

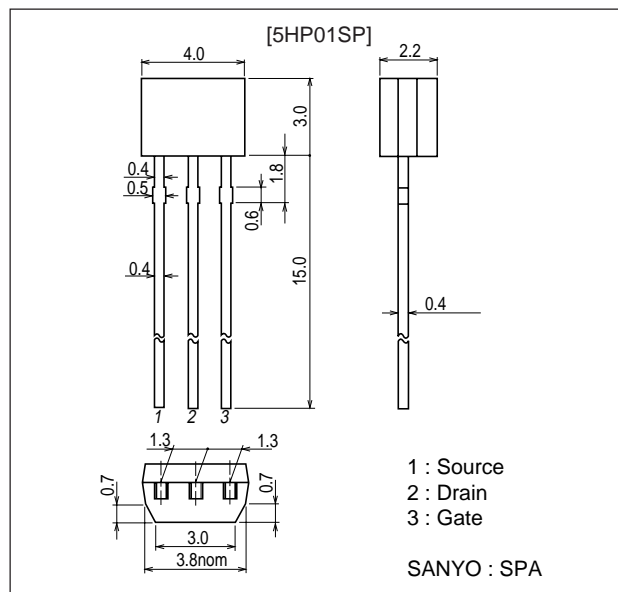
**SANYO****5HP01SP****Ultrahigh-Speed Switching Applications****Features**

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

**Package Dimensions**

unit : mm

2180

**Specifications****Absolute Maximum Ratings** at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DS}$		-50	V
Gate-to-Source Voltage	$V_{GS}$		±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	$V_{(BR)DSS}$	$I_D = -1mA, V_{GS} = 0$	-50			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -50V, V_{GS} = 0$			-10	μA
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 16V, V_{DS} = 0$			±10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = -10V, I_D = -100\mu A$	-1		-2.5	V

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■ 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.

**SANYO Electric Co.,Ltd. Semiconductor Company**

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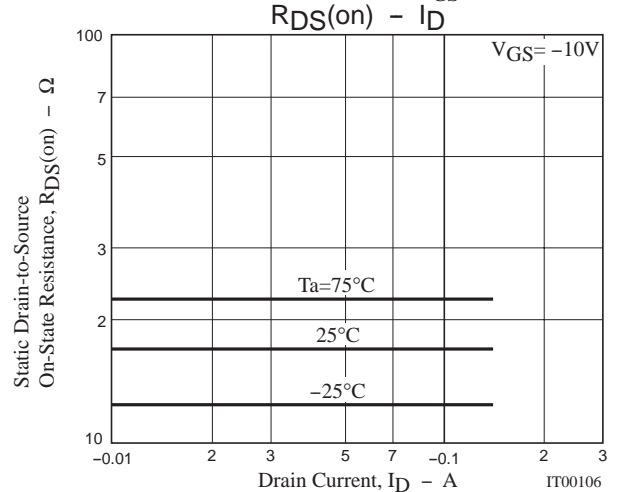
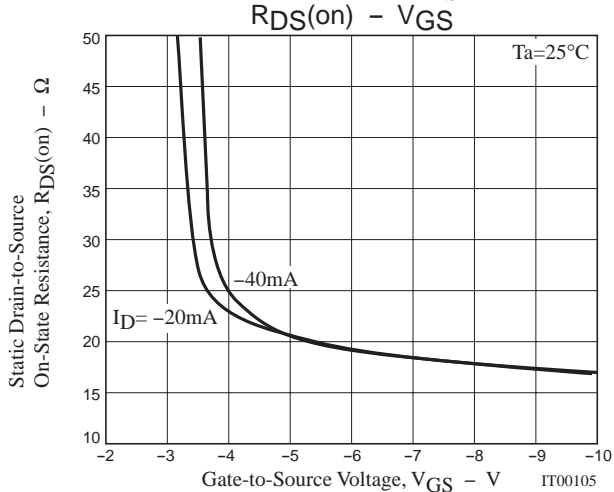
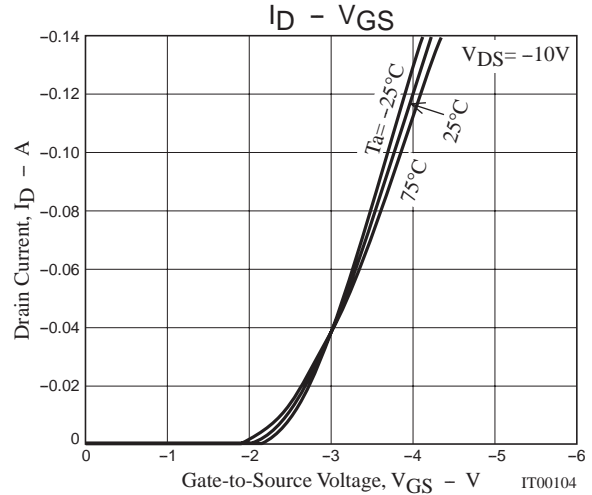
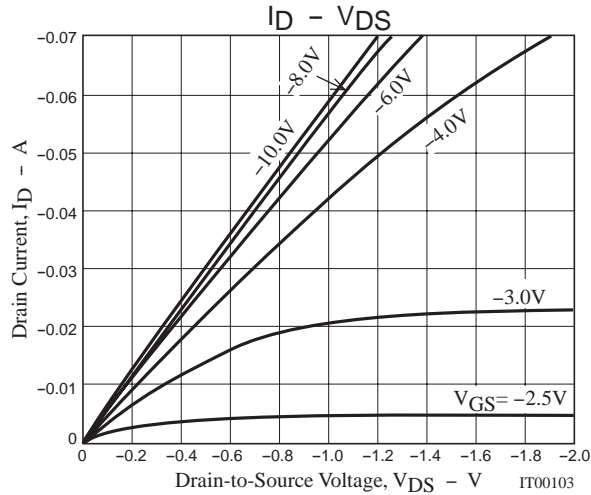
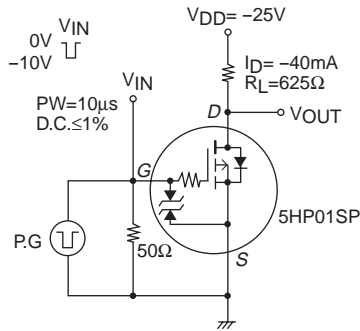
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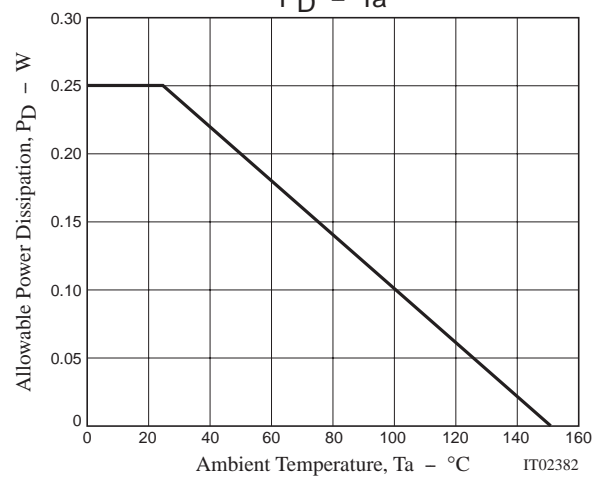
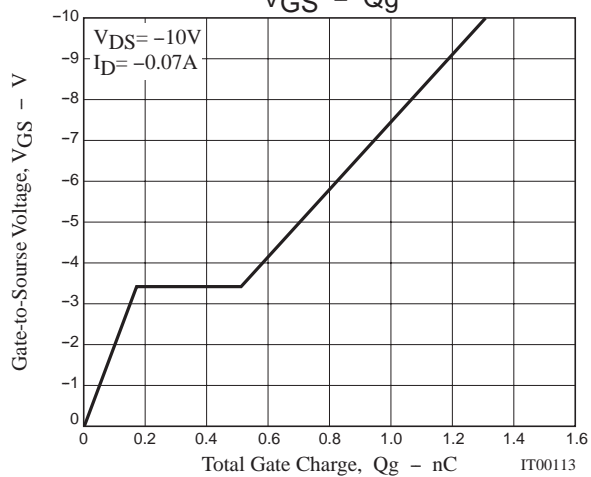
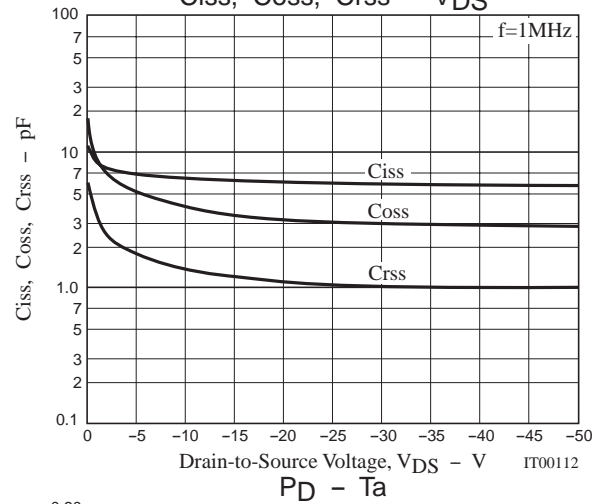
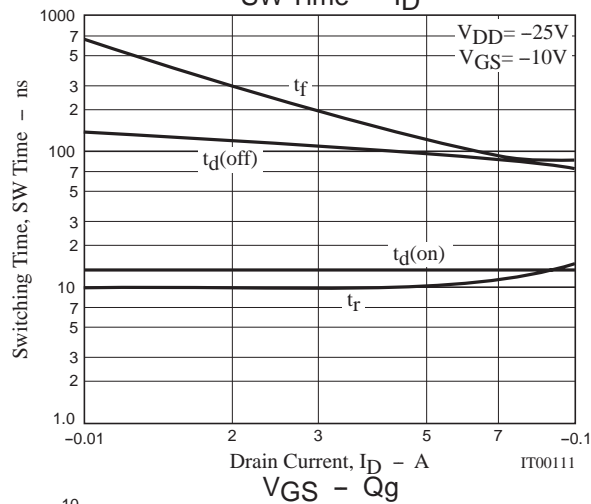
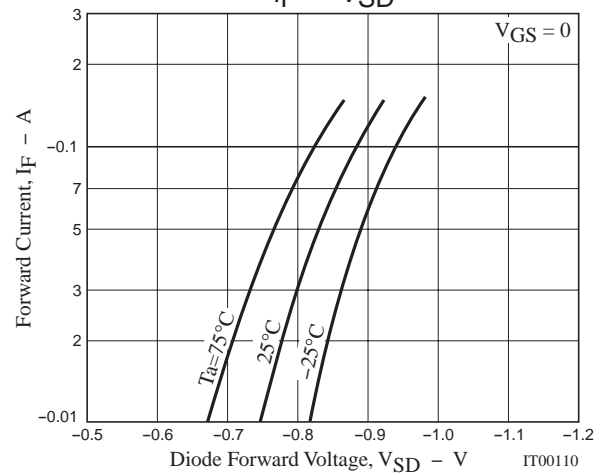
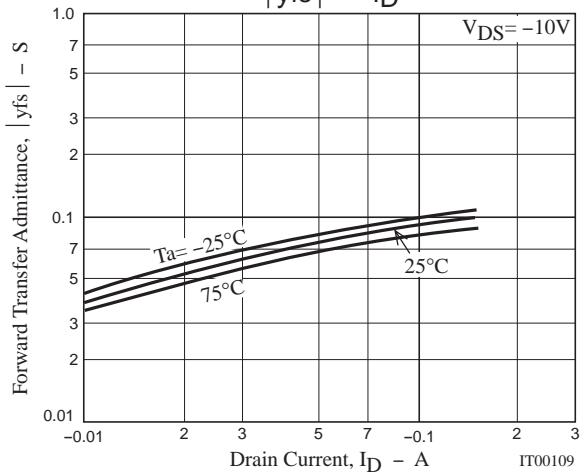
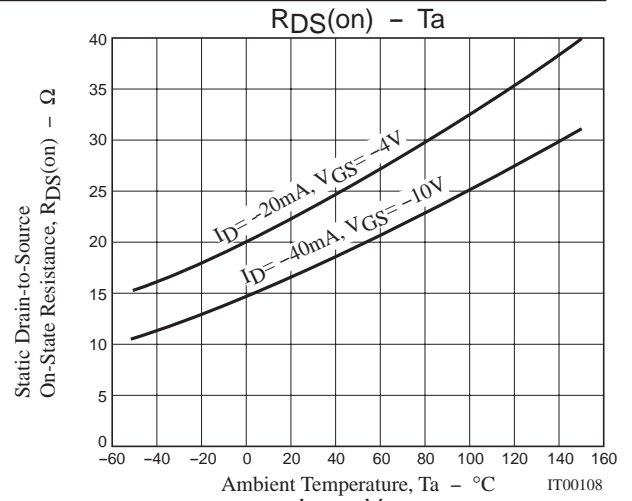
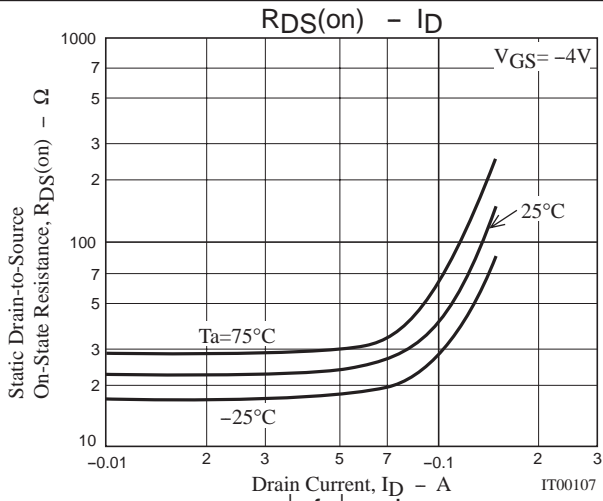
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=-10V, I_D=-40mA$	50	70		mS
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=-40mA, V_{GS}=-10V$		17	22	$\Omega$
	$R_{DS(on)2}$	$I_D=-20mA, V_{GS}=-4V$		23	32	$\Omega$
Input Capacitance	$C_{iss}$	$V_{DS}=-10V, f=1MHz$		6.2		pF
Output Capacitance	$C_{oss}$	$V_{DS}=-10V, f=1MHz$		4.0		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=-10V, f=1MHz$		1.3		pF
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 Source Charge	$Q_{gs}$	$V_{DS}=-10V, V_{GS}=-10V, I_D=-70mA$		0.17		nC
Gate Drain Charge	$Q_{gd}$	$V_{DS}=-10V, V_{GS}=-10V, I_D=-70mA$		0.34		nC
Diode Forward Voltage	$V_{SD}$	$I_S=-70mA, V_{GS}=0$		0.85	1.2	V

Marking : XC

## Switching Time Test Circuit



# 5HP01SP



Note on usage : Since the 5HP01SP is designed for high-speed switching applications, please avoid using this device in the vicinity of highly charged objects.

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