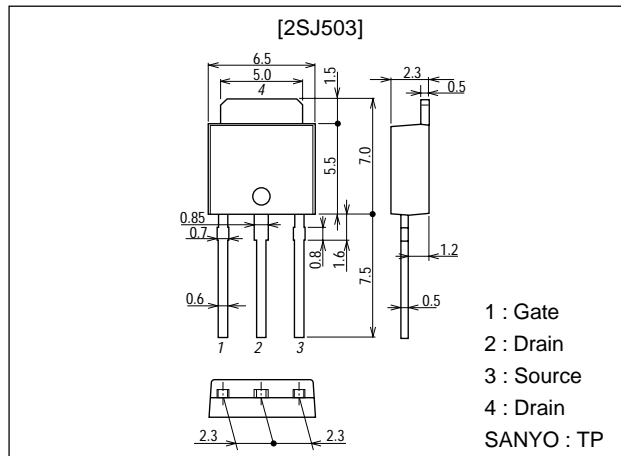


SANYO**2SJ503****DC/DC Converter Applications****Features**

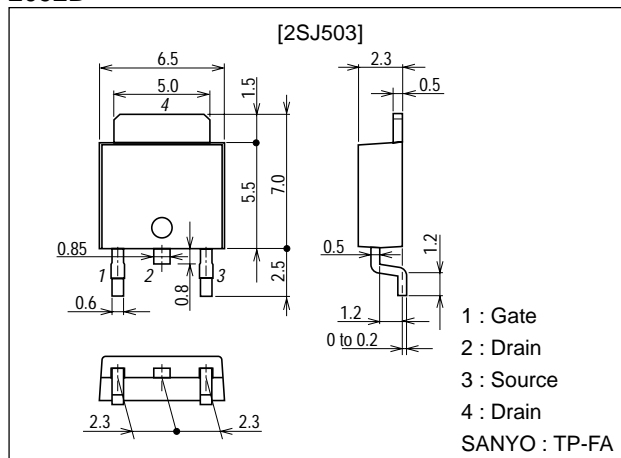
- Low ON resistance.
- Ultrahigh-speed switching.
- 4V drive.

Package Dimensions

unit:mm

2083B

unit:mm

2092B

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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

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

31000TS (KOTO) TA-2512 No.5932-1/4

Specifications

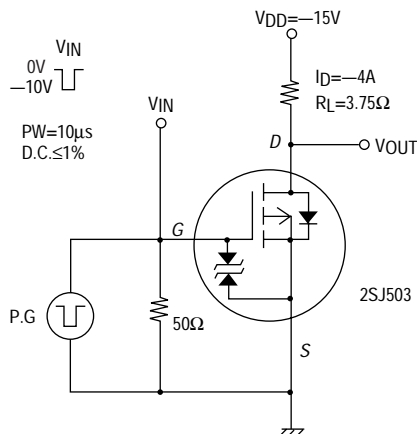
Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

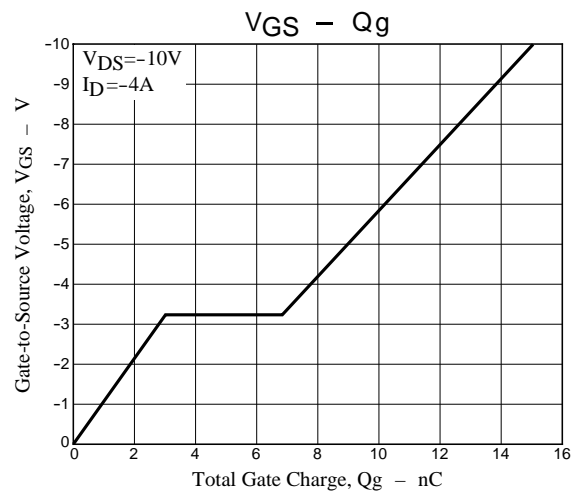
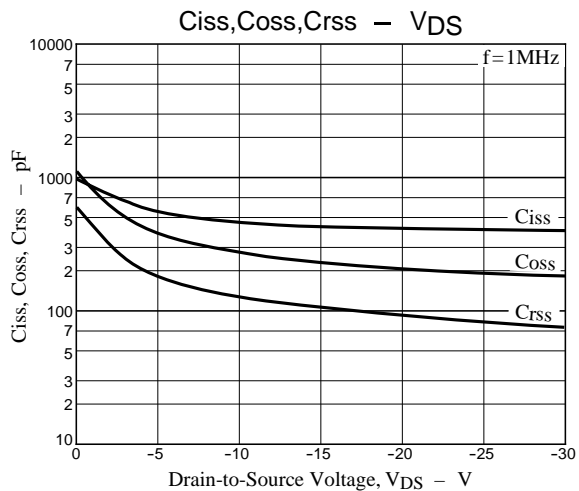
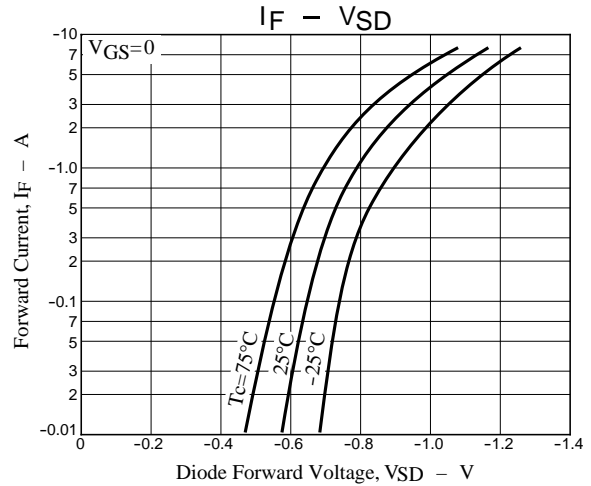
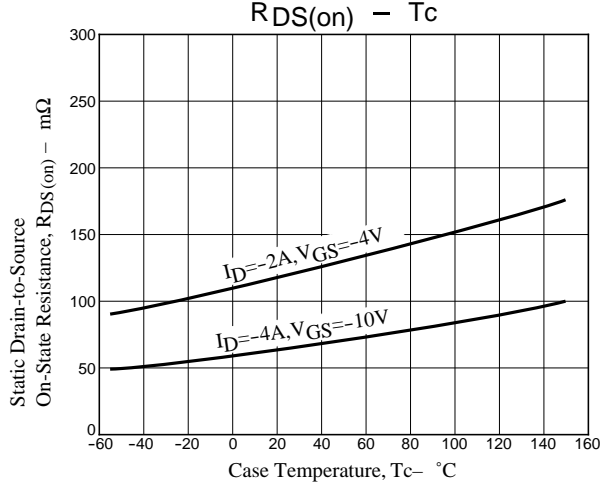
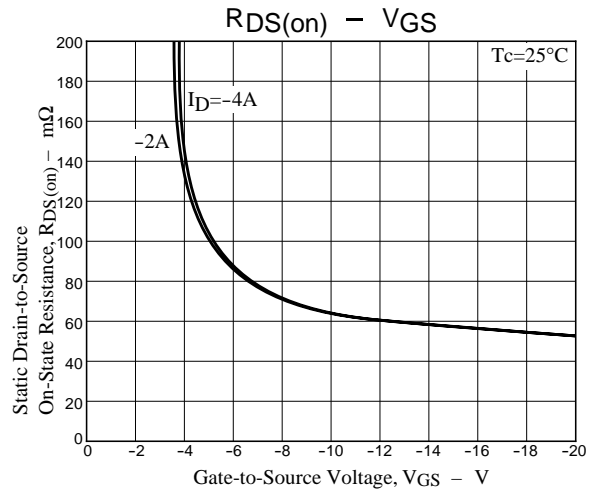
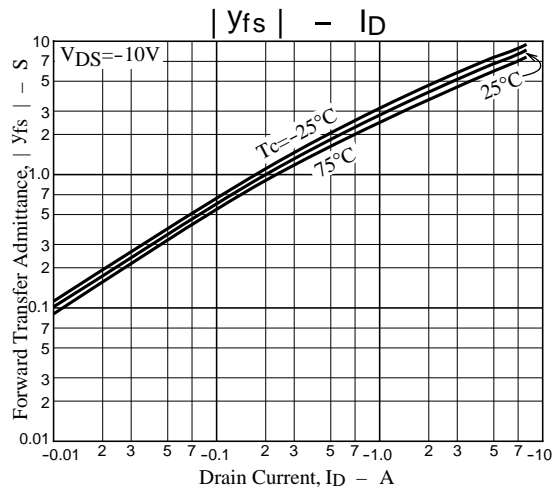
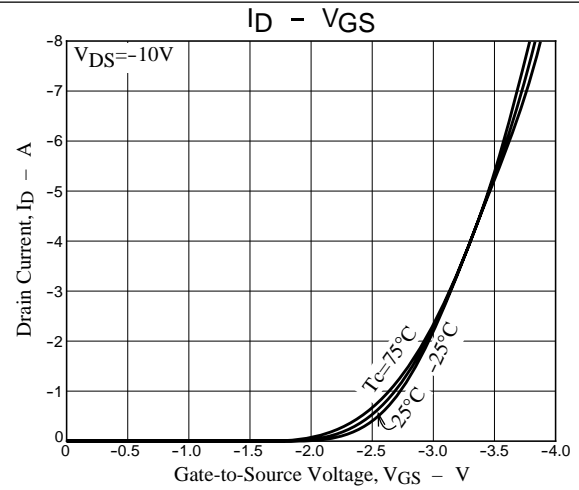
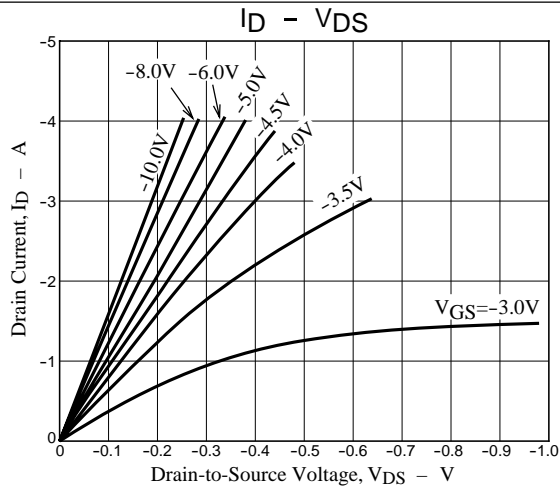
Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		-30	V
Gate-to-Source Voltage	V_{GSS}		± 20	V
Drain Current (DC)	I_D		-4	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	-16	A
Allowable Power Dissipation	P_D		1.0	W
		$T_c = 25^\circ\text{C}$	20	W
Channel Temperature	T_{ch}		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

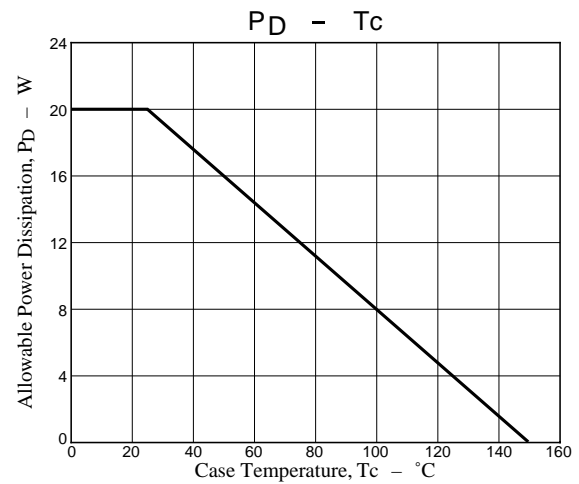
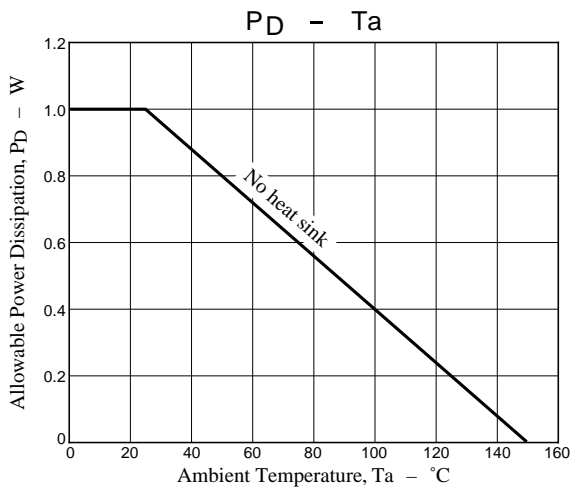
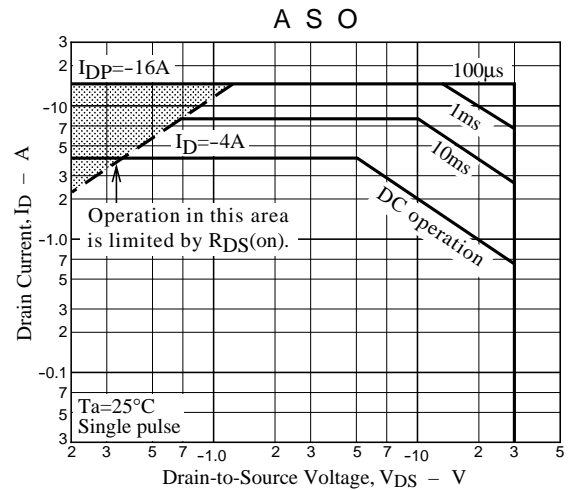
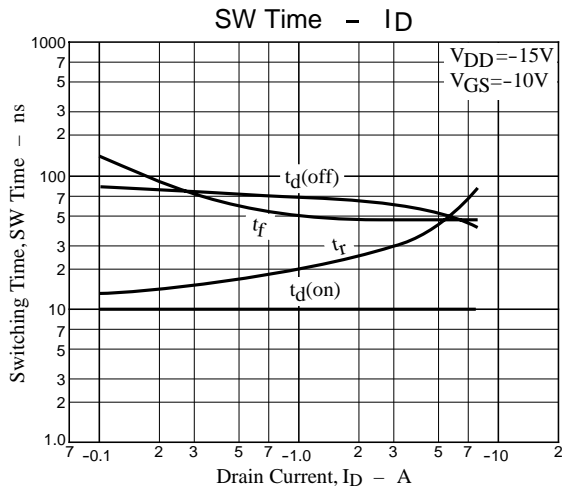
Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = -1\text{mA}$, $V_{GS} = 0$	-30			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -30\text{V}$, $V_{GS} = 0$			-10	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 16\text{V}$, $V_{DS} = 0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = -10\text{V}$, $I_D = -1\text{mA}$	-1.0		-2.5	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = -10\text{V}$, $I_D = -4\text{A}$	4	6		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = -4\text{A}$, $V_{GS} = -10\text{V}$		65	85	$\text{m}\Omega$
	$R_{DS(on)2}$	$I_D = -2\text{A}$, $V_{GS} = -4\text{V}$		130	180	$\text{m}\Omega$
Input Capacitance	C_{iss}	$V_{DS} = -10\text{V}$, $f = 1\text{MHz}$		470		pF
Output Capacitance	C_{oss}	$V_{DS} = -10\text{V}$, $f = 1\text{MHz}$		280		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = -10\text{V}$, $f = 1\text{MHz}$		140		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		10		ns
Rise Time	t_r	See specified Test Circuit		35		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		60		ns
Fall Time	t_f	See specified Test Circuit		45		ns
Total Gate Charge	Q_g	$V_{DS} = -10\text{V}$, $V_{GS} = -10\text{V}$, $I_D = -4\text{A}$		15		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS} = -10\text{V}$, $V_{GS} = -10\text{V}$, $I_D = -4\text{A}$		3		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS} = -10\text{V}$, $V_{GS} = -10\text{V}$, $I_D = -4\text{A}$		4		nC
Diode Forward Voltage	V_{SD}	$I_S = -4\text{A}$, $V_{GS} = 0$		-1.0	-1.5	V

Switching Time Test Circuit







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