

**2SK1691**

Ultrahigh-Speed Switching Applications

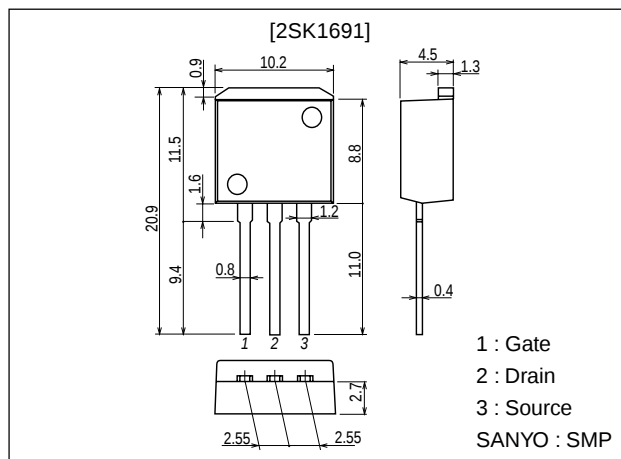
Features

- Low ON resistance.
- Ultrahigh-speed switching.

Package Dimensions

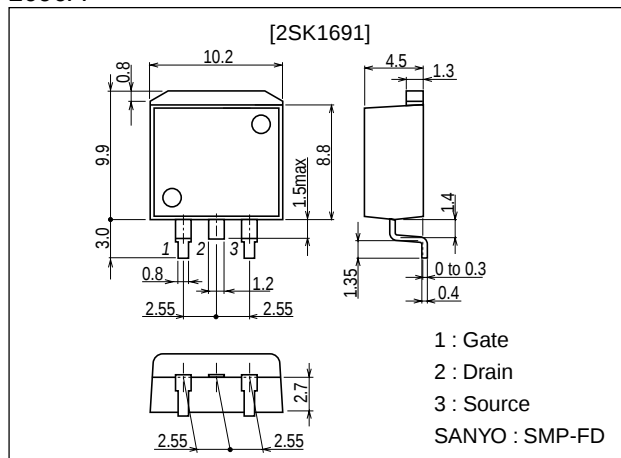
unit:mm

2093A



unit:mm

2090A



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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.

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61599TH (KT)/70193TH (KOTO) BX-0293 No.4224-1/4

Specifications

Absolute Maximum Ratings at Ta = 25°C

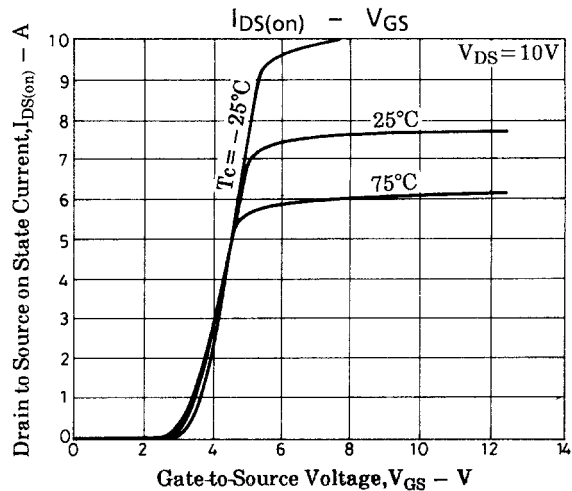
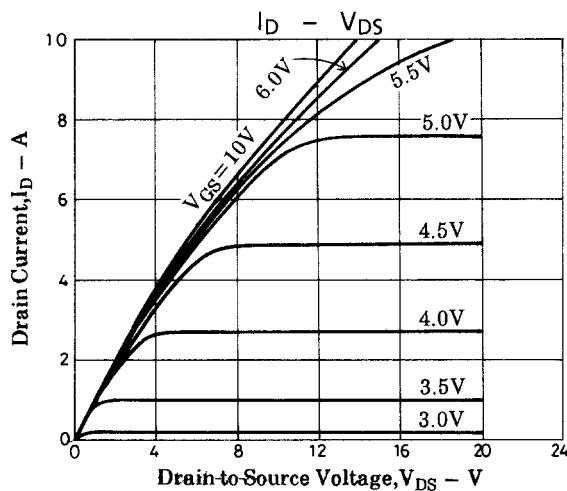
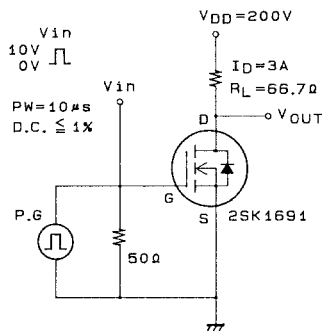
Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		450	V
Gate-to-Source Voltage	V_{GS}		±30	V
Drain Current (DC)	I_D		5	A
Drain Current (pulse)	I_{DP}		20	A
Allowable Power Dissipation	P_D		1.65	W
		Tc=25°C	60	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

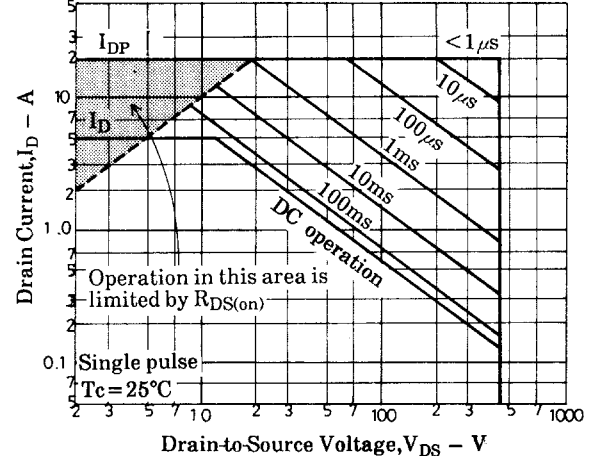
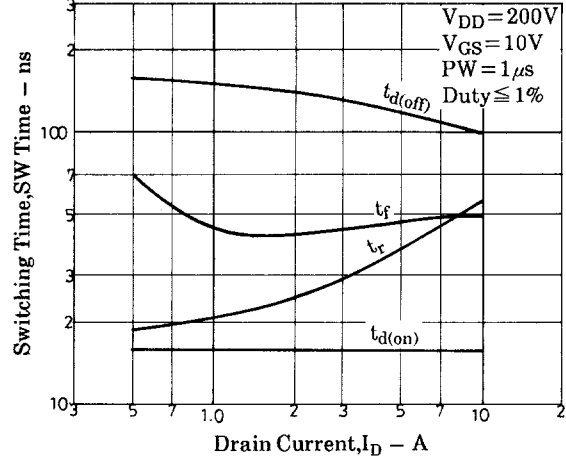
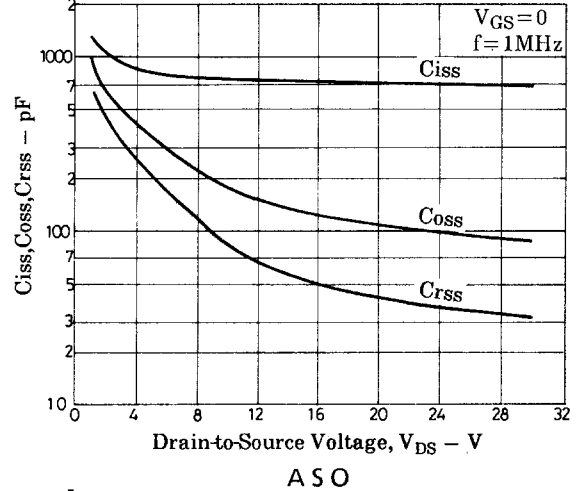
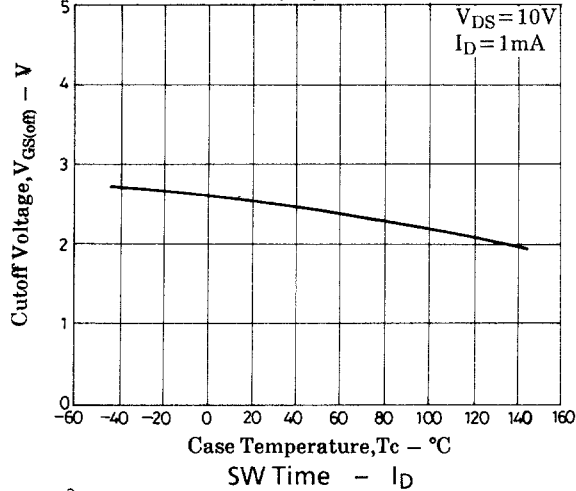
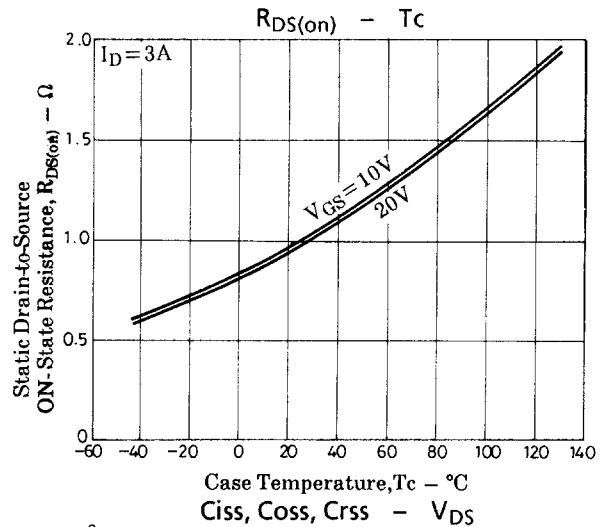
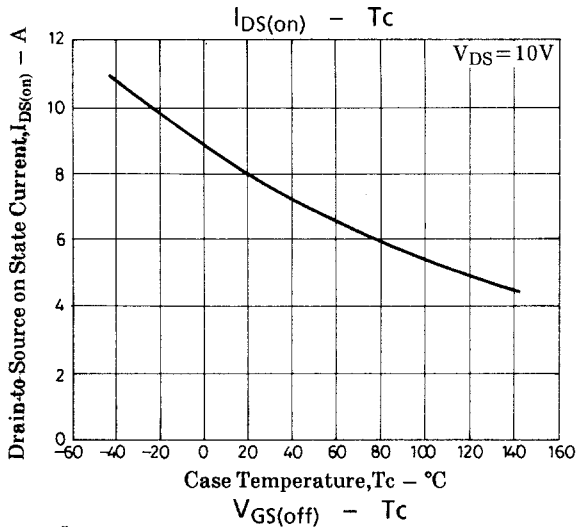
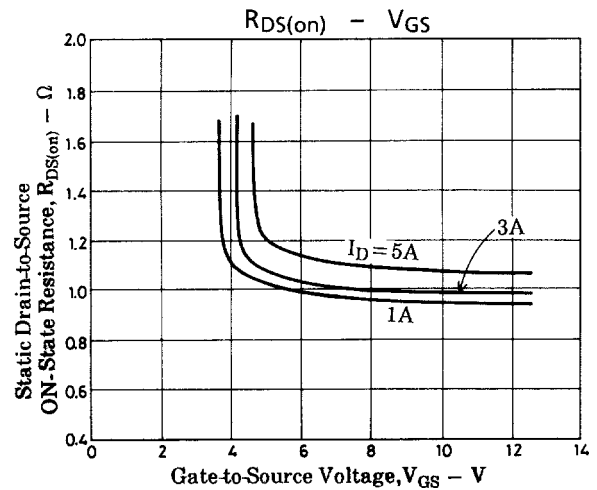
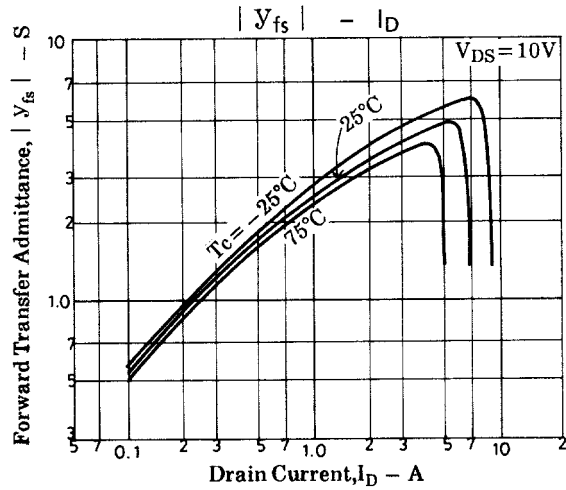
Electrical Characteristics at Ta = 25°C

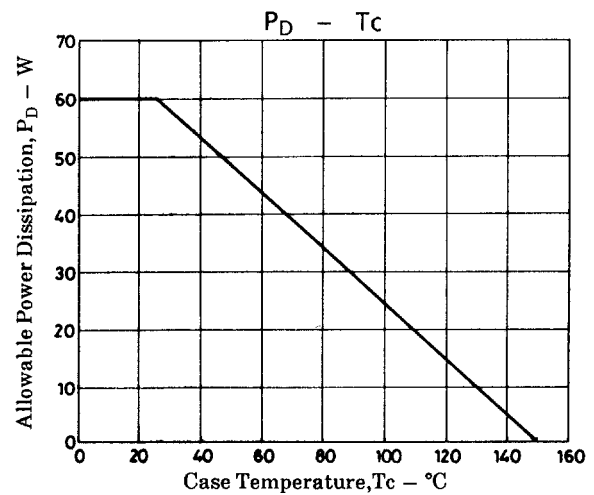
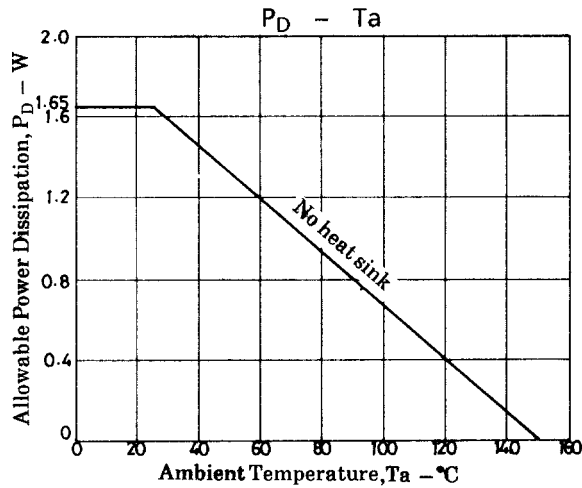
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0$	450			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=450V, V_{GS}=0$			1.0	mA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=±30V, V_{DS}=0$			±100	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	2.0		3.0	V
Forward Transfer Admittance	yfs	$V_{DS}=10V, I_D=3A$	2.0	4.0		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	$I_D=3A, V_{GS}=10V$		1.0	1.4	Ω
Input Capacitance	Ciss	$V_{DS}=20V, f=1MHz$		700		pF
Output Capacitance	Coss	$V_{DS}=20V, f=1MHz$		100		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=20V, f=1MHz$		40		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		15		ns
Rise Time	t_r	See specified Test Circuit		30		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		130		ns
Fall Time	t_f	See specified Test Circuit		45		ns
Diode Forward Voltage	V_{SD}	$I_S=3A, V_{GS}=0$			1.8	V

(Note) Be careful in handling the 2SK1691 because it has no protection diode between gate and source.

Switching Time Test Circuit







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