



DC / DC Converter Applications

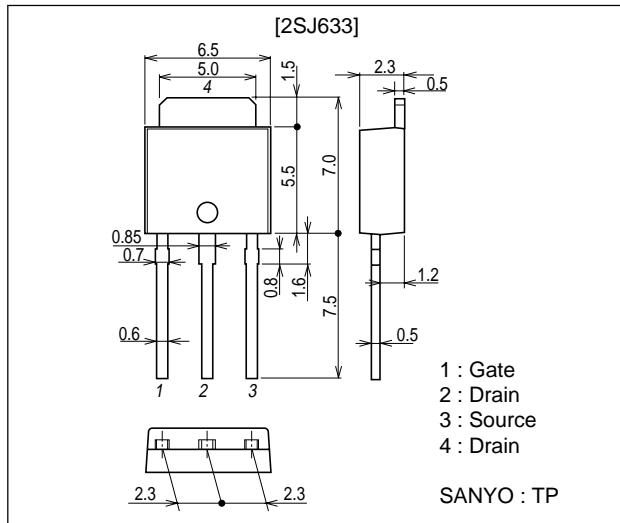
Features

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

Package Dimensions

unit : mm

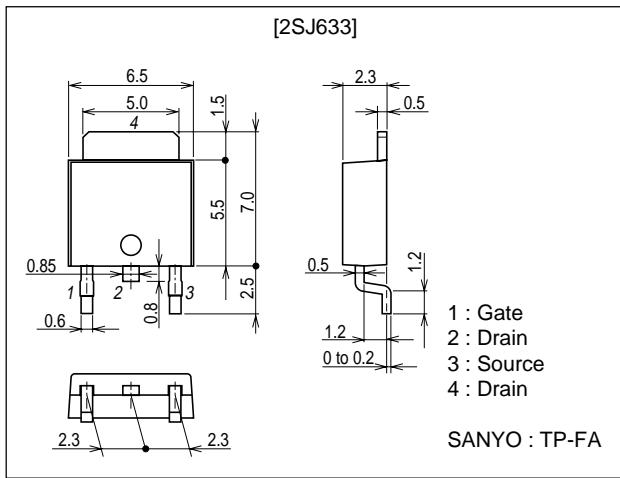
2083B



Package Dimensions

unit : mm

2092B



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SANYO Electric Co.,Ltd. Semiconductor Company
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

O1003 TS IM TA-3882 No.7421-1/4

Specifications

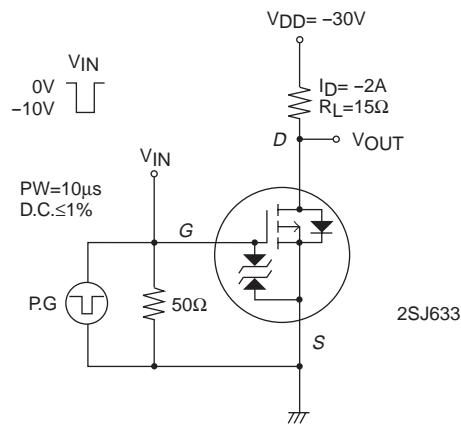
Absolute Maximum Ratings at $T_a=25^\circ C$

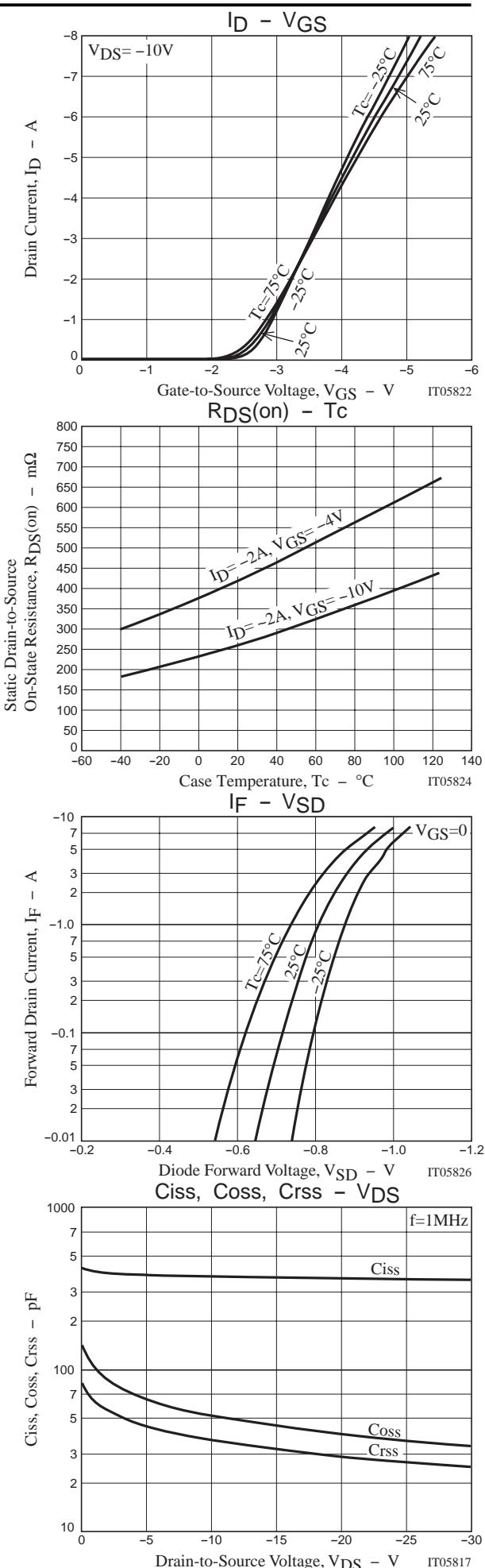
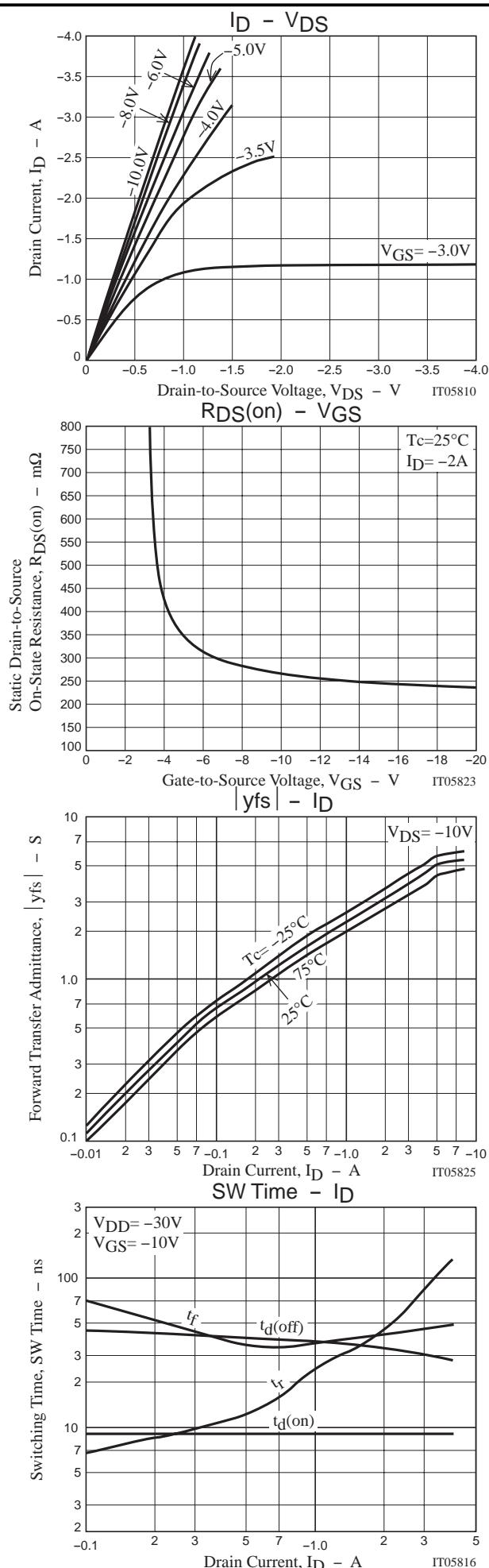
Parameter	Symbol	Conditions	Ratings		Unit
Drain-to-Source Voltage	V_{DSS}			-60	V
Gate-to-Source Voltage	V_{GSS}			± 20	V
Drain Current (DC)	I_D			-4	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$		-16	A
Allowable Power Dissipation	PD	$T_c=25^\circ C$		1	W
Channel Temperature	T_{ch}			15	W
Storage Temperature	T_{stg}			150	$^\circ C$
				-55 to +150	$^\circ C$

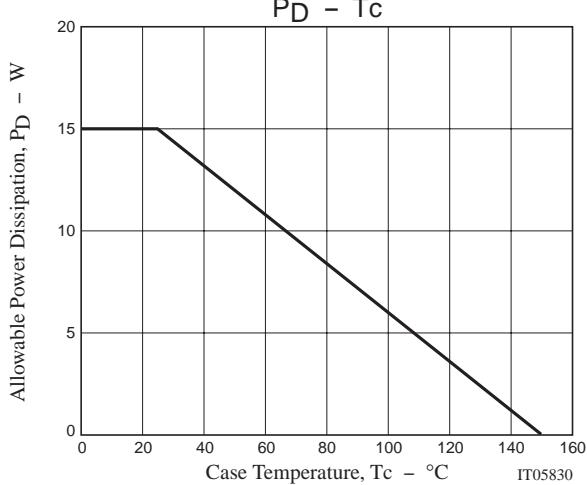
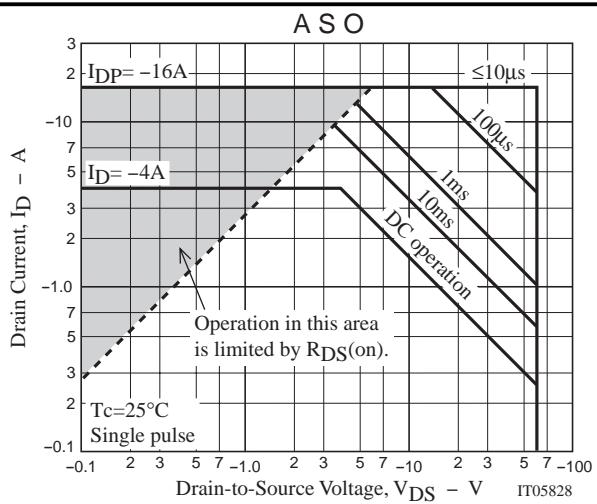
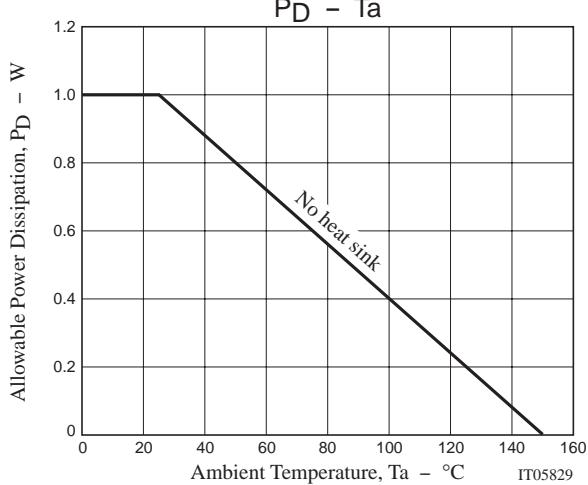
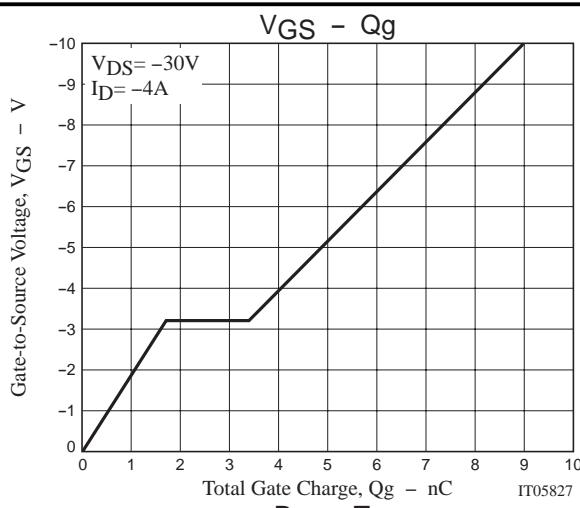
Electrical Characteristics at $T_a=25^\circ C$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=-1mA$, $V_{GS}=0$	-60			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-60V$, $V_{GS}=0$			-1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 16V$, $V_{DS}=0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=-10V$, $I_D=-1mA$	-1.2		-2.6	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=-10V$, $I_D=-2A$	1.5	3		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=-2A$, $V_{GS}=-10V$		280	365	$m\Omega$
	$R_{DS(on)2}$	$I_D=-2A$, $V_{GS}=-4V$		405	565	$m\Omega$
Input Capacitance	C_{iss}	$V_{DS}=-20V$, $f=1MHz$		365		pF
Output Capacitance	C_{oss}	$V_{DS}=-20V$, $f=1MHz$		39		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=-20V$, $f=1MHz$		30		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		9		ns
Rise Time	t_r	See specified Test Circuit.		45		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		33		ns
Fall Time	t_f	See specified Test Circuit.		41		ns
Total Gate Charge	Q_g	$V_{DS}=-30V$, $V_{GS}=-10V$, $I_D=-4A$		9		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS}=-30V$, $V_{GS}=-10V$, $I_D=-4A$		1.7		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS}=-30V$, $V_{GS}=-10V$, $I_D=-4A$		1.7		nC
Diode Forward Voltage	V_{SD}	$I_S=-4A$, $V_{GS}=0$		-0.9	-1.2	V

Switching Time Test Circuit







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