

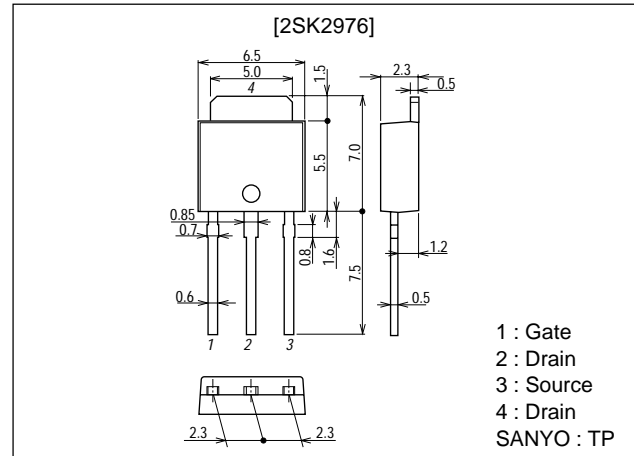
**2SK2976****DC-DC Converter Applications****Features**

- Low ON resistance.
- 4V drive.

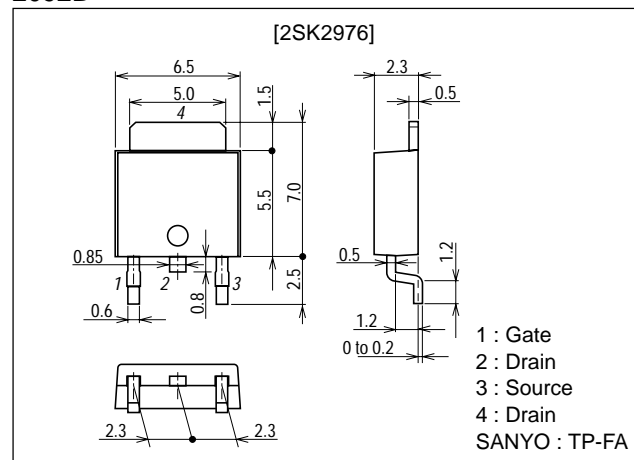
Package Dimensions

unit:mm

2083B



2092B



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Specifications

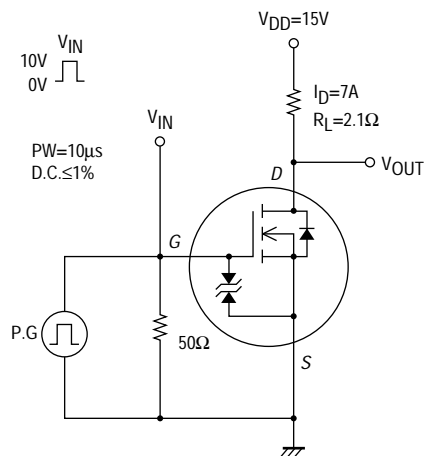
Absolute Maximum Ratings at Ta = 25°C

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		15	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	45	A
Allowable Power Dissipation	P_D		1	W
		Tc=25°C	20	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

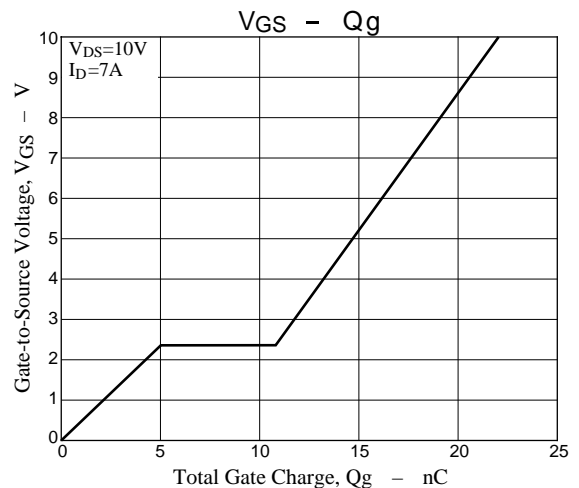
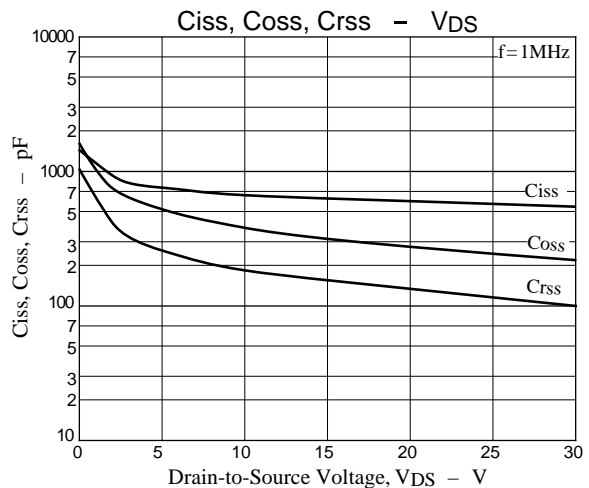
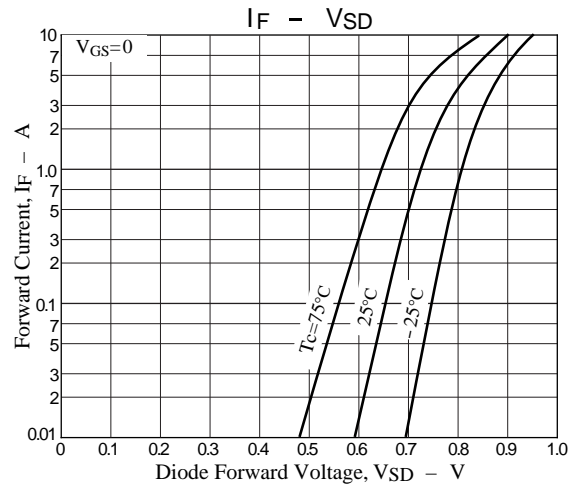
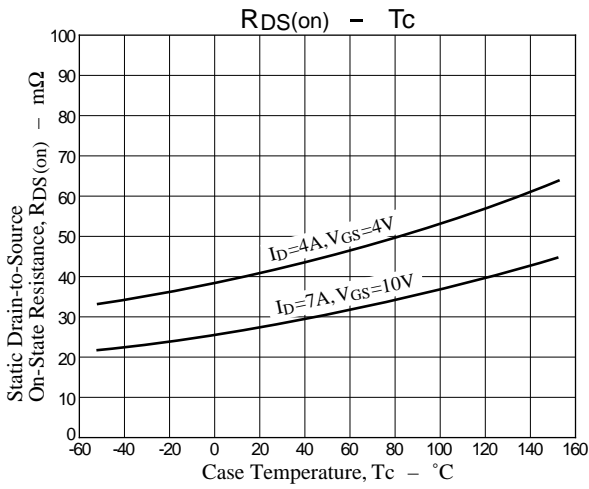
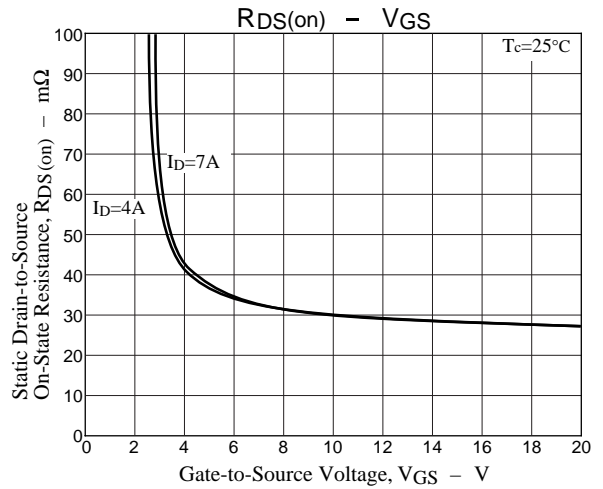
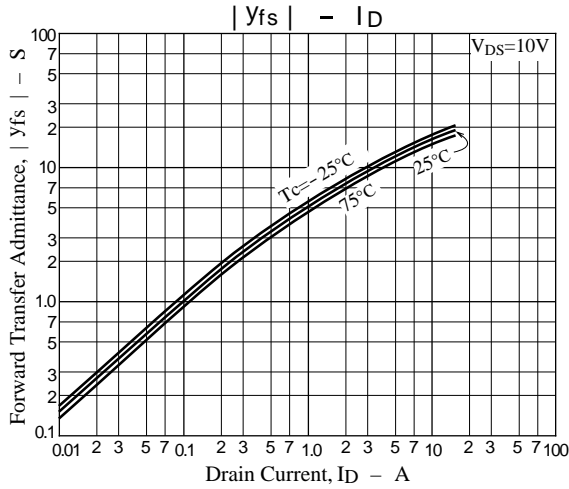
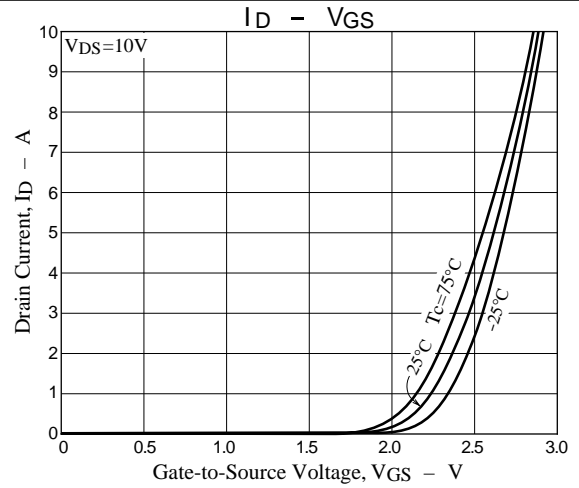
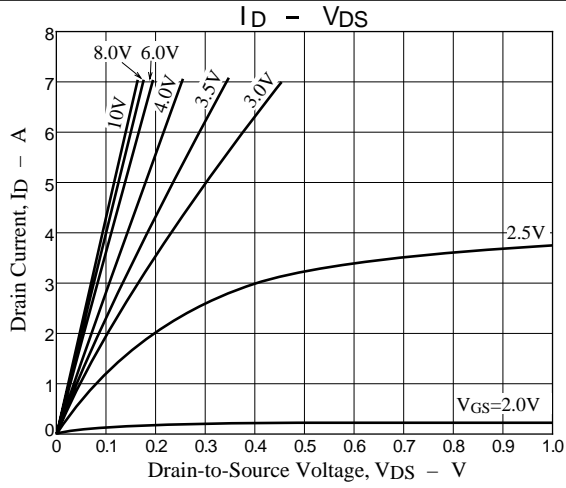
Electrical Characteristics at Ta = 25°C

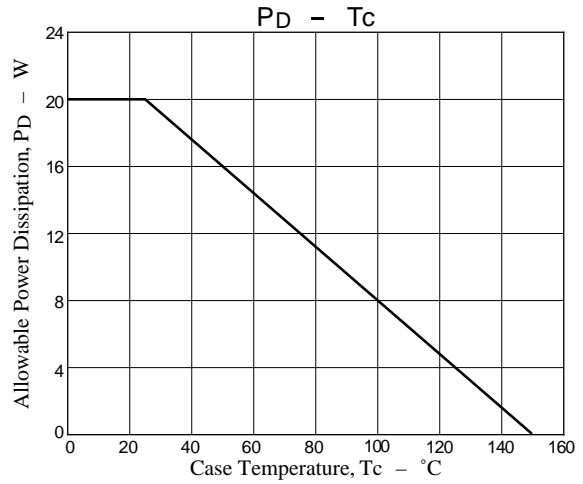
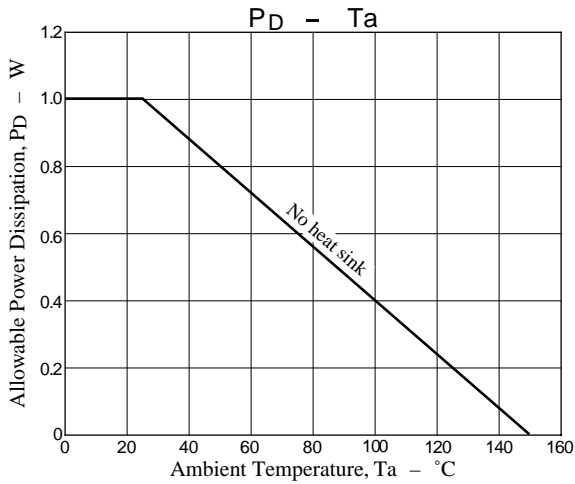
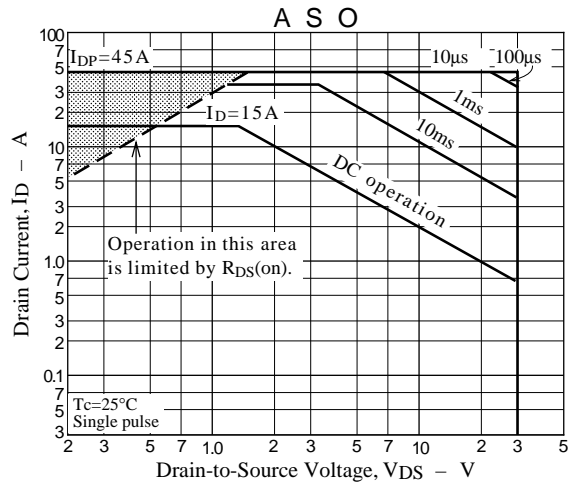
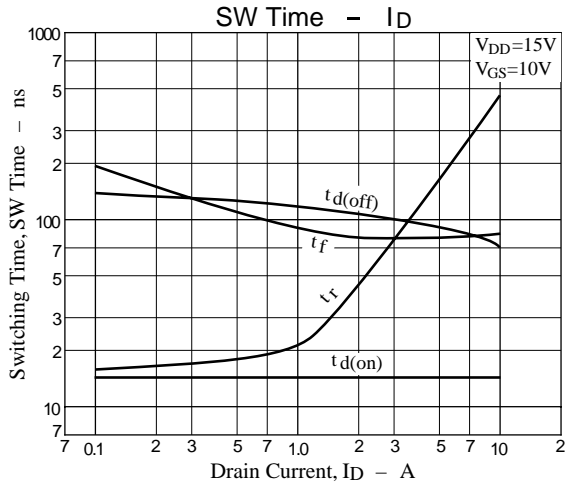
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0$	30			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V, V_{GS}=0$			10	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=±16V, V_{DS}=0$			±10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	1.0		2.4	V
Forward Transfer Admittance	yfs	$V_{DS}=10V, I_D=7A$	8	12		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=7A, V_{GS}=10V$		28	36	mΩ
	$R_{DS(on)2}$	$I_D=4A, V_{GS}=4V$		42	58	mΩ
Input Capacitance	Ciss	$V_{DS}=10V, f=1MHz$		700		pF
Output Capacitance	Coss	$V_{DS}=10V, f=1MHz$		380		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=10V, f=1MHz$		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	Qg			22		nC
Gate-to-Source Charge	Qgs	$V_{DS}=10V, V_{GS}=10V, I_D=7A$		5		nC
Gate-to-Drain "Miller" Charge	Qgd			6		nC
Diode Forward Voltage	V_{SD}		$I_S=7A, V_{GS}=0$	0.85	1.2	

Switching Time Test Circuit



2SK2976





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