



SANYO Semiconductors

DATA SHEET

2SK1691

N-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

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

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	V _{GSS}		±30	V
Drain Current (DC)	I _D		5	A
Drain Current (Pulse)	I _{DP}		20	A
Allowable Power Dissipation	P _D		1.65	W
		T _c =25°C	60	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-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} =0V	450			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =450V, V _{GS} =0V			1.0	mA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±30V, V _{DS} =0V			±100	nA
Cutoff Voltage	V _{GS(off)}	V _{DS} =10V, I _D =1mA	2.0		3.0	V
Forward Transfer Admittance	y _{fs}	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	C _{iss}	V _{DS} =20V, f=1MHz		700		pF
Output Capacitance	C _{oss}	V _{DS} =20V, f=1MHz		100		pF
Reverse Transfer Capacitance	C _{rss}	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 =5A, V _{GS} =0V			1.8	V

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

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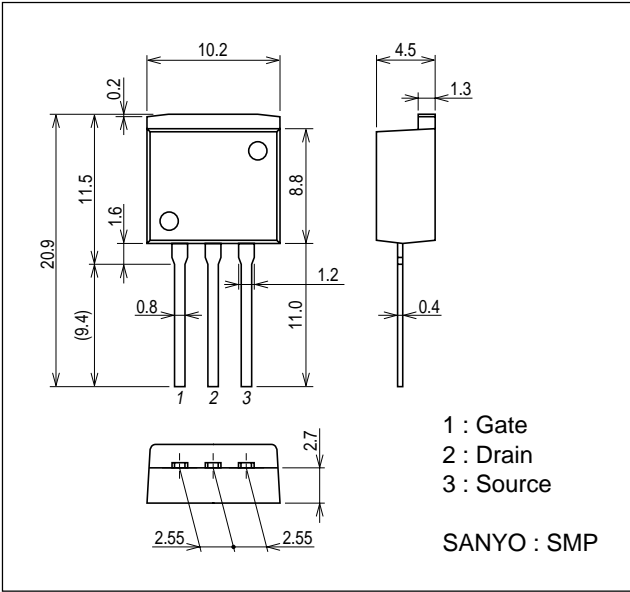
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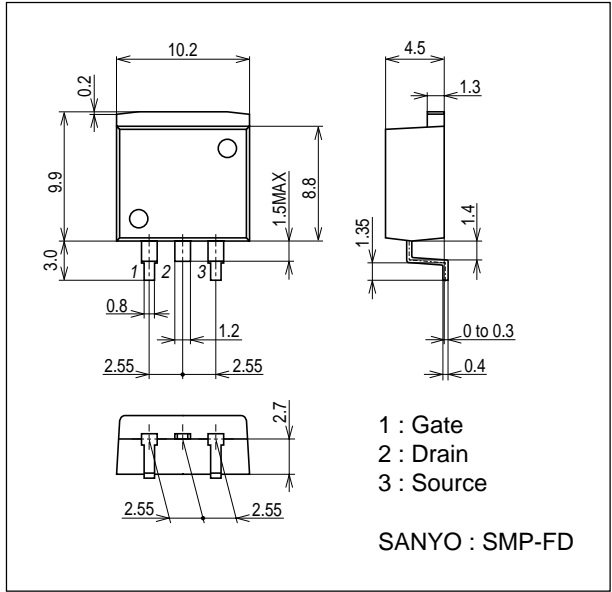
Package Dimensions

unit : mm (typ)
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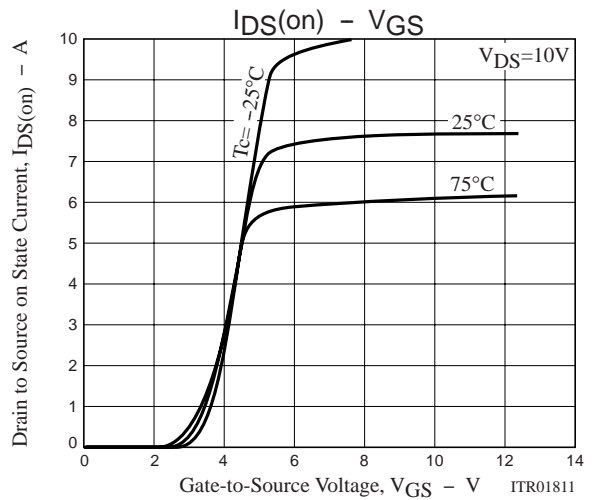
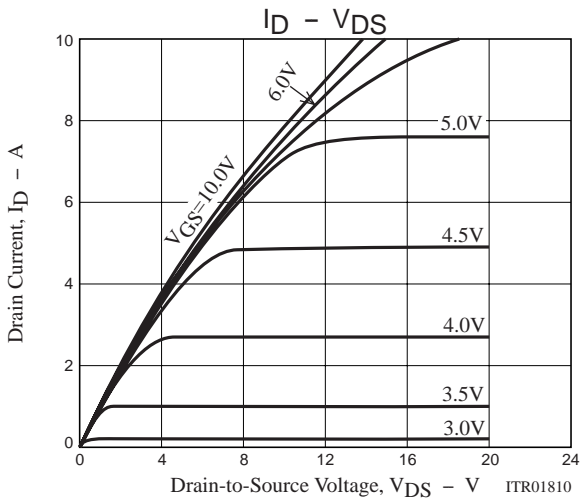
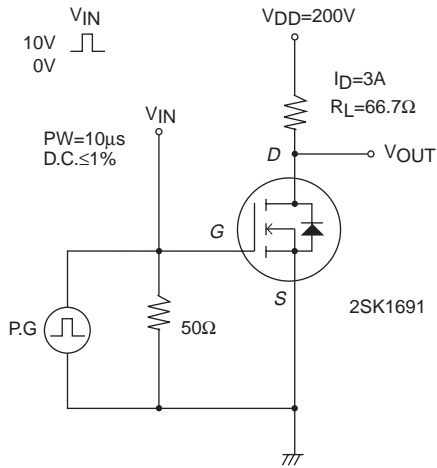


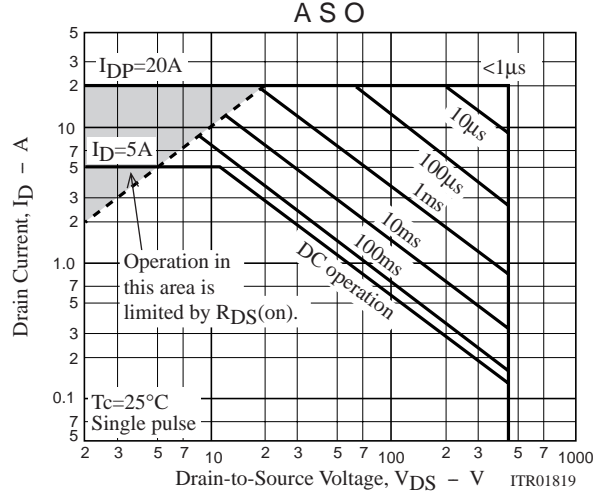
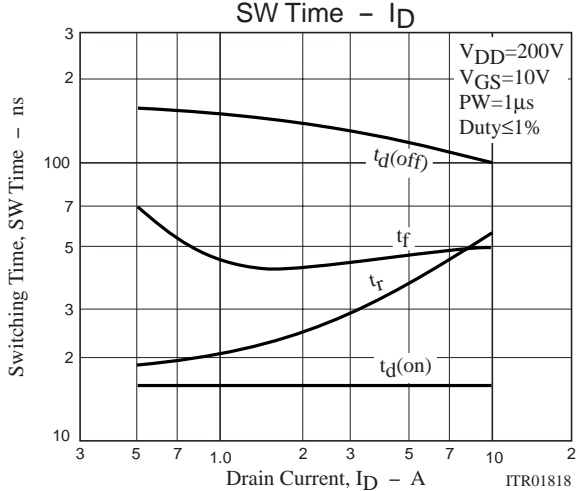
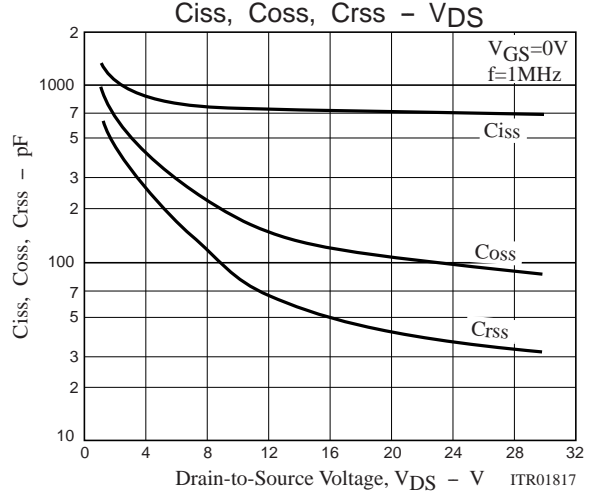
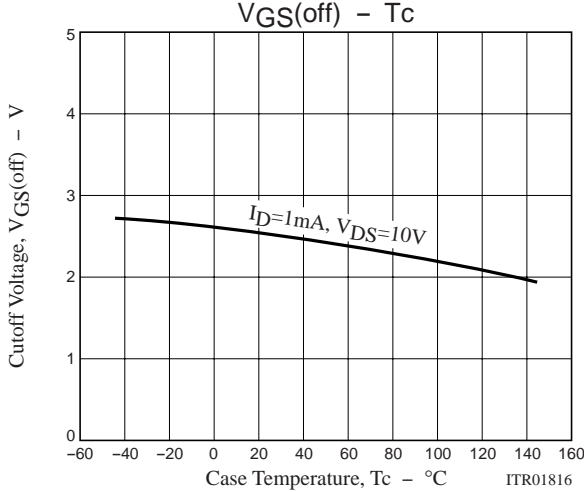
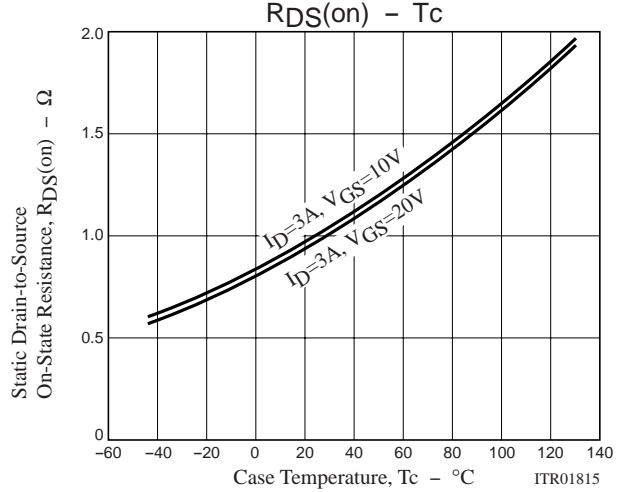
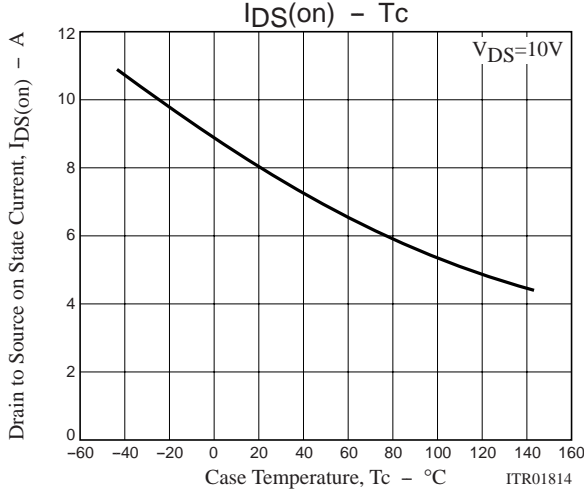
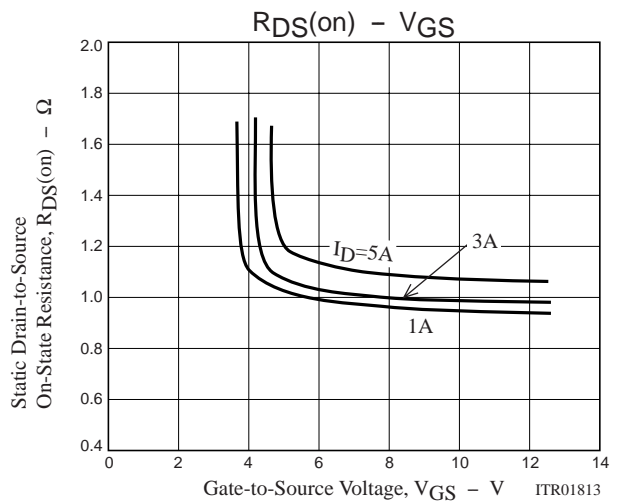
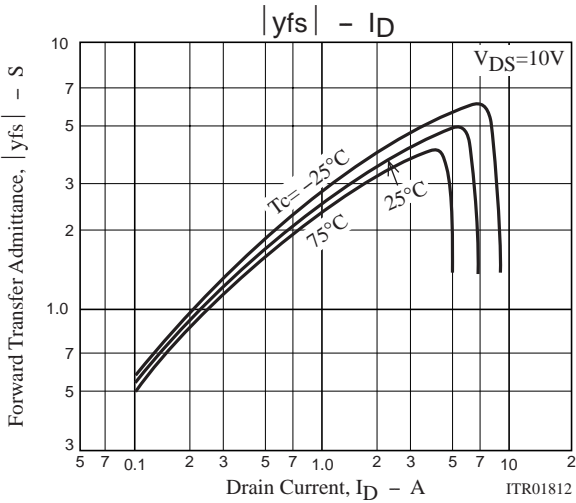
Package Dimensions

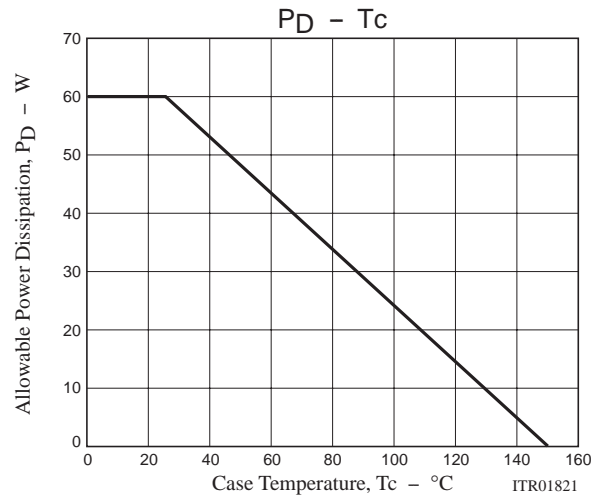
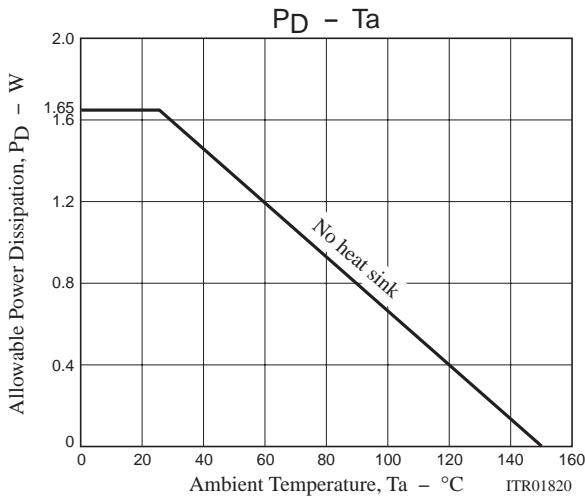
unit : mm (typ)
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Switching Time Test Circuit







Note on usage : Since the 2SK1691 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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