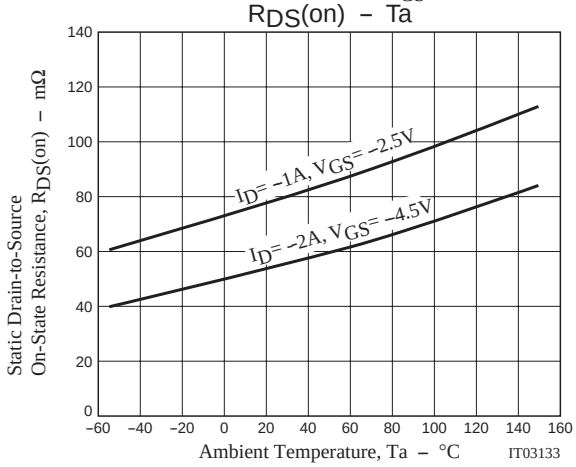
Switching Time Test Circuit

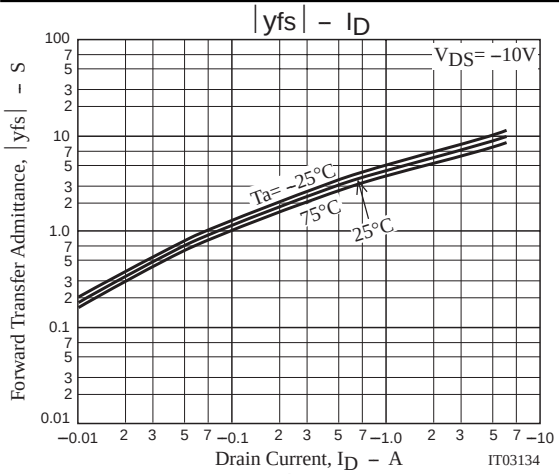


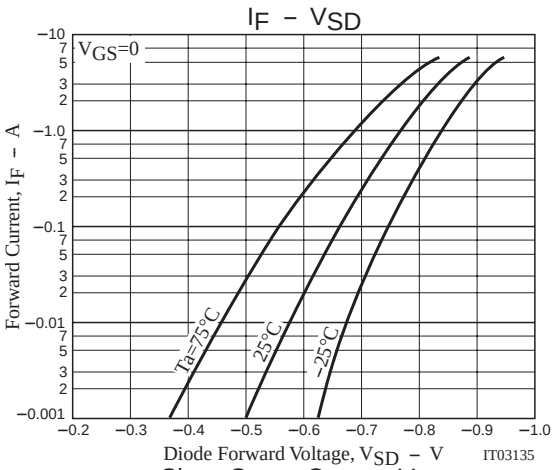


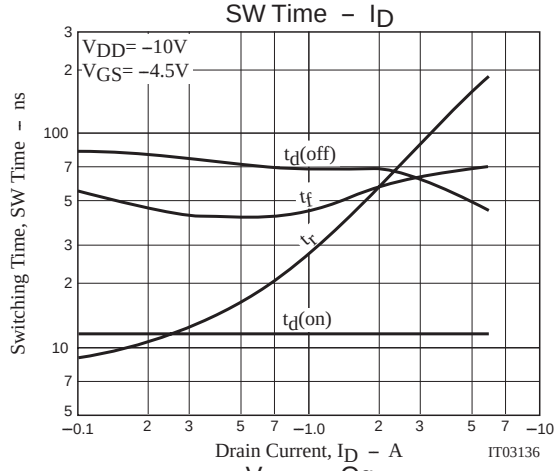


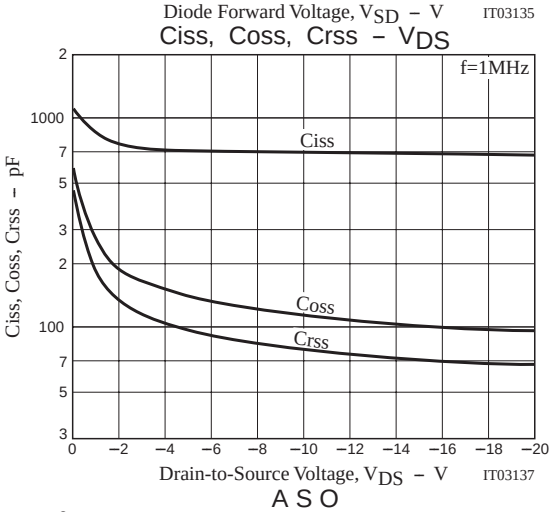


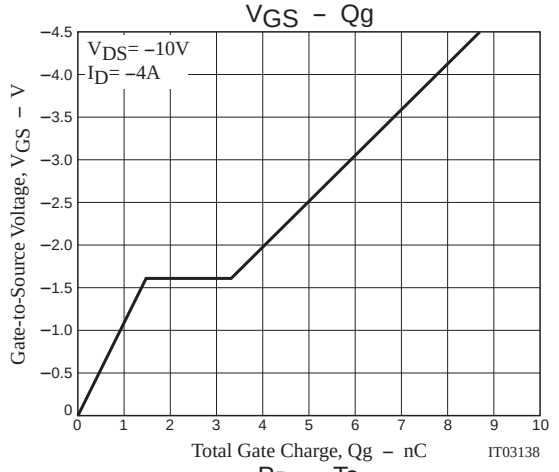


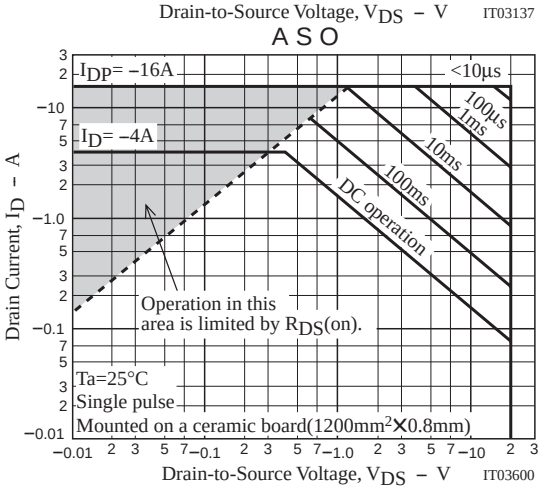


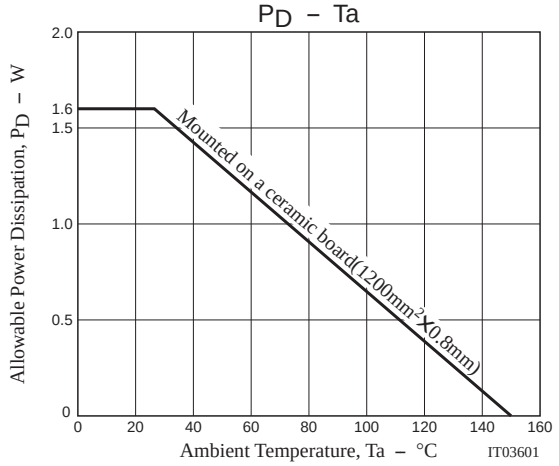












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