Ordering number:ENN6437

N-Channel Silicon MOSFET

2SK2791

Ultrahigh-Speed Switching Applications

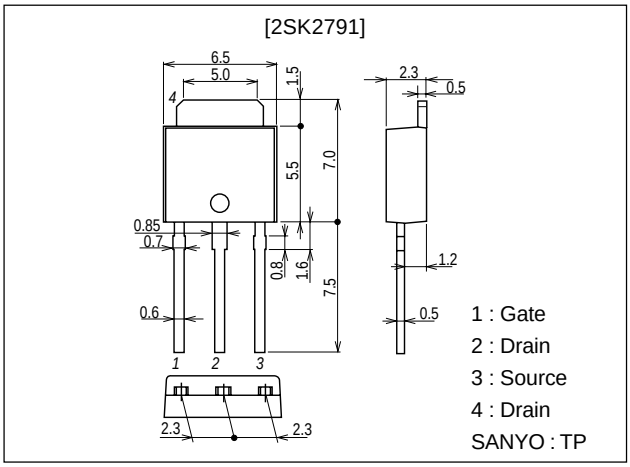
Features

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

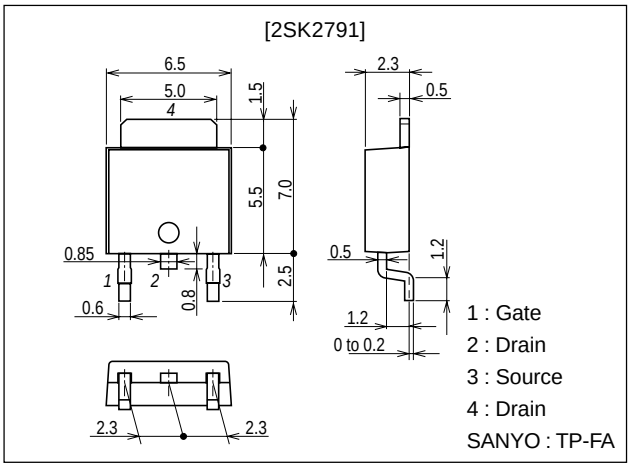
Package Dimensions

unit:mm

2083B



2092B



SANYO Electric Co.,Ltd. Semiconductor Company

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

Specifications

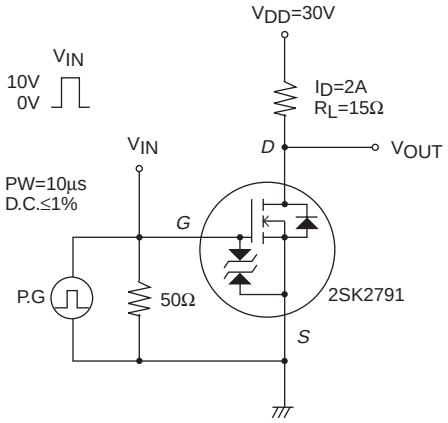
Absolute Maximum Ratings at Ta = 25˚C

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≤10μs, duty cycle≤1%	16	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

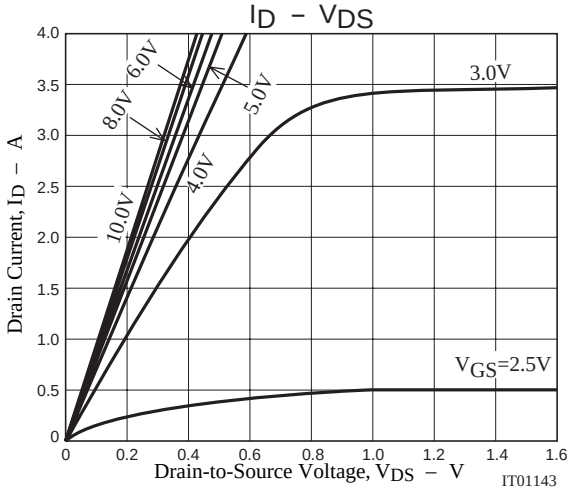
Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	I_D=1mA, V_{GS}=0	60			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=60V, V_{GS}=0			100	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		2.5	V
Forward Transfer Admittance	| yfs |	V_{DS}=10V, I_D=2A	3	5		S
Static Drain-to-Source On-State Resistance	$R_{DS}(on)1$	V_{GS}=10A, I_D=2A		110	145	mΩ
	$R_{DS}(on)2$	V_{GS}=4A, I_D=2A		140	195	mΩ
Input Capacitance	Ciss	V_{DS}=20V, f=1MHz		370		pF
Output Capacitance	Coss	V_{DS}=20V, f=1MHz		120		pF
Reverse Transfer Capacitance	Crss	V_{DS}=20V, f=1MHz		20		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		13		ns
Rise Time	t_r	See specified Test Circuit		30		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		100		ns
Fall Time	t_f	See specified Test Circuit		60		ns
Diode Forward Voltage	V_{SD}	I_S=4A, V_{GS}=0		0.9	1.2	V

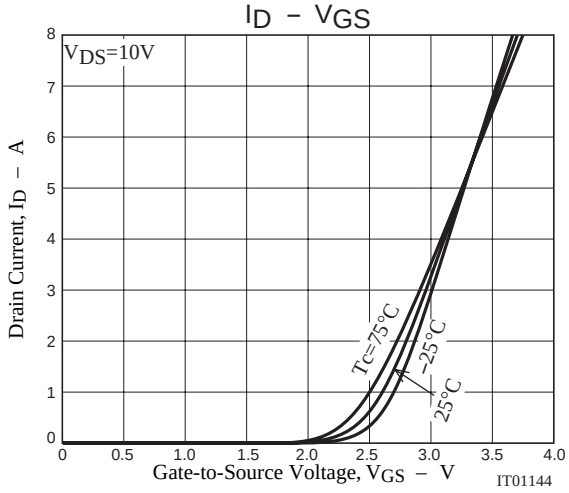
Switching Time Test Circuit



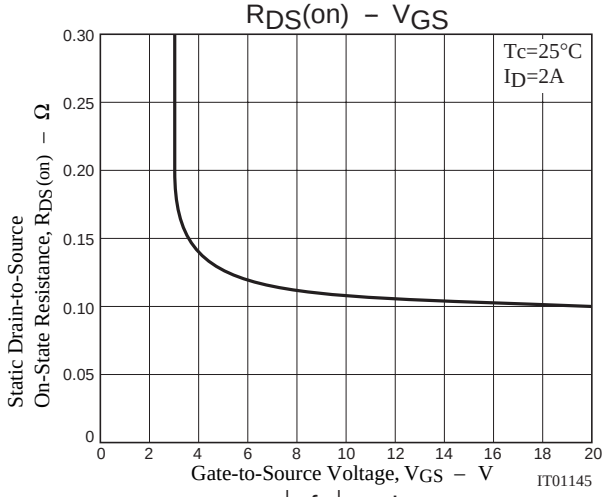
I_D – V_{DS}



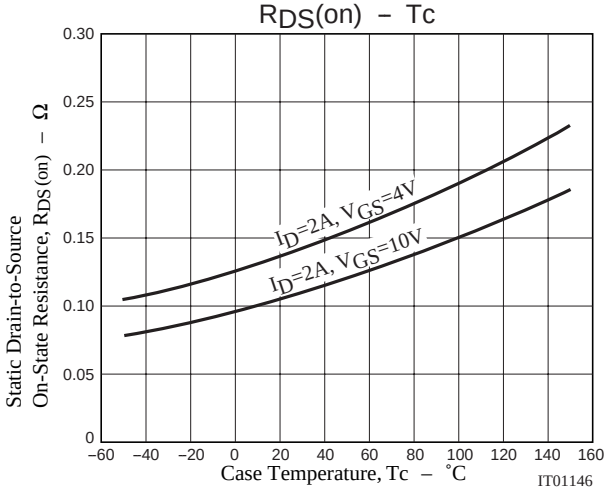
I_D – V_{GS}



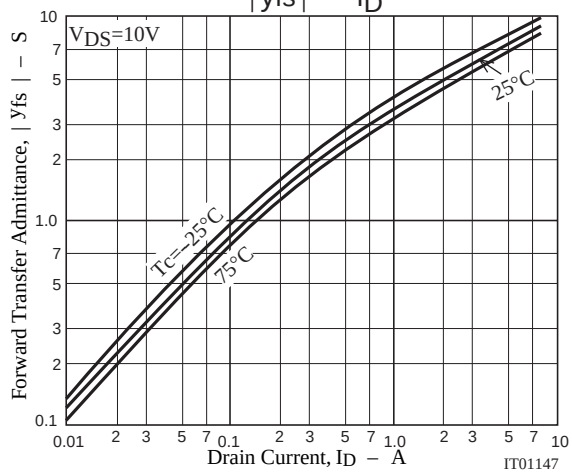
$R_{DS}(on)$ – V_{GS}



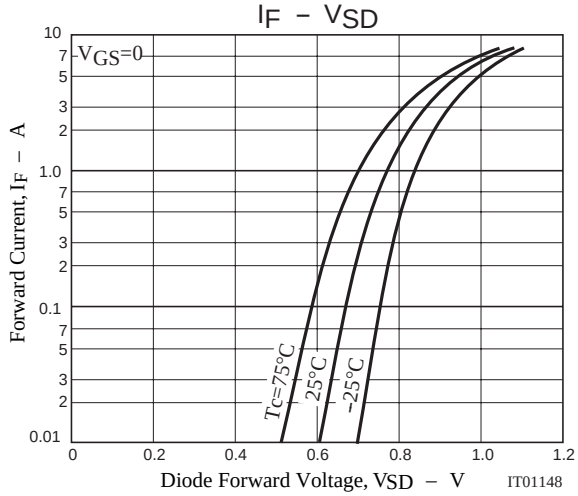
$R_{DS}(on)$ – Tc



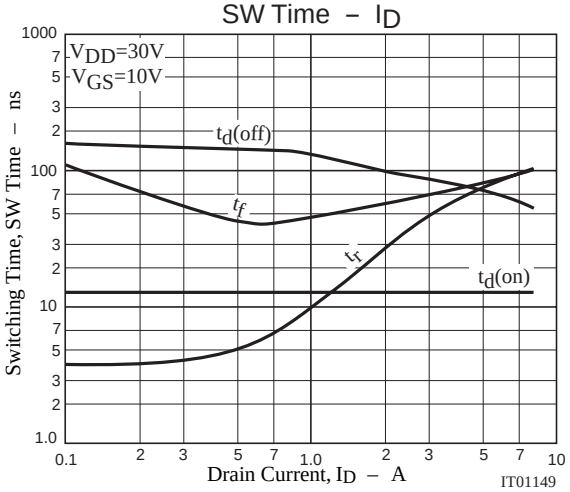
$|y_{fs}|$ – I_D



I_F – V_{SD}



SW Time – I_D



Ciss, Coss, Crss – V_{DS}