

**5LP01C**

Ultrahigh-Speed Switching Applications

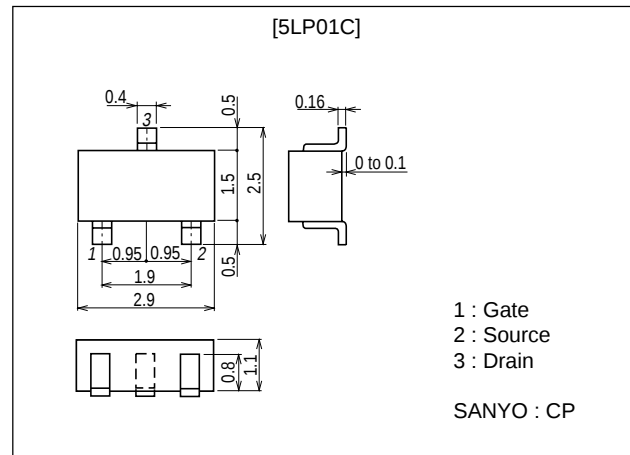
Features

- Low ON-resistance.
- Ultrahigh-Speed Switching.
- 2.5V drive.

Package Dimensions

unit : mm

2091A



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}		±10	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} =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} =±8V, V _{DS} =0			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =-10V, I _D =-100μA	-0.4		-1.4	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-10V, I _D =-40mA	70	100		mS
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-40mA, V _{GS} =-4V		18	23	Ω
	R _{DS(on)2}	I _D =-20mA, V _{GS} =-2.5V		20	28	Ω
	R _{DS(on)3}	I _D =-5mA, V _{GS} =-1.5V		30	60	Ω

Marking : XB

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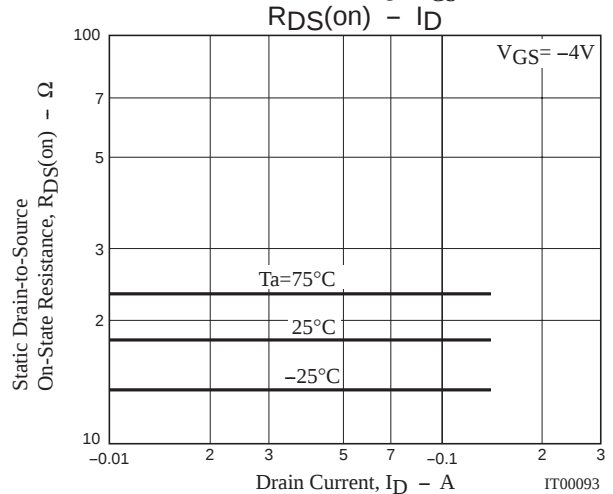
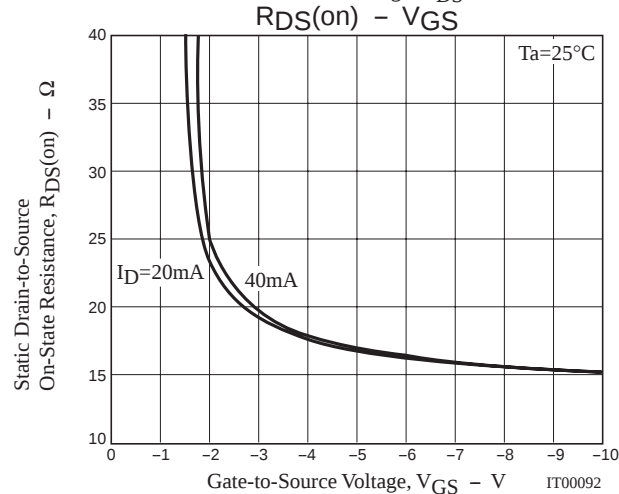
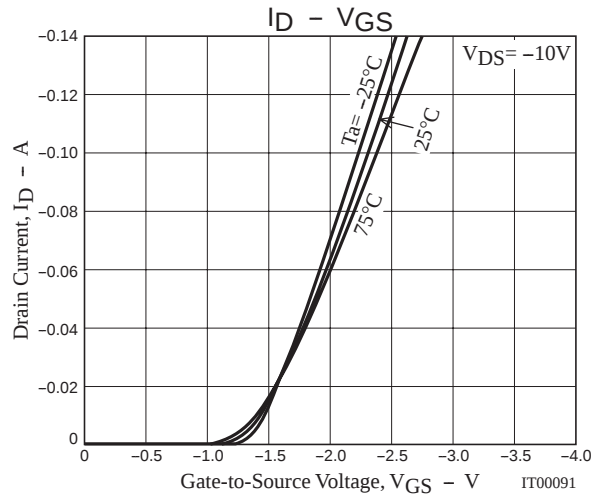
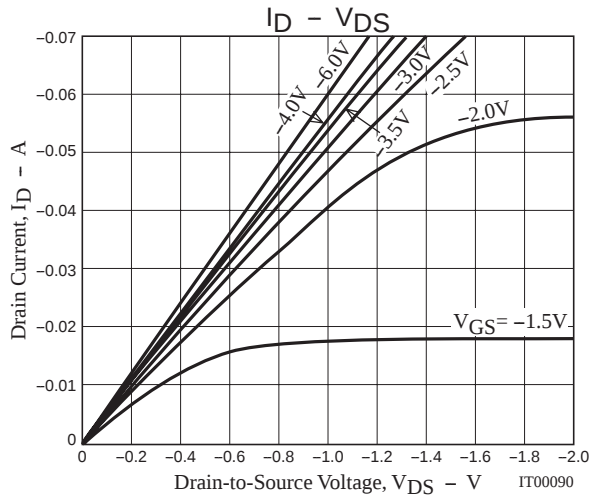
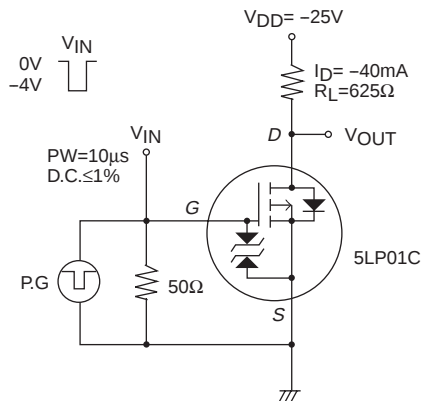
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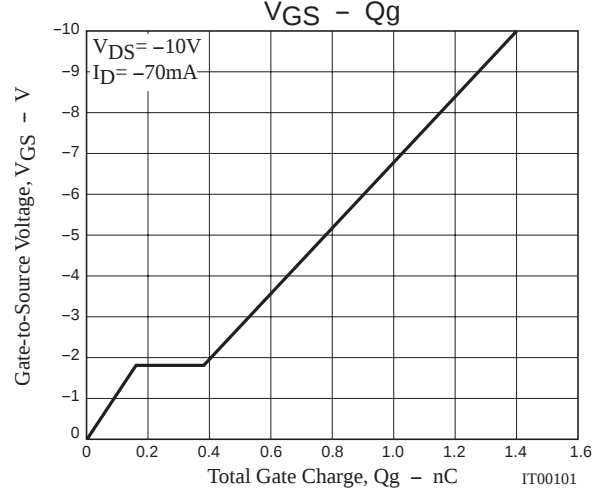
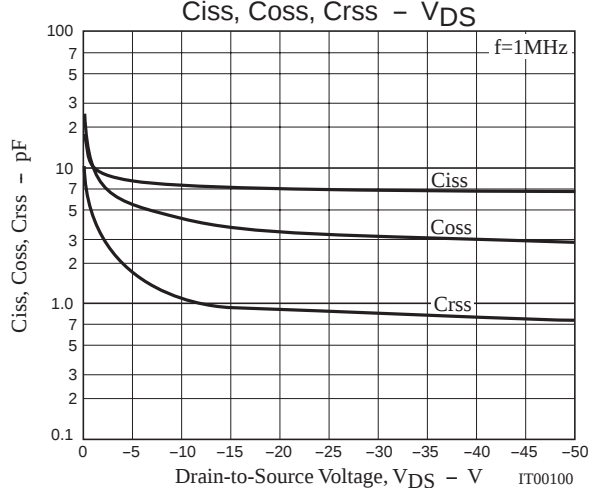
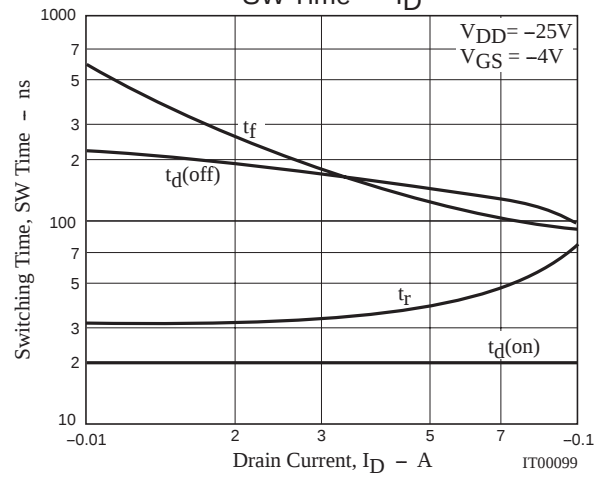
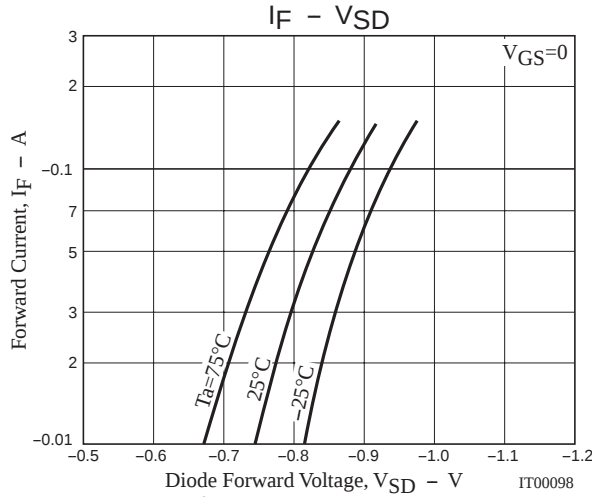
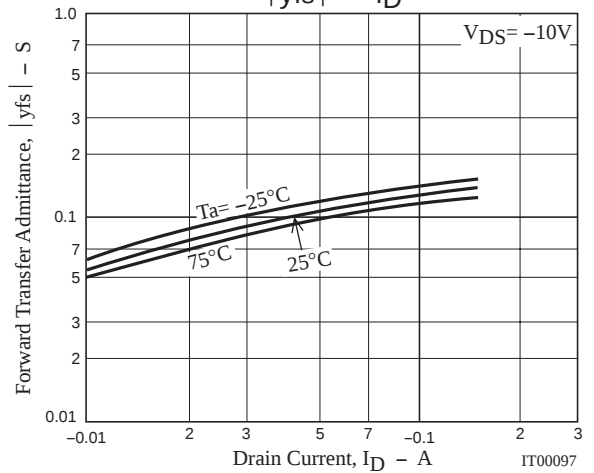
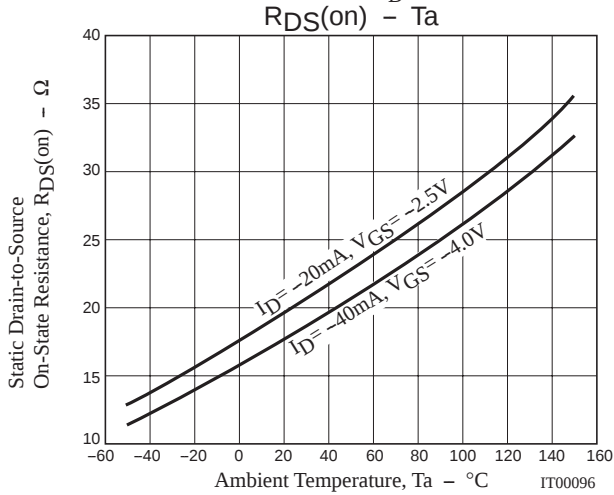
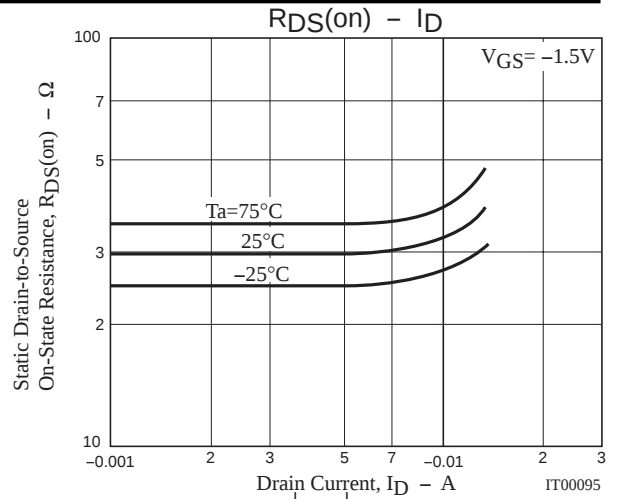
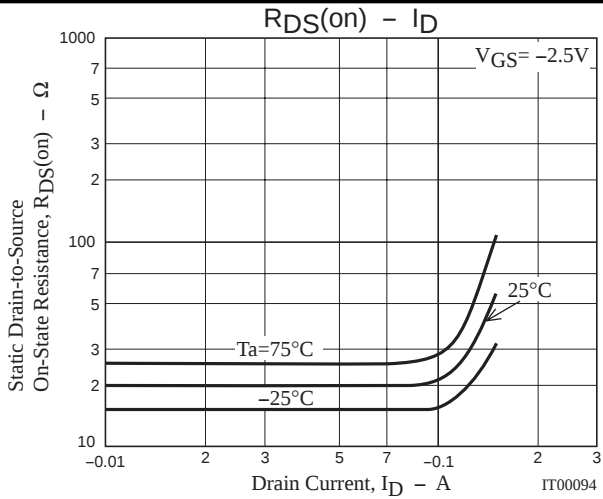
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V _{DS} =-10V, f=1MHz		7.4		pF
Output Capacitance	Coss	V _{DS} =-10V, f=1MHz		4.2		pF
Reverse Transfer Capacitance	Crss	V _{DS} =-10V, f=1MHz		1.3		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit		20		ns
Rise Time	t _r	See specified Test Circuit		35		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit		160		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		1.40		nC
Gate-to-Source Charge	Q _{gs}	V _{DS} =-10V, V _{GS} =-10V, I _D =-70mA		0.16		nC
Gate-to-Drain "Miller" Charge	Q _{gd}	V _{DS} =-10V, V _{GS} =-10V, I _D =-70mA		0.23		nC
Diode Forward Voltage	V _{SD}	I _S =-70mA, V _{GS} =0		0.85	1.2	V

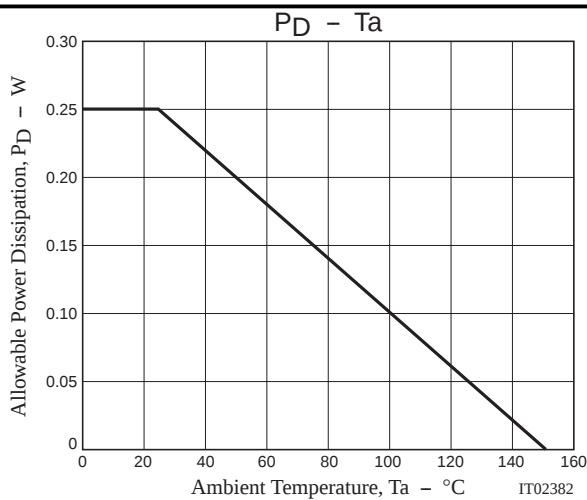
Switching Time Test Circuit



5LP01C



5LP01C



Note on usage : Since the 5LP01C is designed for high-speed switching applications, please avoid using this device in the vicinity of highly charged objects.

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