Ordering number : ENN7369

N-Channel Silicon MOSFET

CPH6405

Ultrahigh-Speed Switching Applications

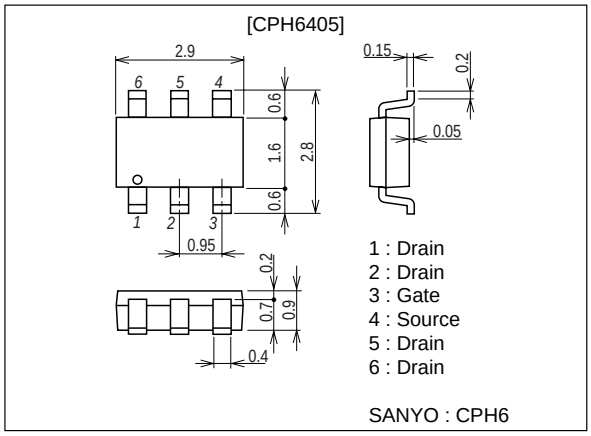
Features

- Low ON-state 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		6	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	24	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (900mm²×0.8mm)	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	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}=±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	|yfs|	V_{DS}=10V, I_D=3A	6.3	9		S
Static Drain-to-Source On-State Resistance	R_{DS}(on)1	I_D=3A, V_{GS}=4V		33	43	mΩ
	R_{DS}(on)2	I_D=1A, V_{GS}=2.5V		43	61	mΩ

Marking : KE

Continued on next page.

■ Any and all SANYO products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your SANYO representative nearest you before using any SANYO products described or contained herein in such applications.

■ SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

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

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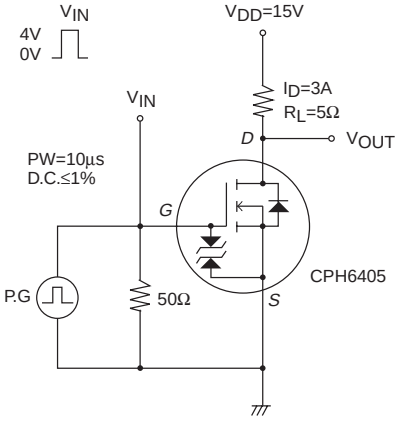
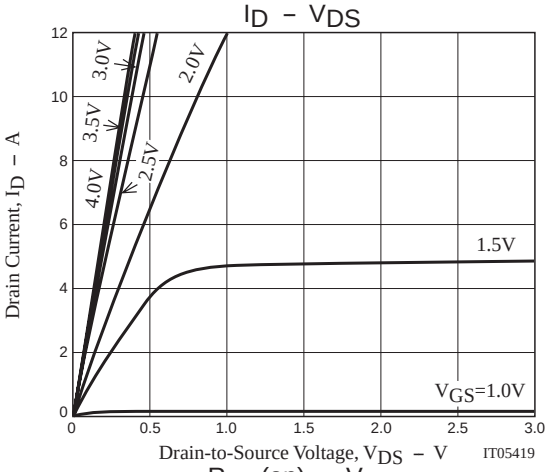
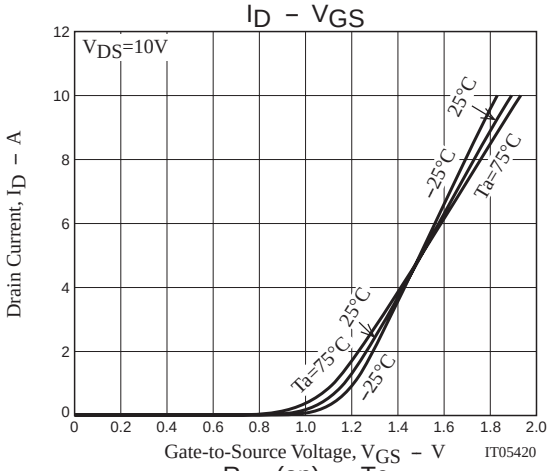
Continued from preceding page.

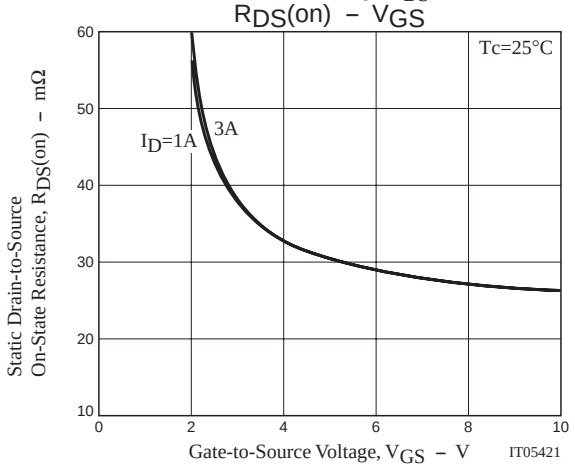
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V_{DS}=10V, f=1MHz		560		pF
Output Capacitance	Coss	V_{DS}=10V, f=1MHz		120		pF
Reverse Transfer Capacitance	Crss	V_{DS}=10V, f=1MHz		70		pF
Turn-ON Delay Time	t_d(on)	See specified Test Circuit.		12		ns
Rise Time	t_r	See specified Test Circuit.		135		ns
Turn-OFF Delay Time	t_d(off)	See specified Test Circuit.		50		ns
Fall Time	t_f	See specified Test Circuit.		110		ns
Total Gate Charge	Qg	V_{DS}=10V, V_{GS}=10V, I_D=6A		24		nC
Gate-to-Source Charge	Qgs	V_{DS}=10V, V_{GS}=10V, I_D=6A		1.5		nC
Gate-to-Drain “Miller” Charge	Qgd	V_{DS}=10V, V_{GS}=10V, I_D=6A		3.2		nC
Diode Forward Voltage	V_{SD}	I_S=6A, V_{GS}=0			1.2	V

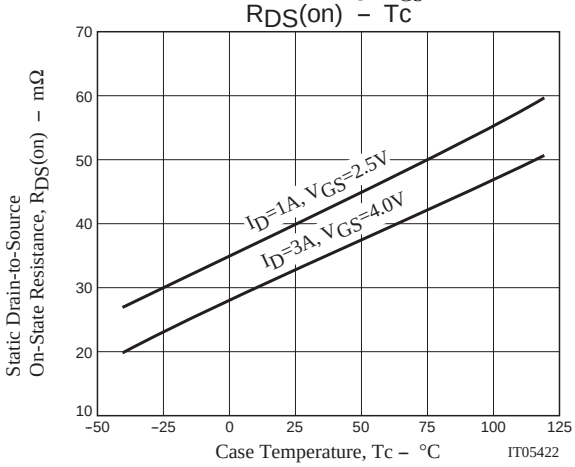
Switching Time Test Circuit











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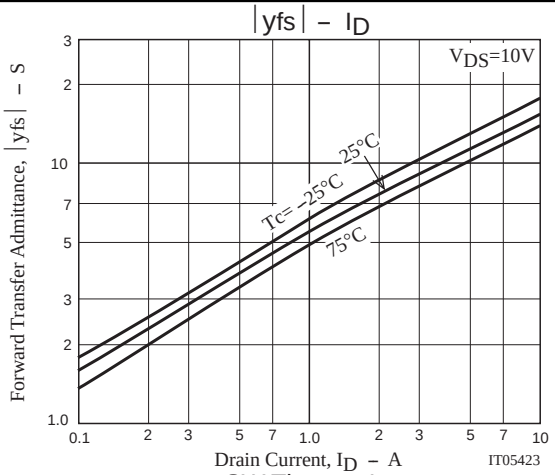

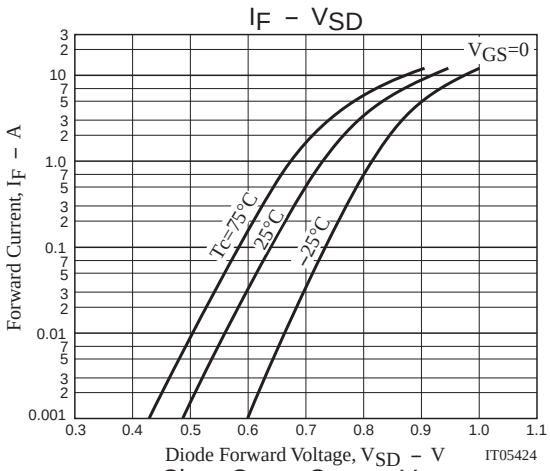

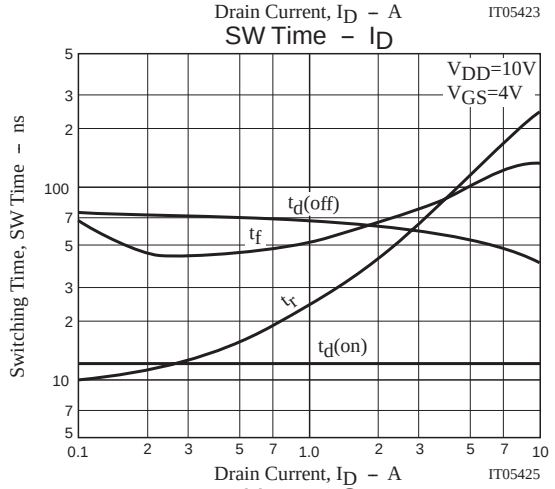

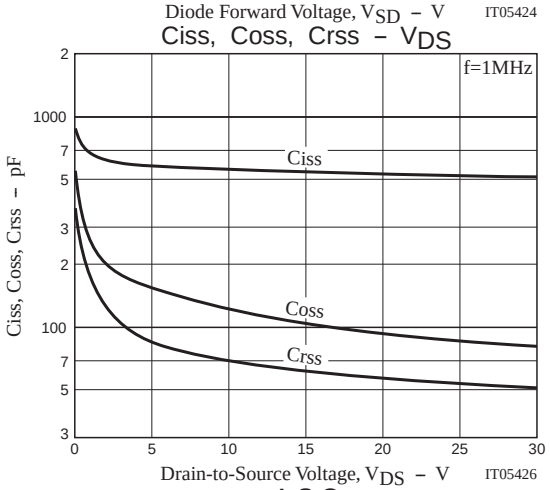

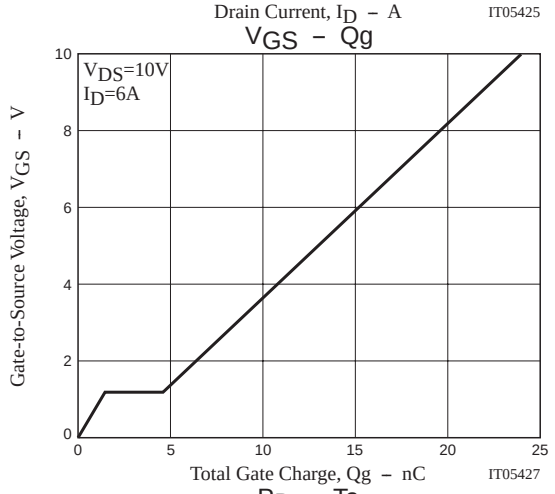

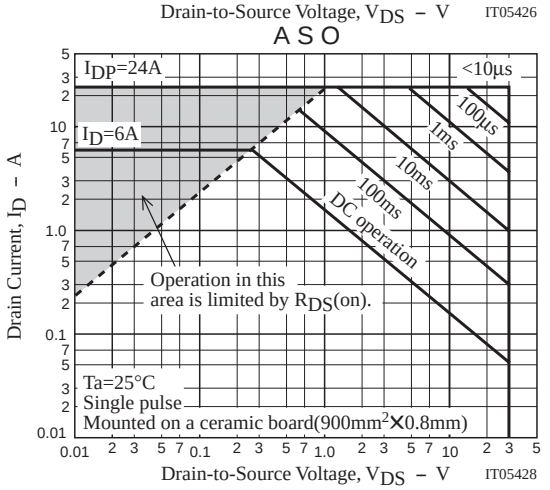

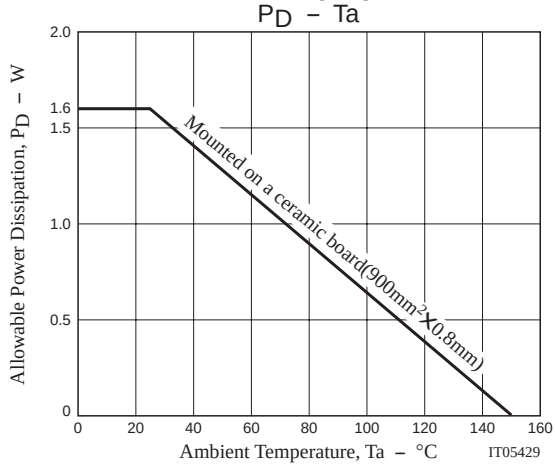

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