

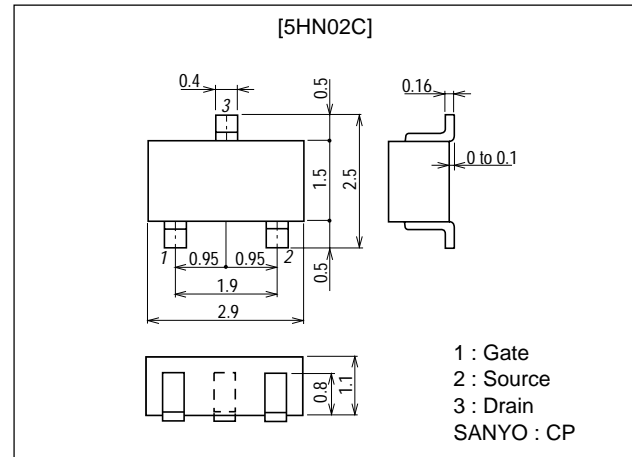
**5HN02C****Ultrahigh-Speed Switching Applications****Features**

- Low ON resistance.
- Ultrahigh-speed switching.
- 4V 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	$V_{GSS}$		$\pm 20$	V
Drain Current (DC)	$I_D$		0.2	A
Drain Current (pulse)	$I_{DP}$	$PW \leq 10\mu s$ , duty cycle $\leq 1\%$	0.8	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	$\mu A$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 16V$ , $V_{DS}=0$			$\pm 10$	$\mu A$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V$ , $I_D=100\mu A$	1		2.4	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V$ , $I_D=100mA$	0.22	0.31		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=100mA$ , $V_{GS}=10V$		1.8	2.3	$\Omega$
	$R_{DS(on)2}$	$I_D=50mA$ , $V_{GS}=4V$		2.3	3.2	$\Omega$

Marking : YF

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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.

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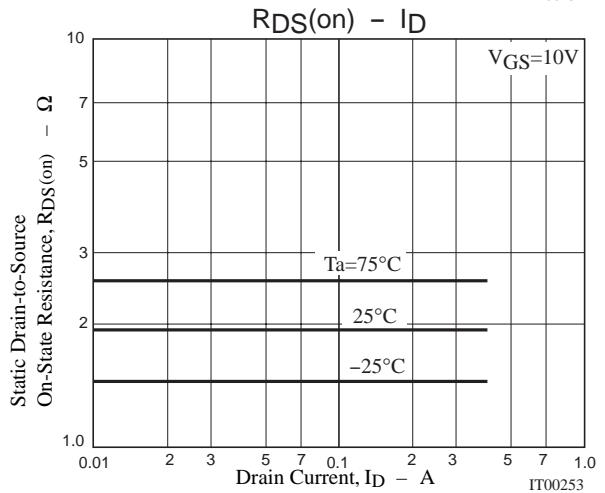
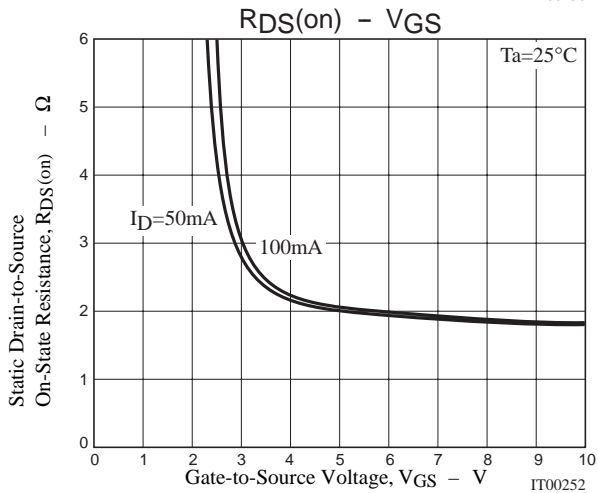
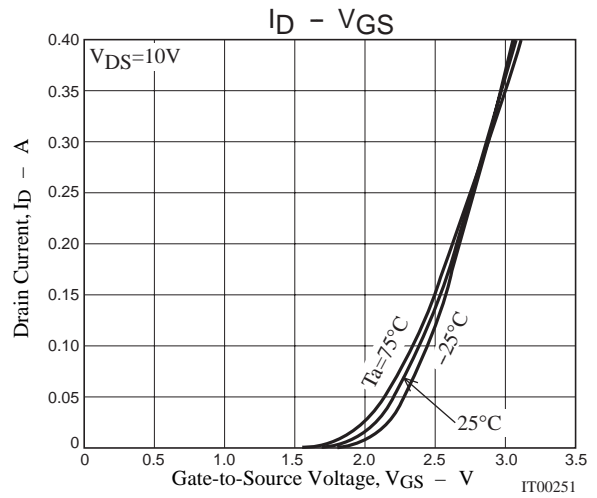
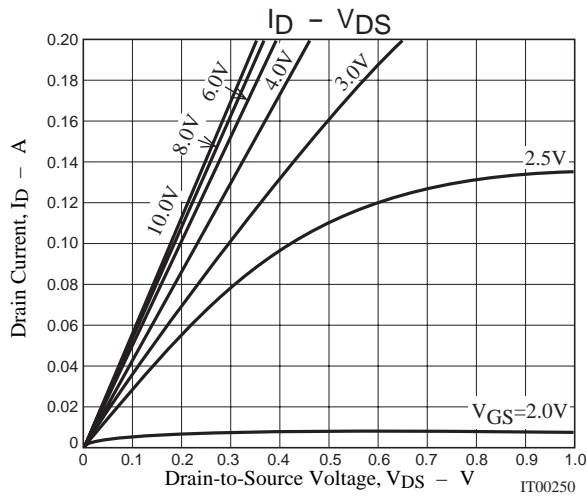
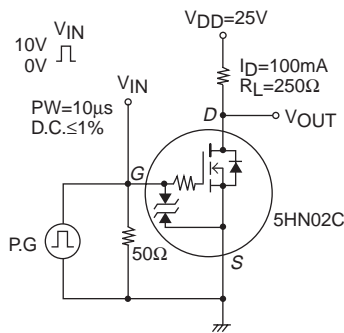
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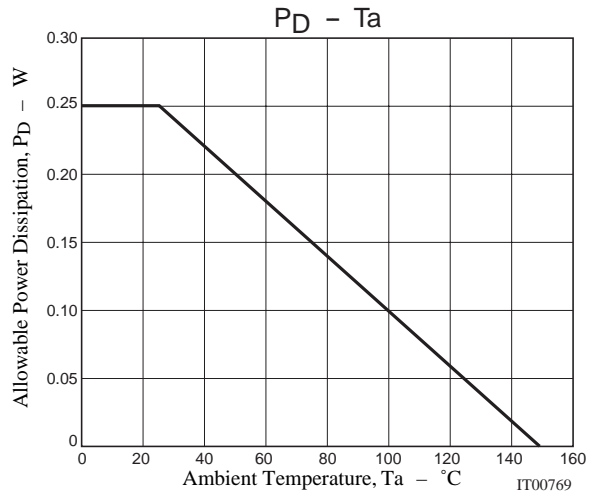
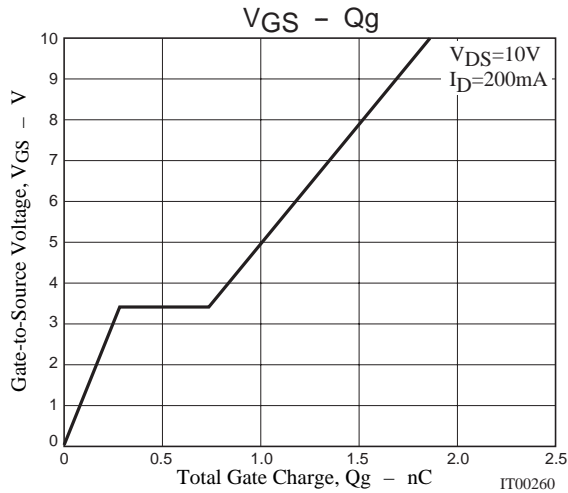
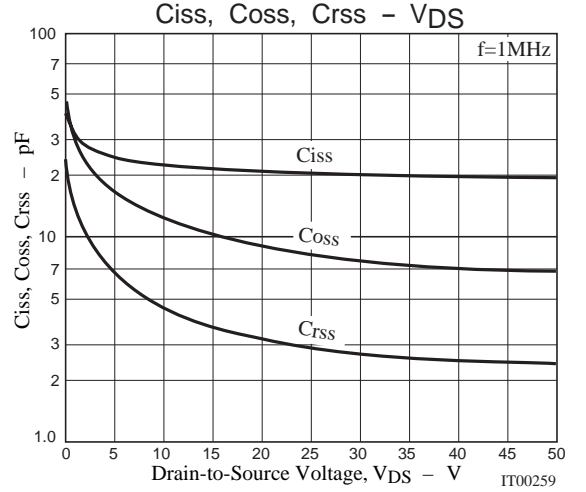
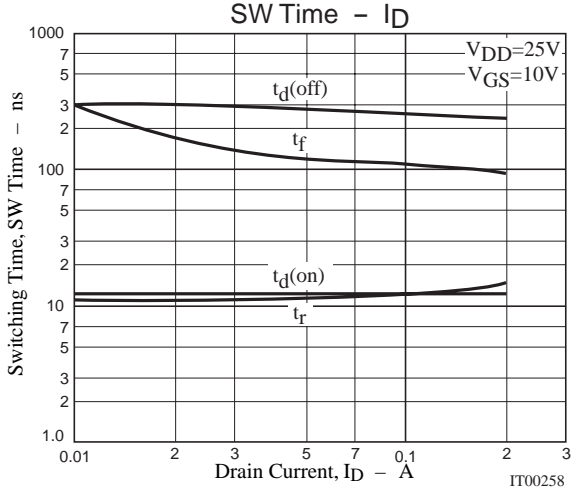
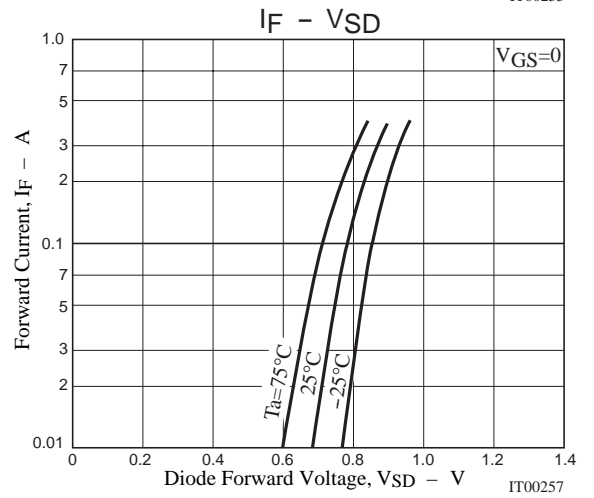
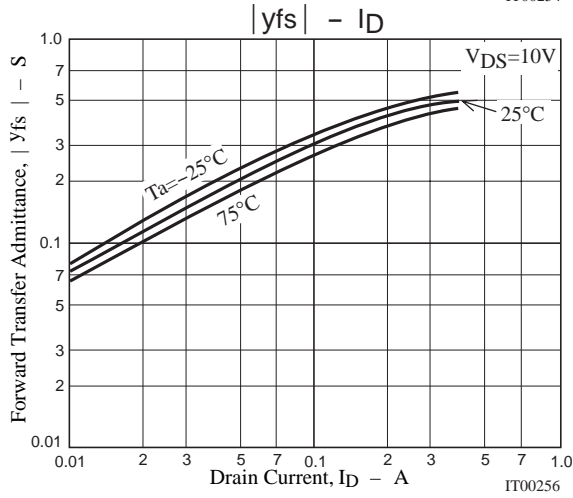
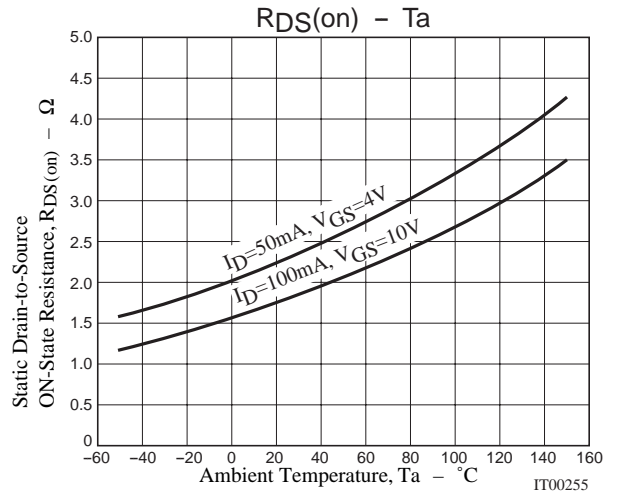
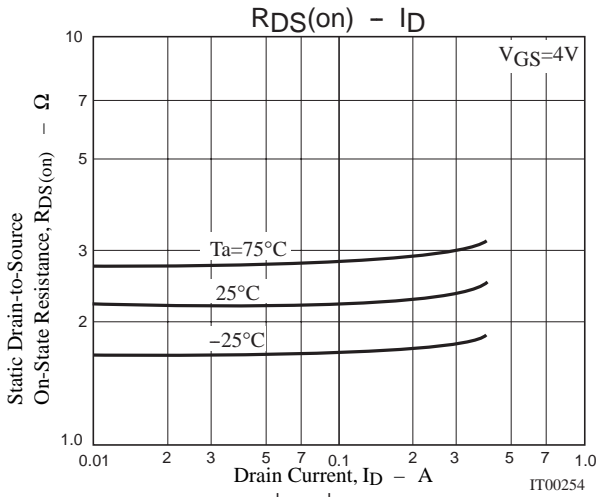
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	$V_{DS}=10V, f=1MHz$		22		pF
Output Capacitance	Coss	$V_{DS}=10V, f=1MHz$		12		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=10V, f=1MHz$		4.6		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		12		ns
Rise Time	$t_r$	See specified Test Circuit		12		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		260		ns
Fall Time	$t_f$	See specified Test Circuit		110		ns
Total Gate Charge	Qg	$V_{DS}=10V, V_{GS}=10V, I_D=200mA$		1.86		nC
Gate-to-Source Charge	Qgs	$V_{DS}=10V, V_{GS}=10V, I_D=200mA$		0.28		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=10V, V_{GS}=10V, I_D=200mA$		0.45		nC
Diode Forward Voltage	$V_{SD}$	$I_S=200mA, V_{GS}=0$		0.83	1.2	V

## Switching Time Test Circuit



# 5HN02C



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