Ordering number : EN6641B

SANYO Semiconductors

DATA SHEET

P-Channel Silicon MOSFET

5HP01C — General-Purpose Switching Device Applications

Features

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

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		−50	V
Gate-to-Source Voltage	V_{GSS}		±20	V
Drain Current (DC)	I_D		−0.07	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	−0.28	A
Allowable Power Dissipation	P_D		0.25	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}=0V	−50			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=−50V, V_{GS}=0V			−1	μA
Gate-to-Sourse Leakage Current	I_{GSS}	V_{GS}=±16V, V_{DS}=0V			±10	μA
Cutoff Voltage	V_{GS}(off)	V_{DS}=−10V, I_D=−100μA	−1		−2.5	V
Forward Transfer Admittance	|yfs|	V_{DS}=−10V, I_D=−40mA	50	70		mS
Static Drain-to-Source On-State Resistance	R_{DS}(on)1	I_D=−40mA, V_{GS}=−10V		17	22	Ω
	R_{DS}(on)2	I_D=−20mA, V_{GS}=−4V		23	32	Ω
Input Capacitance	Ciss	V_{DS}=−10V, f=1MHz		6.2		pF
Output Capacitance	Coss	V_{DS}=−10V, f=1MHz		4.0		pF
Reverse Transfer Capacitance	Crss	V_{DS}=−10V, f=1MHz		1.3		pF

Marking : XC

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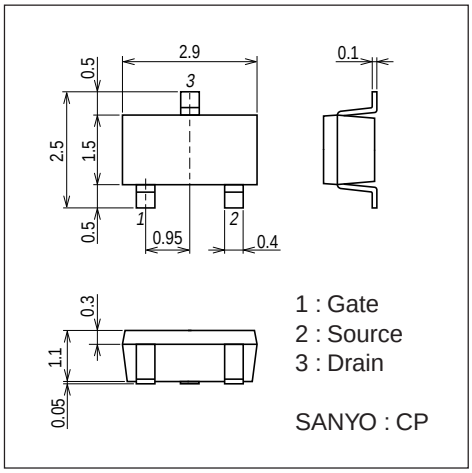
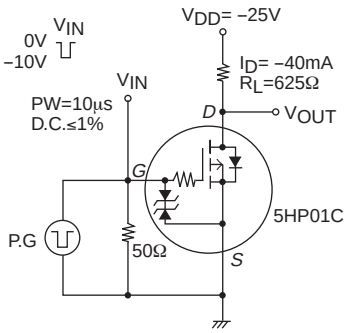
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		13		ns
Rise Time	t_r	See specified Test Circuit.		10		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		100		ns
Fall Time	t_f	See specified Test Circuit.		150		ns
Total Gate Charge	Qg	V_{DS}=–10V, V_{GS}=–10V, I_D=–70mA		1.32		nC
Gate-to-Source Charge	Qgs	V_{DS}=–10V, V_{GS}=–10V, I_D=–70mA		0.17		nC
Gate-to-Drain “Miller” Charge	Qgd	V_{DS}=–10V, V_{GS}=–10V, I_D=–70mA		0.34		nC
Diode Forward Voltage	V_{SD}	I_S=–70mA, V_{GS}=0V		–0.85	–1.2	V

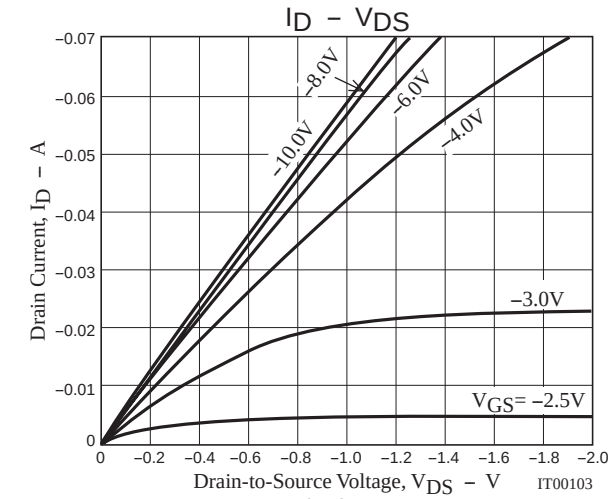
Package Dimensions

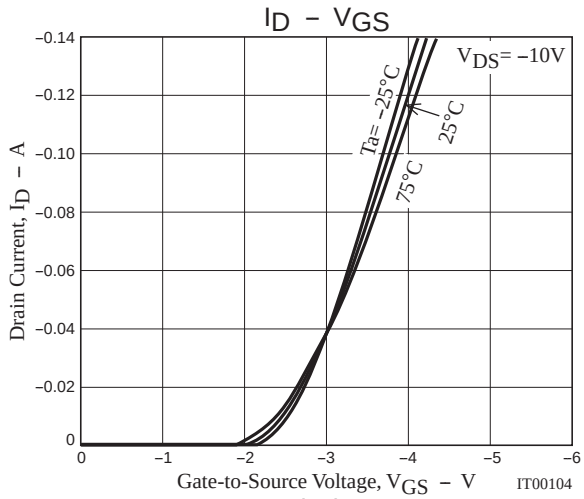
unit : mm (typ)
7013A-013

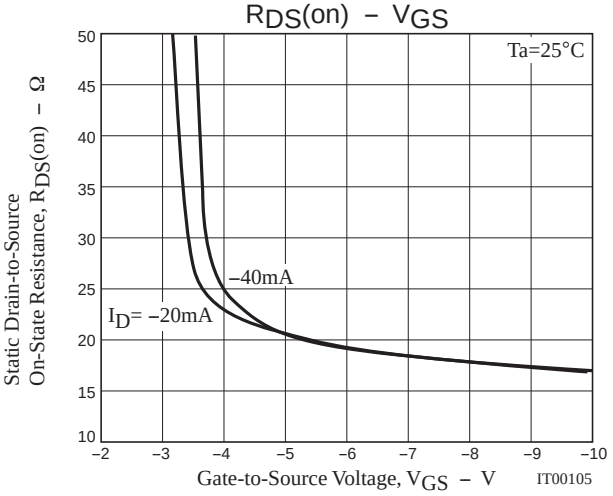


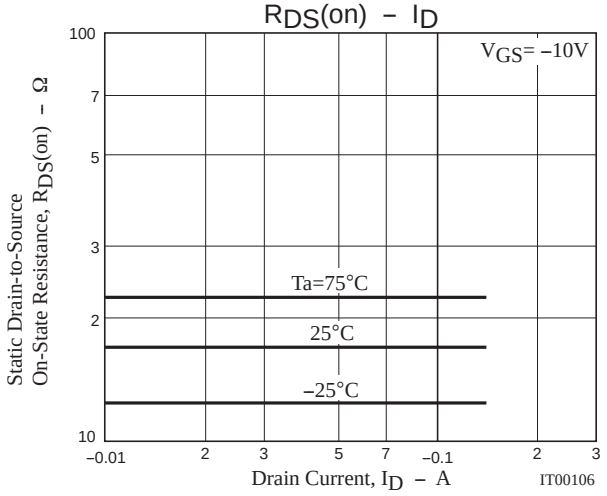
Switching Time Test Circuit

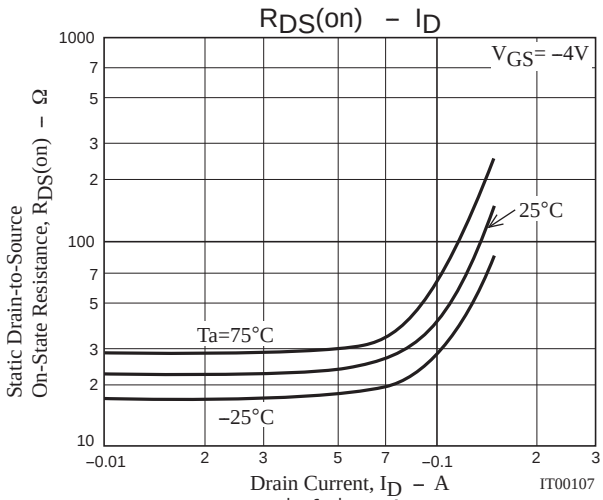


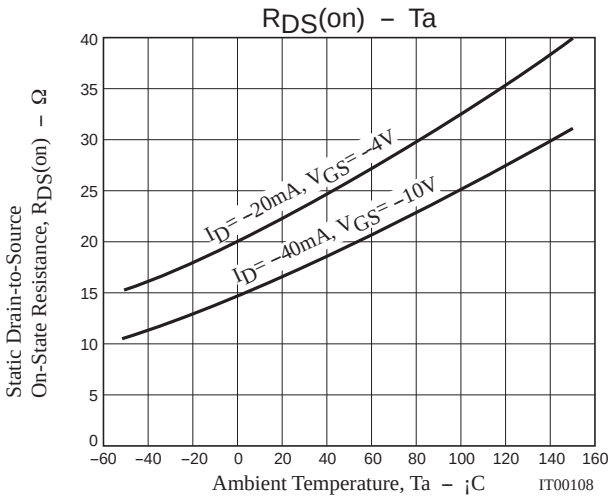


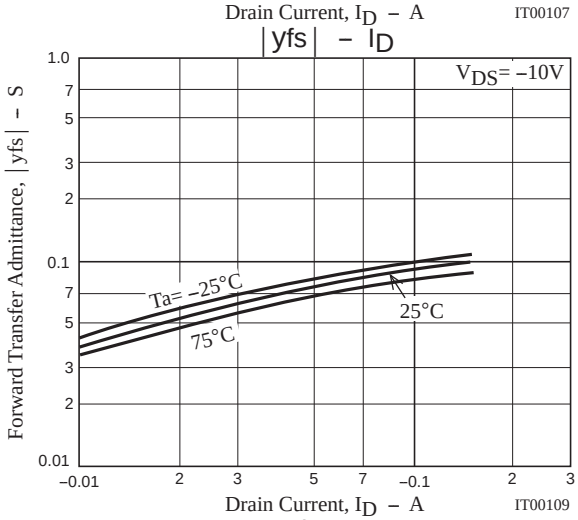


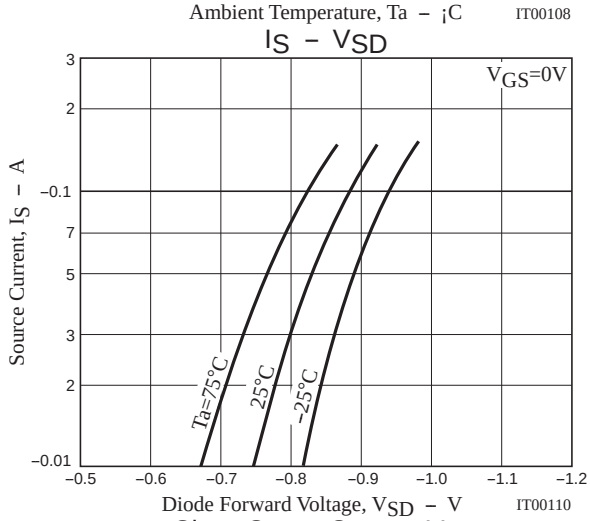


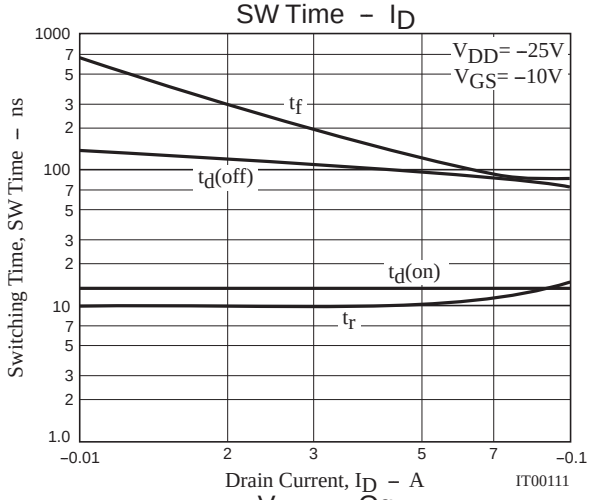


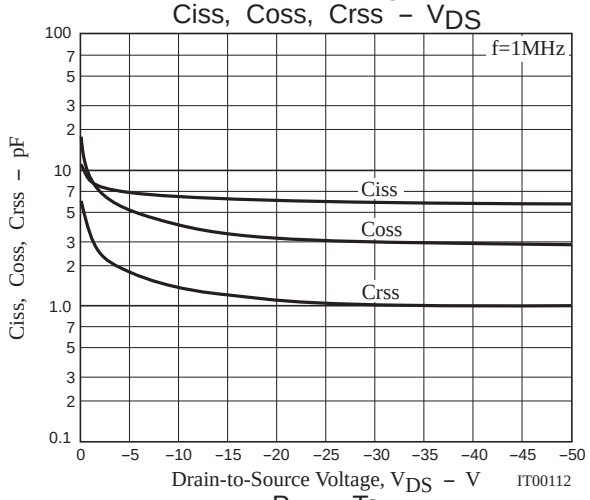


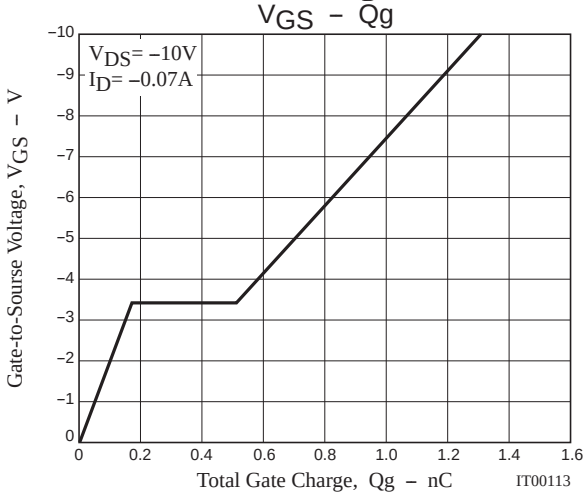


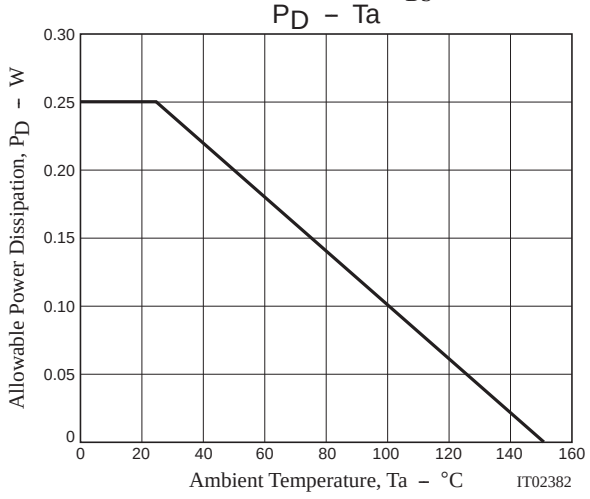












Note on usage : Since the 5HP01C is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

This catalog provides information as of September, 2008. Specifications and information herein are subject to change without notice.