



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	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} =0V	-50			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _D =-50V, V _{GS} =0V			-1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±16V, V _D =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _D =-10V, I _D =-100μA	-1		-2.5	V
Forward Transfer Admittance	y _{fs}	V _D =-10V, I _D =-40mA	50	70		mS
Static Drain-to-Source On-State Resistance	R _{D(on)1}	I _D =-40mA, V _{GS} =-10V		17	22	Ω
	R _{D(on)2}	I _D =-20mA, V _{GS} =-4V		23	32	Ω
Input Capacitance	C _{iss}	V _D =-10V, f=1MHz		6.2		pF
Output Capacitance	C _{oss}	V _D =-10V, f=1MHz		4.0		pF
Reverse Transfer Capacitance	C _{rss}	V _D =-10V, f=1MHz		1.3		pF

Marking : XC

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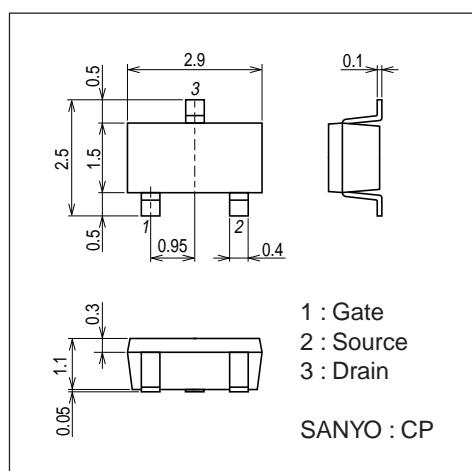
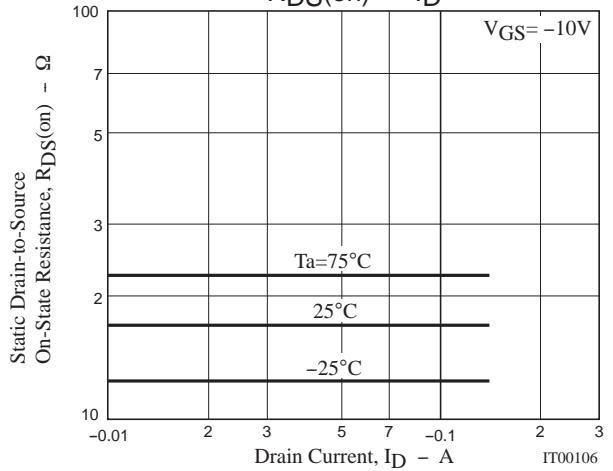
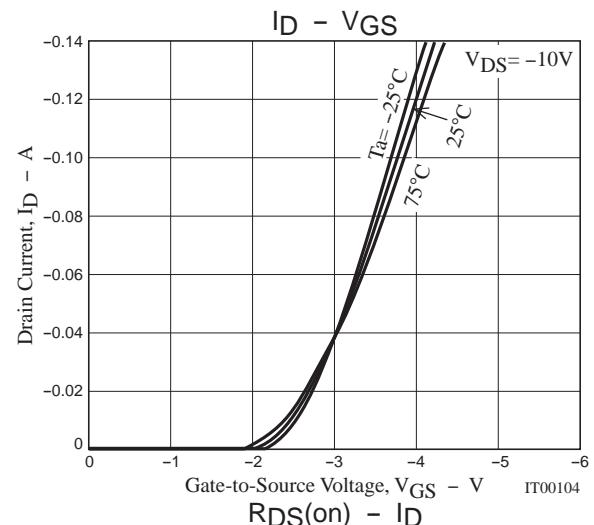
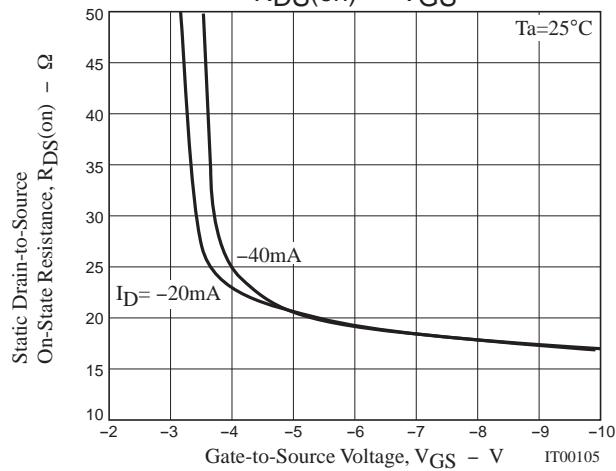
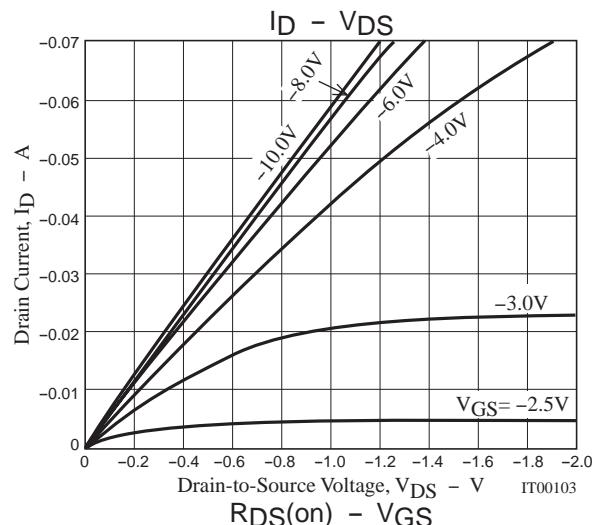
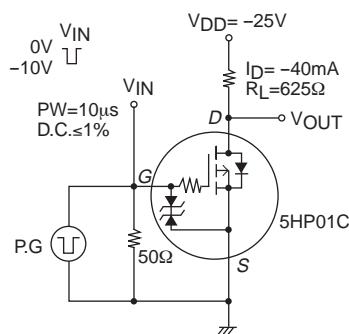
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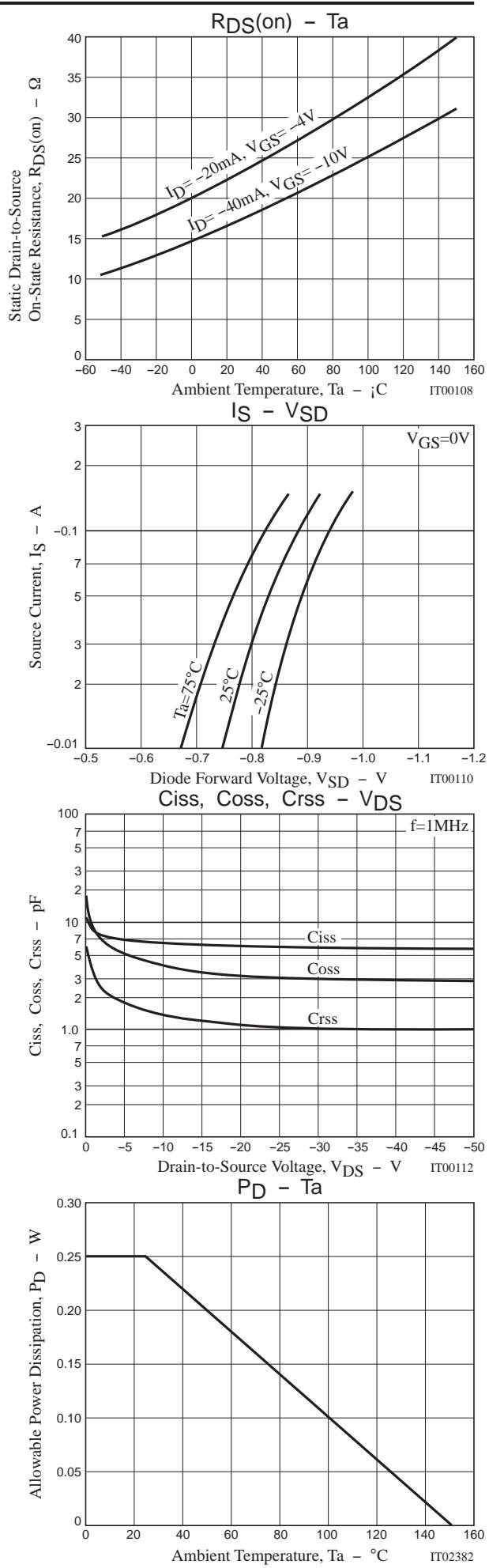
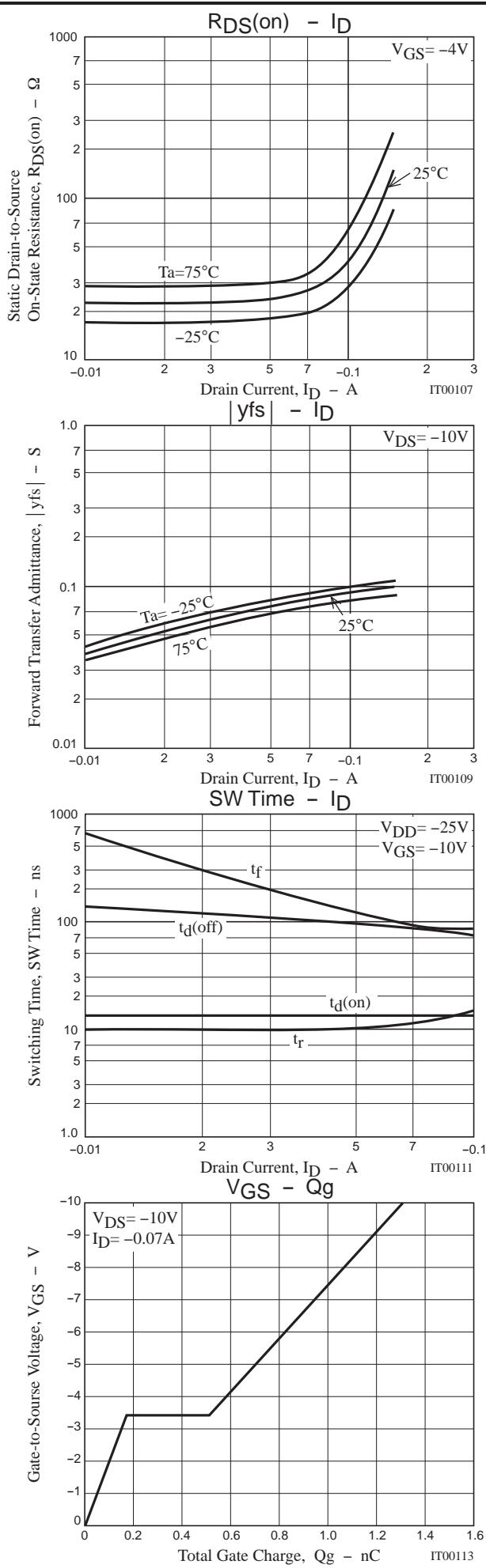
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		13		ns
Rise Time	t_r	See specified Test Circuit.		10		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		100		ns
Fall Time	t_f	See specified Test Circuit.		150		ns
Total Gate Charge	Q_g	$V_{DS}=-10V, V_{GS}=-10V, I_D=-70mA$		1.32		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS}=-10V, V_{GS}=-10V, I_D=-70mA$		0.17		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS}=-10V, V_{GS}=-10V, I_D=-70mA$		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.

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