

2SK1691

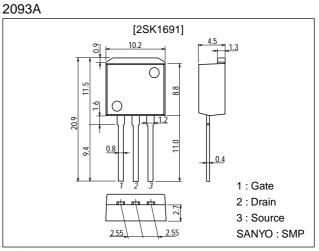
Ultrahigh-Speed Switching Applications

Features

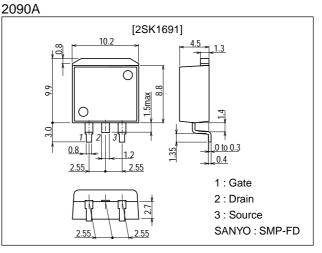
- · Low ON resistance.
- · Ultrahigh-speed switching.

Package Dimensions

unit:mm



unit:mm



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Specifications

Absolute Maximum Ratings at Ta = 25°C

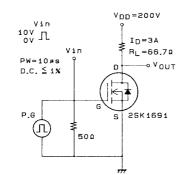
Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		450	V
Gate-to-Source Voltage	VGSS		±30	V
Drain Current (DC)	۱ _D		5	A
Drain Current (pulse)	I _{DP}		20	A
Allowable Power Dissipation	PD		1.65	W
		Tc=25°C	60	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

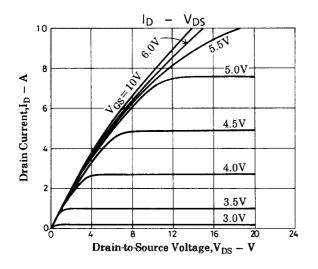
Electrical Characteristics at Ta = 25°C

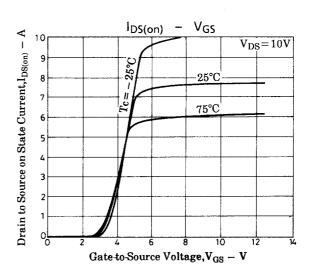
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Unit
Drain-to-Source Breakdown Voltage	V(BR)DSS	I _D =1mA, V _{GS} =0	450			V
Zero-Gate Votlage Drain Current	IDSS	V _{DS} =450V, V _{GS} =0			1.0	mA
Gate-to-Source Leakage Current	IGSS	V _{GS} =±30V, V _{DS} =0			±100	nA
Cutoff Voltage	VGS(off)	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	tr	See specified Test Circuit		30		ns
Turn-OFF Delay Time	td(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

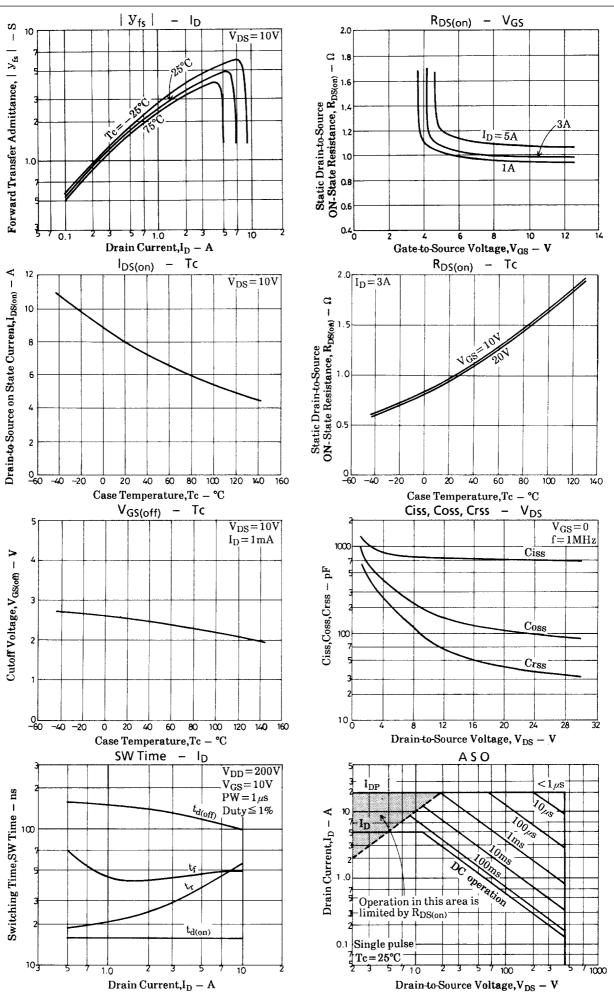
(Note) Be careful in handling the 2SK1691 because it has no protection diode between gate and source.

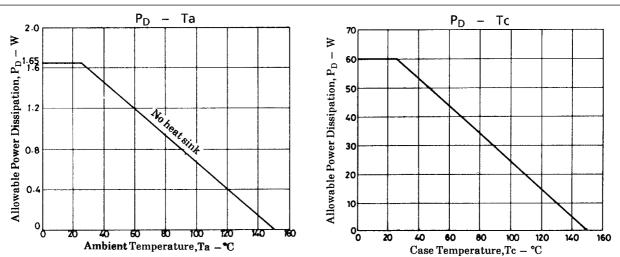
Switching Time Test Circuit











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