



Ultrahigh-Speed Switching Applications

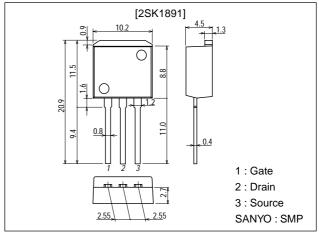
Features

- · Low ON resistance.
- · Ultrahigh-speed switching.
- · Low-voltage drive.
- · Surface mount type device making the following possible.
- · Reduction in the number of manufacturing processes for 2SK1891-applied equipment.
- · High density surface mount applications.
- · Small size of 2SK1891-applied equipment.

Package Dimensions

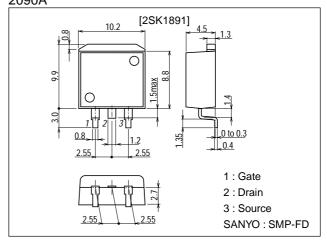
unit:mm

2093A



unit:mm

2090A



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Specifications

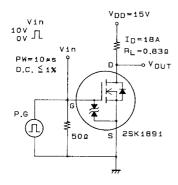
Absolute Maximum Ratings at Ta = 25°C

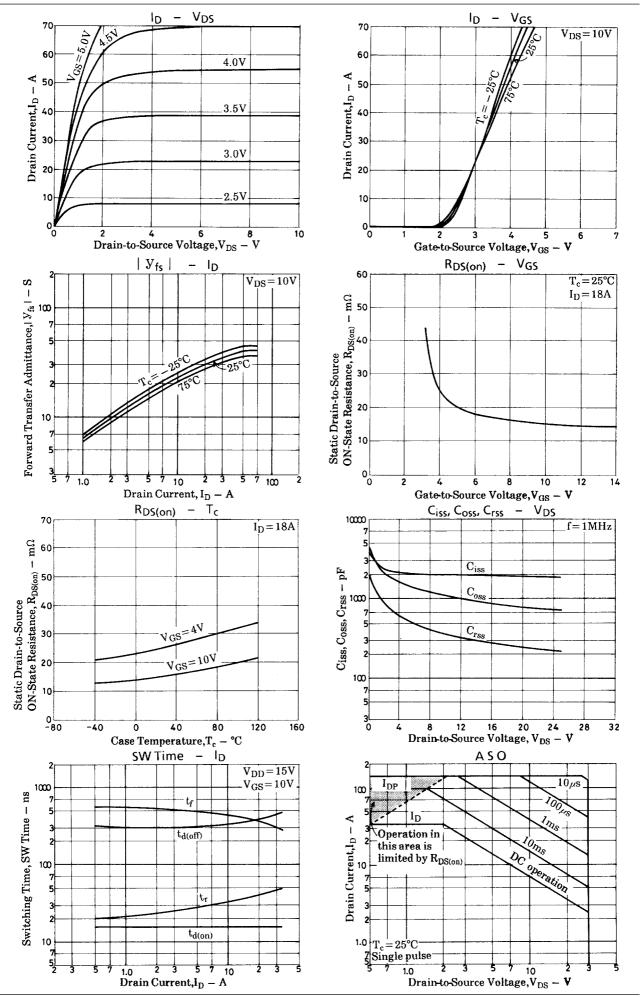
Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		30	V
Gate-to-Source Voltage	V _{GSS}		±15	V
Drain Current (DC)	ID		35	Α
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	140	Α
Allowable Power Dissipation	D_		1.65	W
	P _D	Tc=25°C	70	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

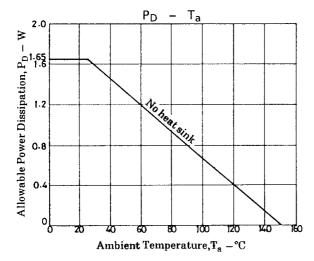
Electrical Characteristics at Ta = 25°C

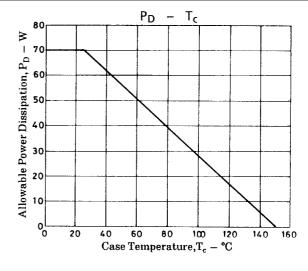
Dozometez	Symbol	Conditions		Ratings		
Parameter			min	typ	max	Unit
Drain-to-Source Breakdown Voltage	V _{(BR)DSS}	I _D =1mA, V _{GS} =0	30			V
Gate-to-Source Breakdown Voltage	V(BR)GSS	I _G =±100μA, V _{DS} =0	±15			V
Zero-Gate Voltage Drain Current	IDSS	V _{DS} =30V, V _{GS} =0			100	μΑ
Gate-to-Source Leakage Current	IGSS	V _{GS} =±12V, V _{DS} =0			±10	μΑ
Cutoff Voltage	V _{GS(off)}	V _{DS} =10V, I _D =1mA	1.0		2.0	V
Forward Transfer Admittance	yfs	V _{DS} =10V, I _D =18A	17.5	29		S
Static Drain-to-Source ON-State Resistance	R _{DS(on)}	I _D =18A, V _{GS} =10V		15	25	mΩ
Static Drain-to-Source ON-State Resistance	R _{DS(on)}	I _D =18A, V _{GS} =4V		25	35	mΩ
Input Capacitance	Ciss	V _{DS} =10V, f=1MHz		2000		pF
Output Capacitance	Coss	V _{DS} =10V, f=1MHz		1100		pF
Reverse Transfer Capacitance	Crss	V _{DS} =10V, f=1MHz		360		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit		15		ns
Rise Time	t _r	See specified Test Circuit		40		ns
Turn-OFF Delay Time	t _d (off)	See specified Test Circuit		380		ns
Fall Time	t _f	See specified Test Circuit		370		ns
Diode Forward Voltage	V _{SD}	I _S =35A, V _{GS} =0		1.0	1.5	V

Switching Time Test Circuit









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