

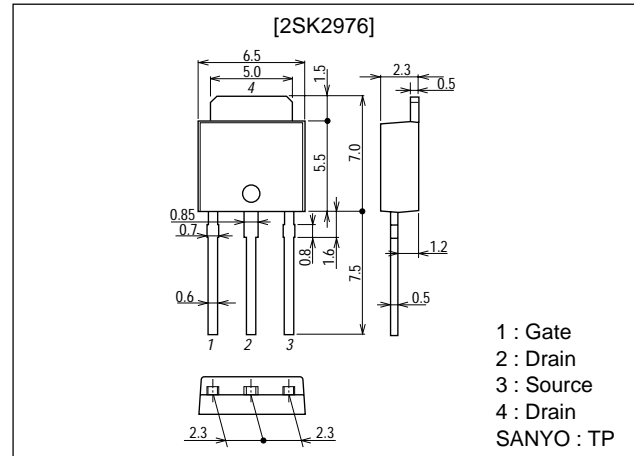
**SANYO****DC-DC Converter Applications****Features**

- Low ON resistance.
- 4V drive.

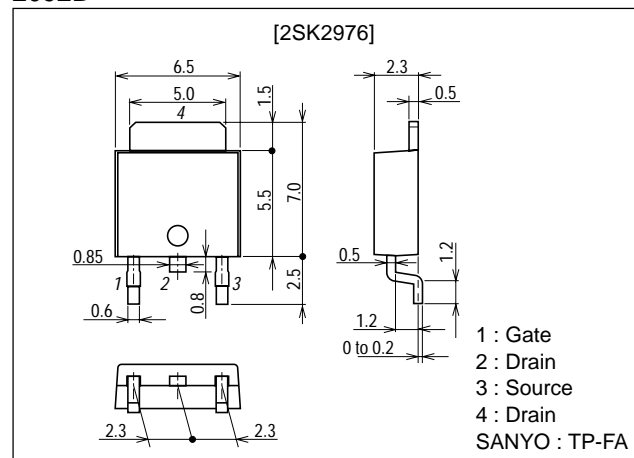
**Package Dimensions**

unit:mm

2083B



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.

# 2SK2976

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## Specifications

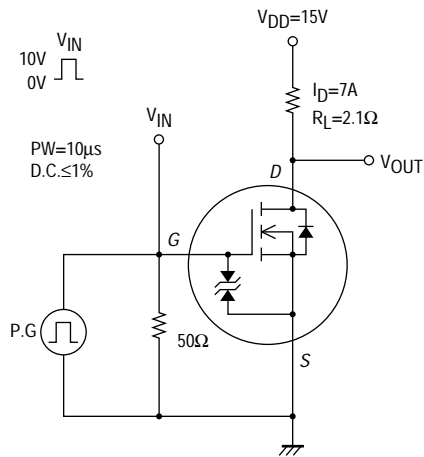
**Absolute Maximum Ratings** at  $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		30	V
Gate-to-Source Voltage	$V_{GSS}$		$\pm 20$	V
Drain Current (DC)	$I_D$		15	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10\mu\text{s}$ , duty cycle $\leq 1\%$	45	A
Allowable Power Dissipation	$P_D$		1	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  $T_a = 25^\circ\text{C}$

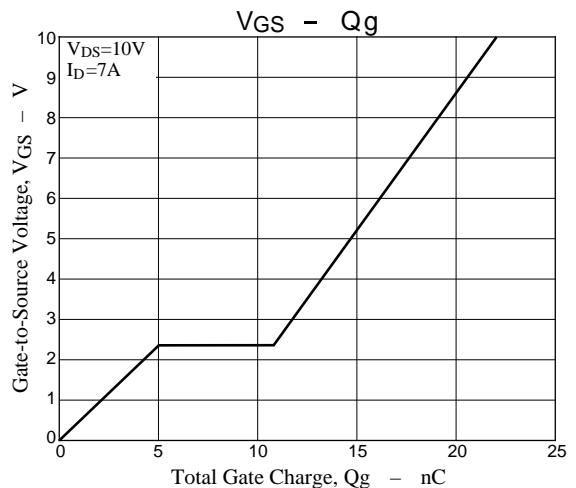
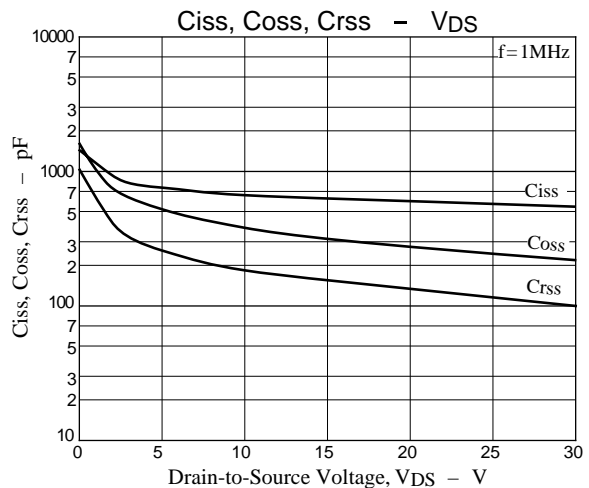
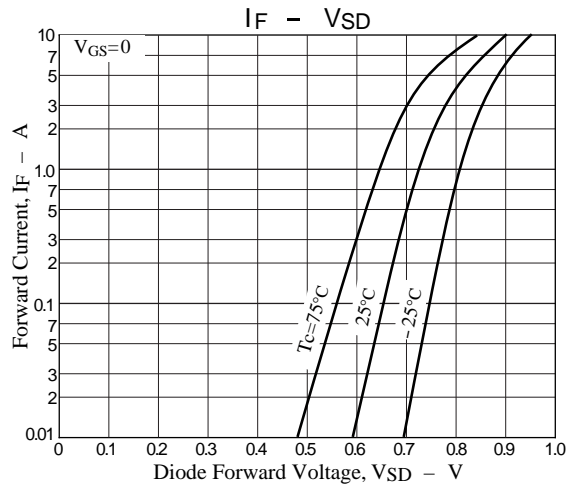
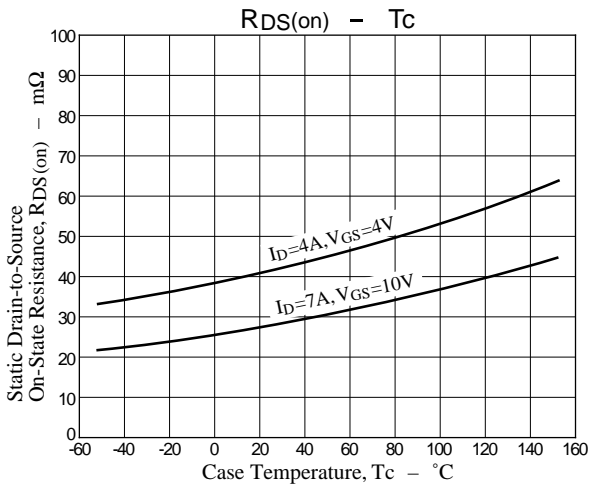
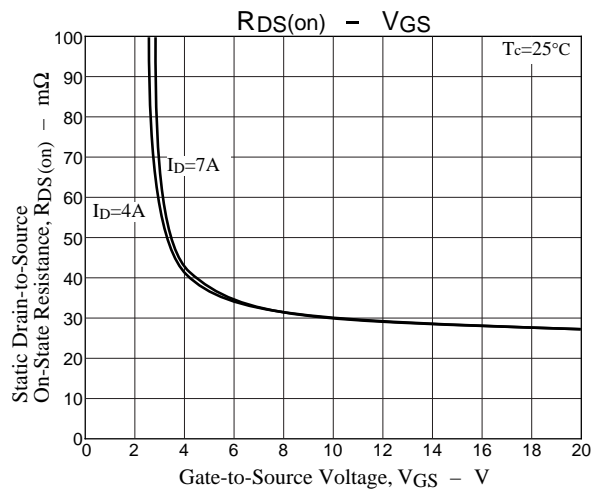
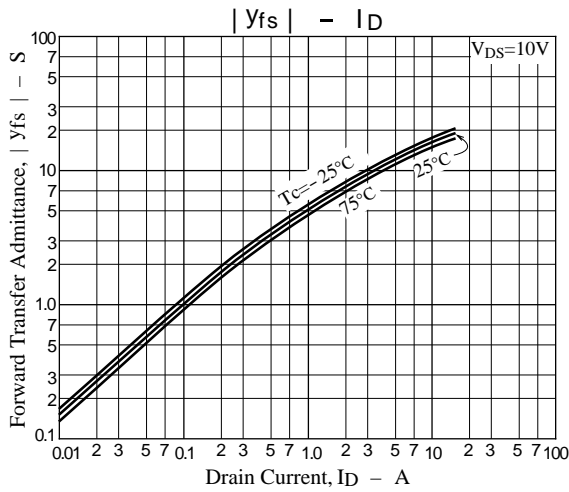
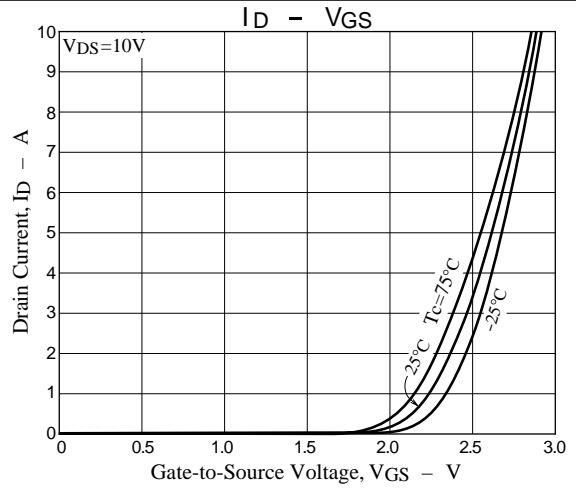
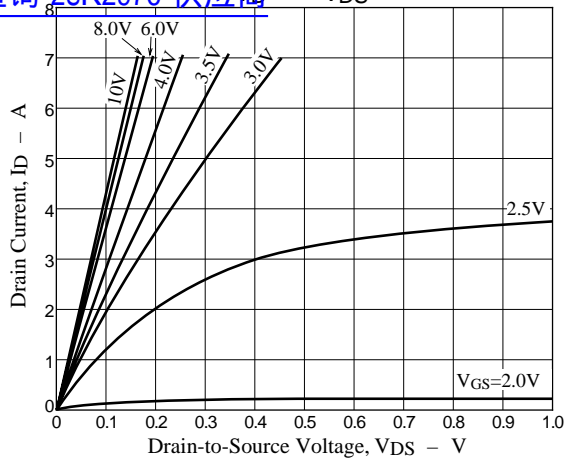
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 1\text{mA}$ , $V_{GS} = 0$	30			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 30\text{V}$ , $V_{GS} = 0$			10	$\mu\text{A}$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 16\text{V}$ , $V_{DS} = 0$			$\pm 10$	$\mu\text{A}$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10\text{V}$ , $I_D = 1\text{mA}$	1.0		2.4	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 10\text{V}$ , $I_D = 7\text{A}$	8	12		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = 7\text{A}$ , $V_{GS} = 10\text{V}$		28	36	$\text{m}\Omega$
	$R_{DS(on)2}$	$I_D = 4\text{A}$ , $V_{GS} = 4\text{V}$		42	58	$\text{m}\Omega$
Input Capacitance	$C_{iss}$	$V_{DS} = 10\text{V}$ , $f = 1\text{MHz}$		700		pF
Output Capacitance	$C_{oss}$	$V_{DS} = 10\text{V}$ , $f = 1\text{MHz}$		380		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS} = 10\text{V}$ , $f = 1\text{MHz}$		180		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		15		ns
Rise Time	$t_r$	See specified Test Circuit		280		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		80		ns
Fall Time	$t_f$	See specified Test Circuit		80		ns
Total Gate Charge	$Q_g$			22		nC
Gate-to-Source Charge	$Q_{gs}$	$V_{DS} = 10\text{V}$ , $V_{GS} = 10\text{V}$ , $I_D = 7\text{A}$		5		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$			6		nC
Diode Forward Voltage	$V_{SD}$		$I_S = 7\text{A}$ , $V_{GS} = 0$	0.85	1.2	

## Switching Time Test Circuit

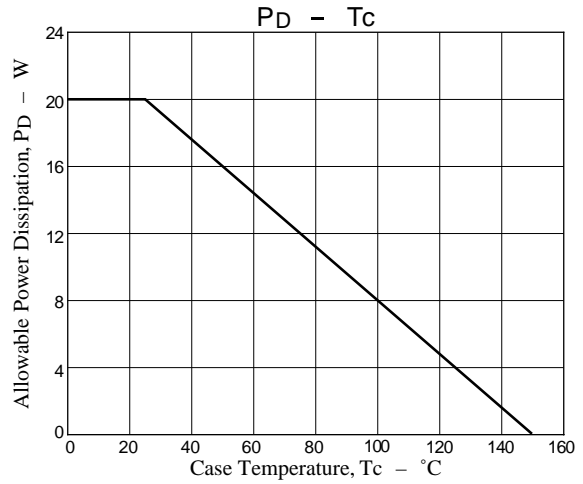
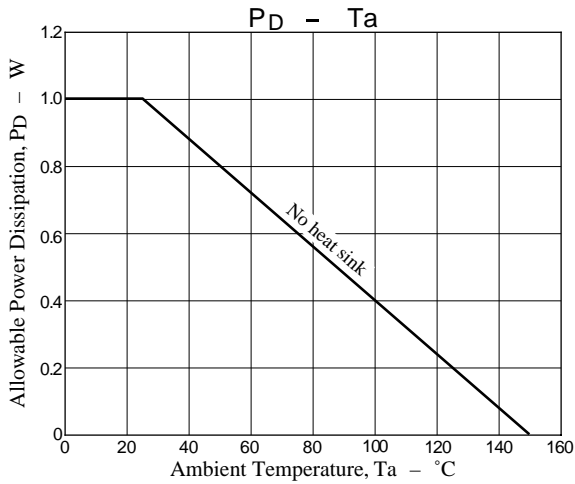
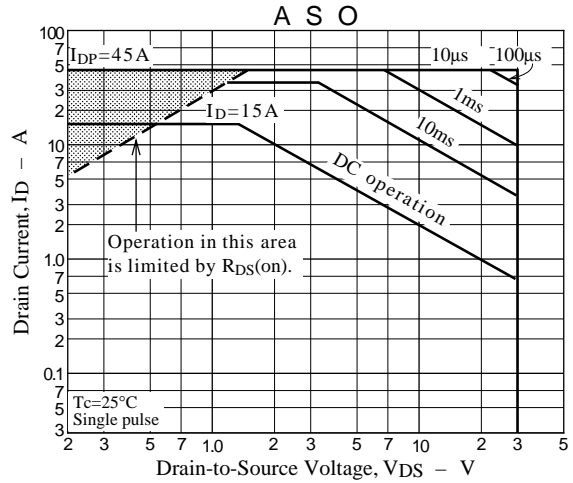
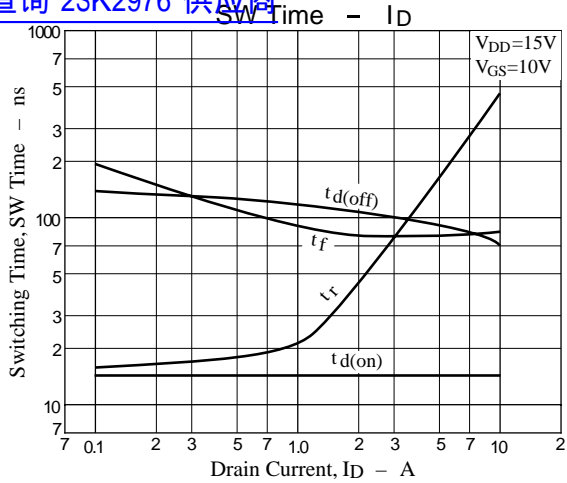


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