2SJ503



DC/DC Converter Applications

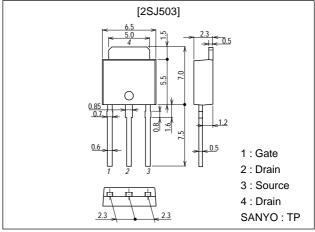
Features

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

Package Dimensions

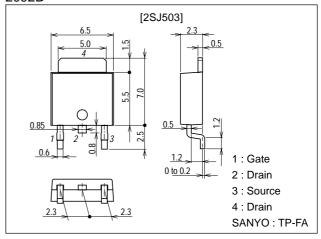
unit:mm

2083B



unit:mm

2092B



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Specifications

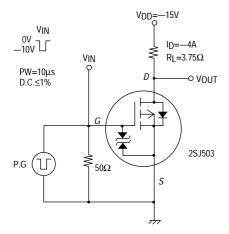
Absolute Maximum Ratings at $Ta = 25^{\circ}C$

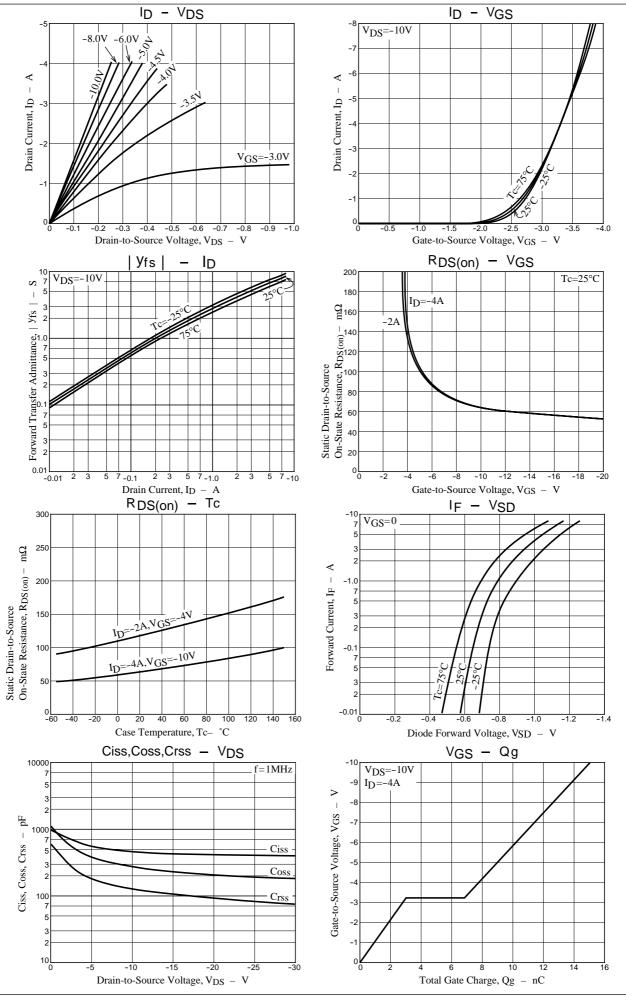
Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-30	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	ID		-4	Α
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-16	Α
Allowable Power Dissipation	P-		1.0	W
	PD	Tc=25°C	20	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

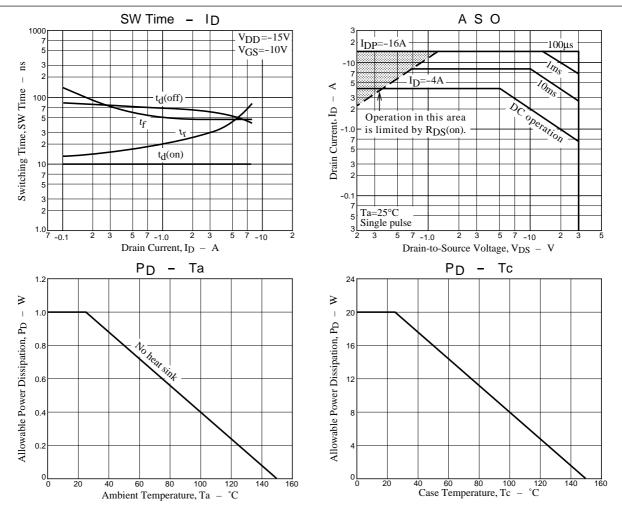
Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Unit
Drain-to-Source Breakdown Voltage	V(BR)DSS	I _D =-1mA, V _{GS} =0	-30			V
Zero-Gate Voltage Drain Current	IDSS	V _{DS} =-30V, V _{GS} =0			-10	μA
Gate-to-Source Leakage Current	IGSS	V _{GS} =±16V, V _{DS} =0			±10	μA
Cutoff Voltage	V _{GS} (off)	V _{DS} =-10V, I _D =-1mA	-1.0		-2.5	V
Forward Transfer Admittance	yfs	V _{DS} =-10V, I _D =-4A	4	6		S
Static Drain-to-Source On-State Resistance	R _{DS} (on)1	I _D =-4A, V _{GS} =-10V		65	85	mΩ
	R _{DS} (on)2	I _D =-2A, V _{GS} =-4V		130	180	mΩ
Input Capacitance	Ciss	V _{DS} =-10V, f=1MHz		470		pF
Output Capacitance	Coss	V _{DS} =-10V, f=1MHz		280		pF
Reverse Transfer Capacitance	Crss	V _{DS} =-10V, f=1MHz		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	Qg	V _{DS} =-10V, V _{GS} =-10V, I _D =-4A		15		nC
Gate-to-Source Charge	Qgs	V _{DS} =-10V, V _{GS} =-10V, I _D =-4A		3		nC
Gate-to-Drain "Miller" Charge	Qgd	V _{DS} =-10V, V _{GS} =-10V, I _D =-4A		4		nC
Diode Forward Voltage	V _{SD}	I _S =-4A, V _{GS} =0		-1.0	-1.5	V

Switching Time Test Circuit







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