



5HP01SS

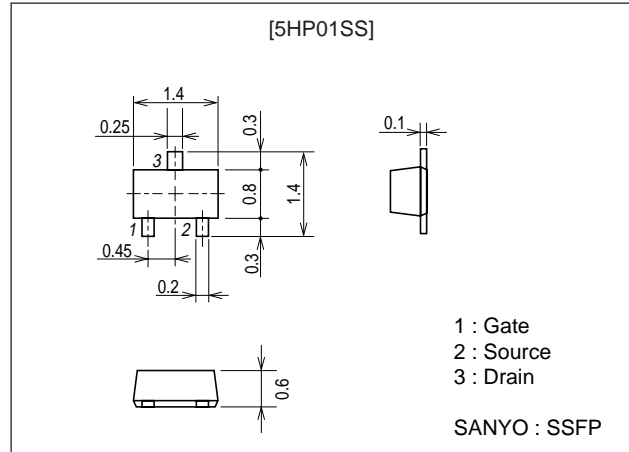
Ultrahigh-Speed Switching Applications

Features

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

Package Dimensions

unit : mm
2179



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		0.15	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} =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} =±16V, V _{DS} =0			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =-10V, I _D =-100μA	-1		-2.5	V
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	Ω
	R _{DS(on)2}	I _D =-20mA, V _{GS} =-4V		23	32	Ω

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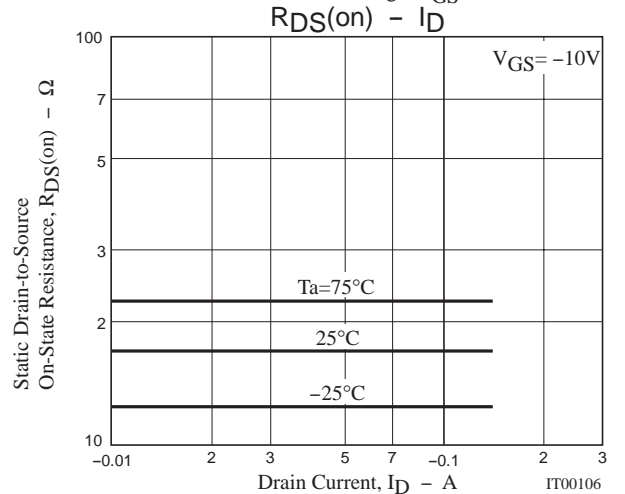
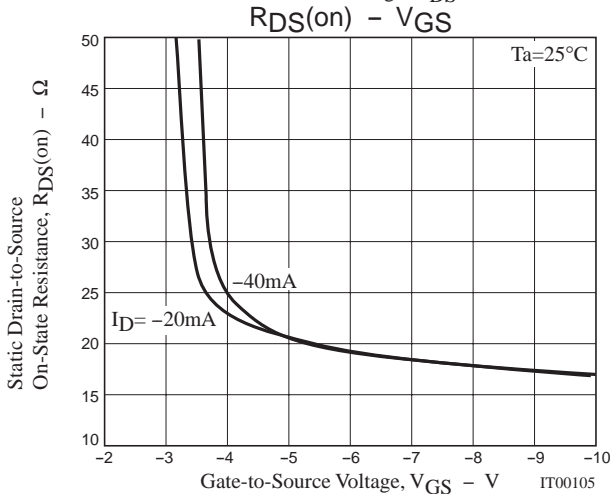
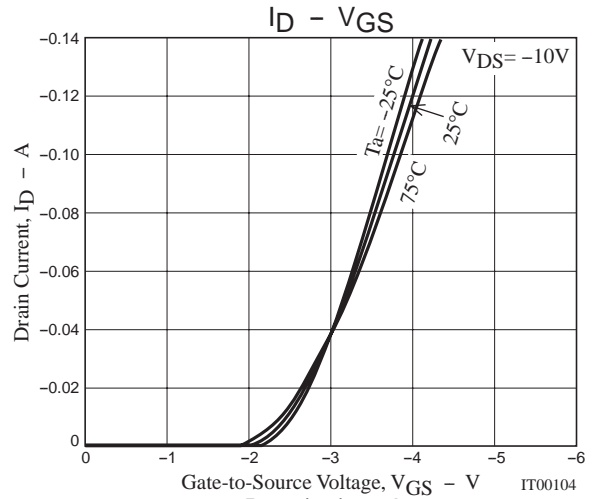
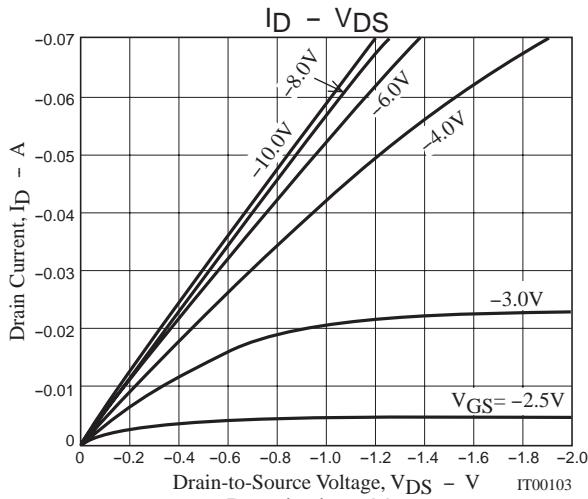
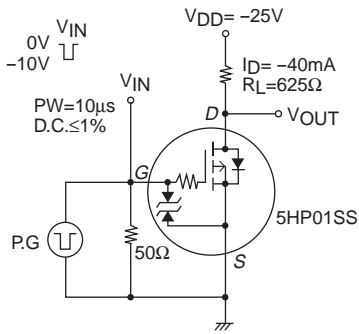
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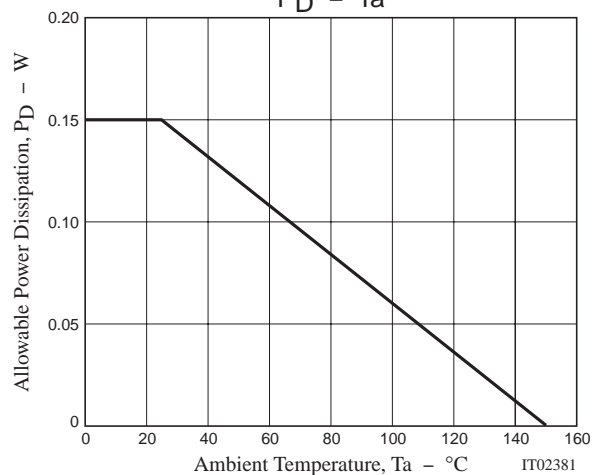
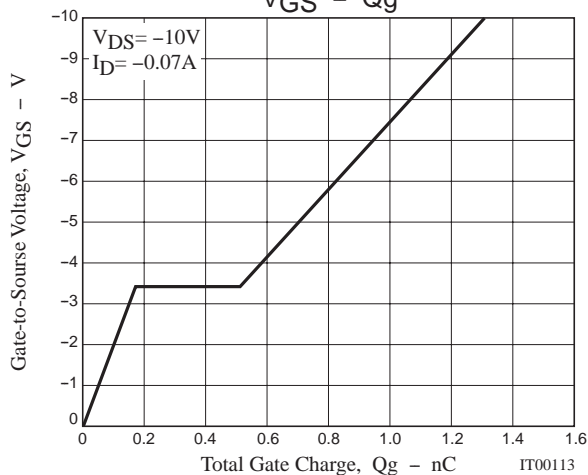
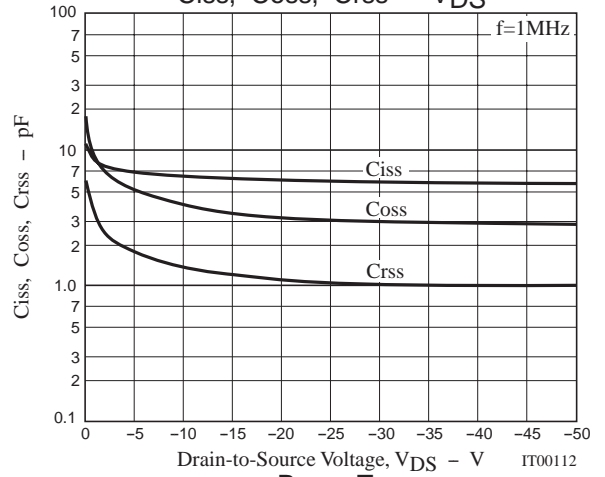
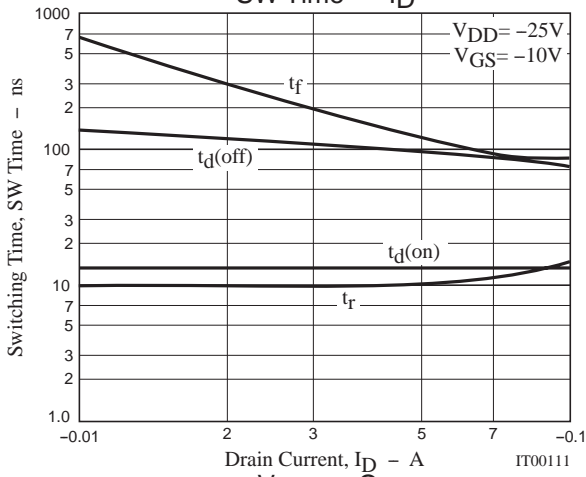
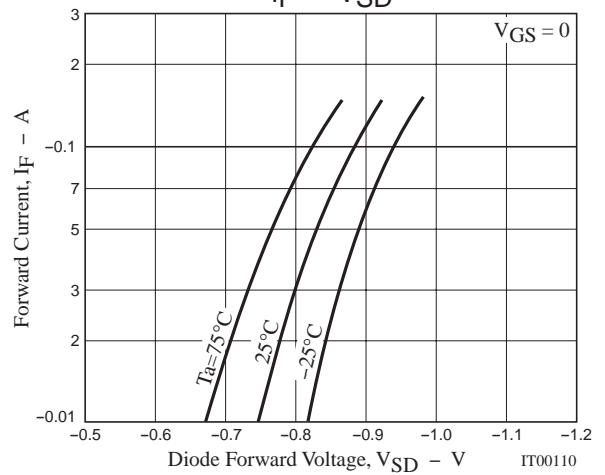
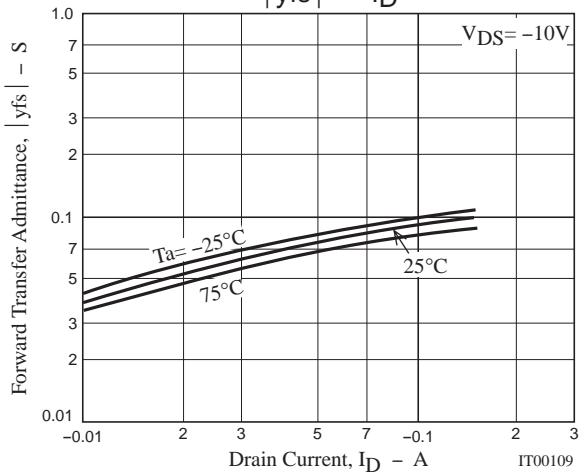
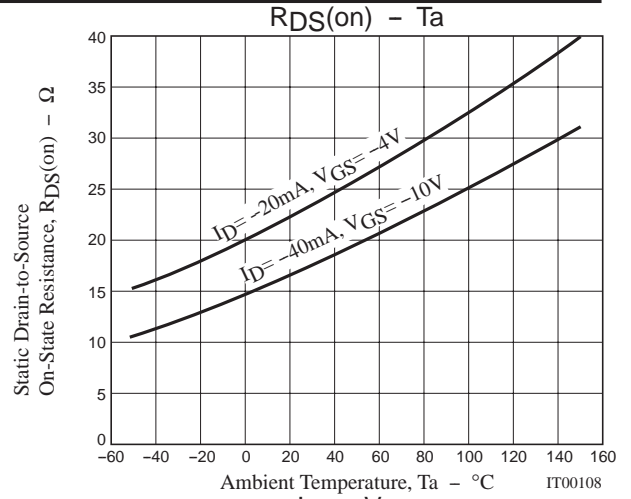
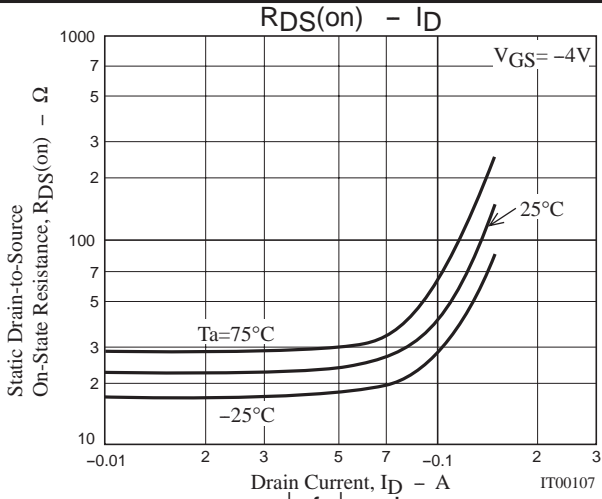
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V _{DS} =-10V, f=1MHz		6.2		pF
Output Capacitance	Coss	V _{DS} =-10V, f=1MHz		4.0		pF
Reverse Transfer Capacitance	Crss	V _{DS} =-10V, f=1MHz		1.3		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit		13		ns
Rise 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 Source Charge	Qgs	V _{DS} =-10V, V _{GS} =-10V, I _D =-70mA		0.17		nC
Gate Drain Charge	Qgd	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



5HP01SS



Note on usage : Since the 5HP01SS is designed for high-speed switching applications, please avoid using this device in the vicinity of highly charged objects.

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