

5HN01SP

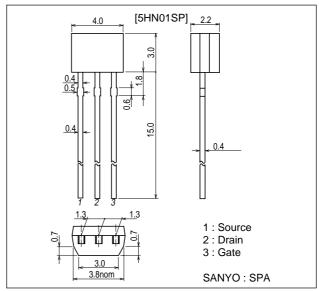
Ultrahigh-Speed Switching Applications

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 _{DSS}		50	V
Gate-to-Source Voltage	VGSS		±20	V
Drain Current (DC)	ID		0.1	Α
Drain Current (Pulse)	IDP	PW≤10μs, duty cycle≤1%	0.4	А
Allowable Power Dissipation	PD		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	Offic
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0	50			V
Zero-Gate Voltage Drain Current	IDSS	VDS=50V, VGS=0			10	μΑ
Gate-to-Sourse Leakage Current	IGSS	V _{GS} =±16V, V _{DS} =0			±10	μΑ
Cutoff Voltage	VGS(off)	V _{DS} =10V, I _D =100μA	1		2.4	V

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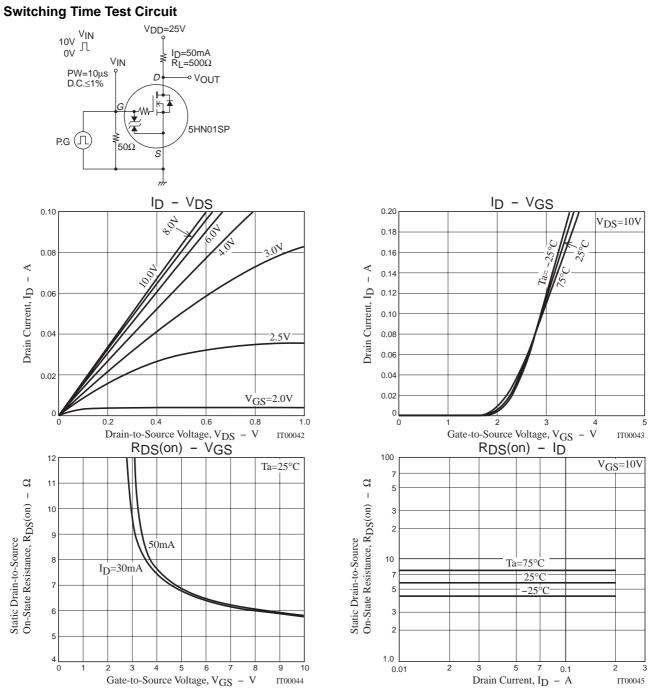
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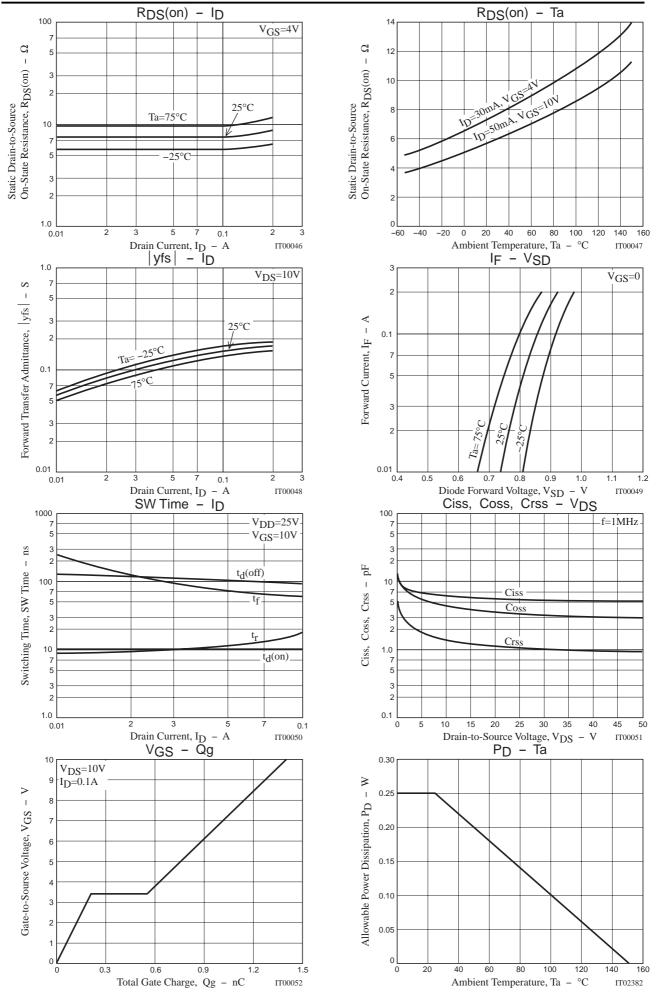
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Offic
Forward Transfer Admittance	yfs	V _{DS} =10V, I _D =50mA	85	120		mS
Static Drain-to-Source On-State Resistance	R _{DS} (on)1	ID=50mA, VGS=10V		5.8	7.5	Ω
	RDS(on)2	ID=30mA, VGS=4V		7.5	10.5	Ω
Input Capacitance	Ciss	V _{DS} =10V, f=1MHz		6.2		pF
Output Capacitance	Coss	V _{DS} =10V, f=1MHz		4.4		pF
Reverse Transfer Capacitance	Crss	V _{DS} =10V, f=1MHz		1.5		pF
Turn-ON Delay Time	t _d (on)	See specified Test Circuit		10		ns
Rise Time	t _r	See specified Test Circuit		11		ns
Turn-OFF Delay Time	t _d (off)	See specified Test Circuit		105		ns
Fall Time	tf	See specified Test Circuit		75		ns
Total Gate Charge	Qg	V _{DS} =10V, V _{GS} =10V, I _D =100mA		1.40		nC
Gate Source Charge	Qgs	V _{DS} =10V, V _{GS} =10V, I _D =100mA		0.21		nC
Gate-to-Drain "Miller" Charge	Qgd	V _{DS} =10V, V _{GS} =10V, I _D =100mA		0.34		nC
Diode Forward Voltage	V _{SD}	I _S =100mA, V _{GS} =0		0.85	1.2	V

Marking: YC



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Note on usage: Since the 5HN01SP is designed for high-speed switching applications, please avoid using this device in the vicinity of highly charged objects.

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