

**2SK3291**

Ultrahigh-Speed Switching Applications

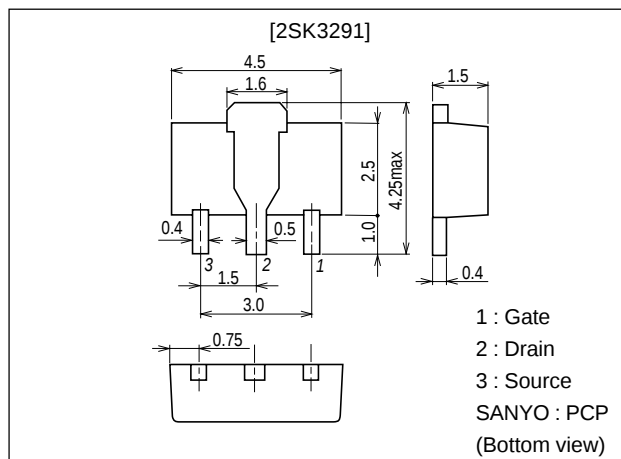
Features

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

Package Dimensions

unit:mm

2062A



Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		60	V
Gate-to-Source Voltage	V_{GS}		±20	V
Drain Current (DC)	I_D		1.6	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	6.4	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (250mm ² ×0.8mm)	1.3	W
		Tc=25°C	3.5	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}	$V_{DS}=60V$, $V_{GS}=0$			10	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 16V$, $V_{DS}=0$			±10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V$, $I_D=1mA$	1.0		2.4	V
Forward Transfer Admittance	yfs	$V_{DS}=10V$, $I_D=0.8A$	1.2	1.7		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=0.8A$, $V_{GS}=10V$		380	500	mΩ
	$R_{DS(on)2}$	$I_D=0.8A$, $V_{GS}=4V$		500	680	mΩ

Marking : KX

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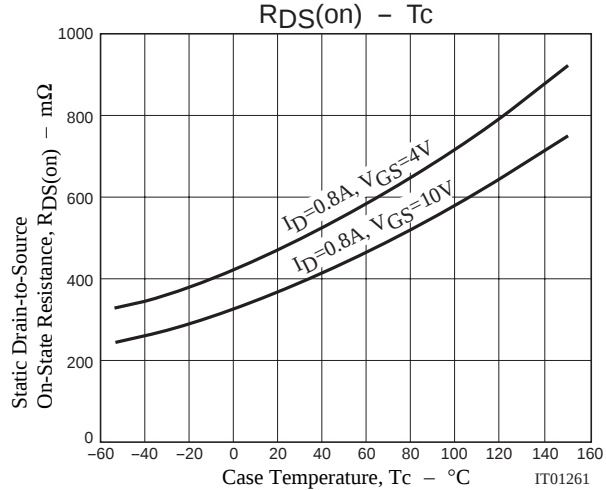
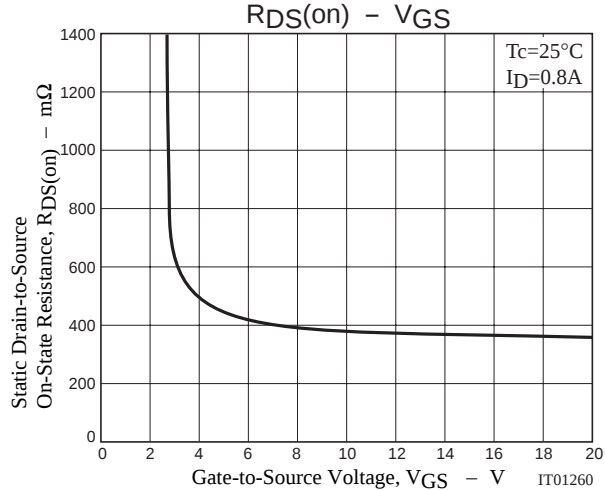
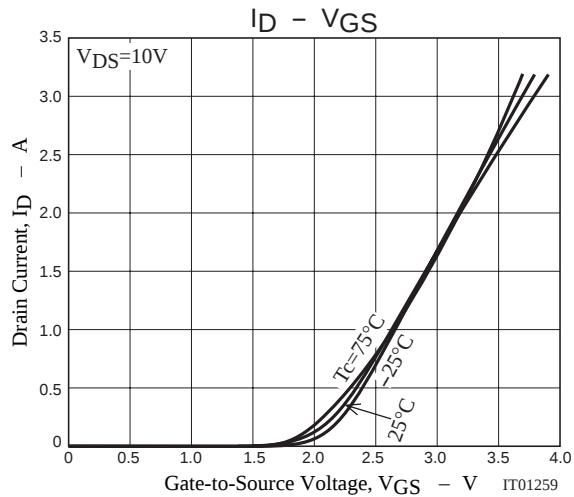
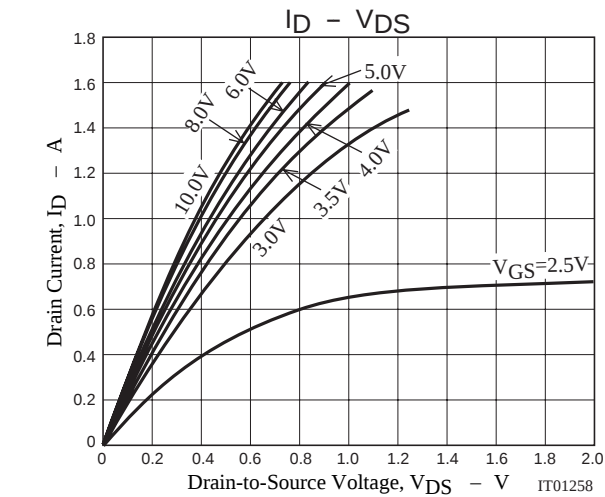
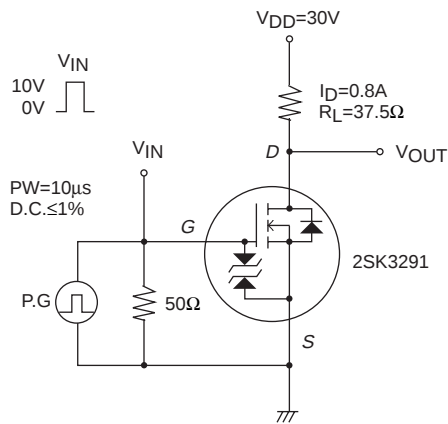
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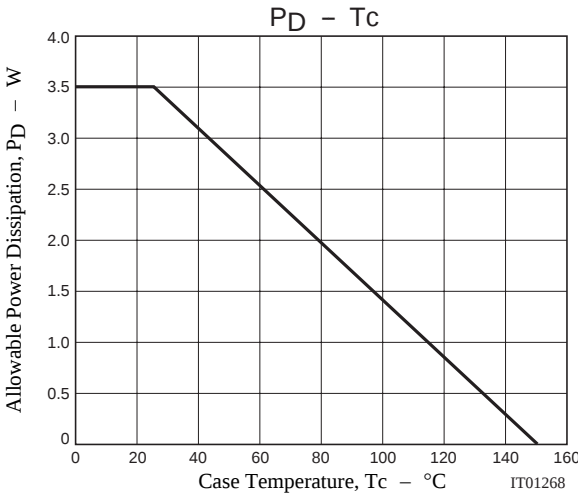
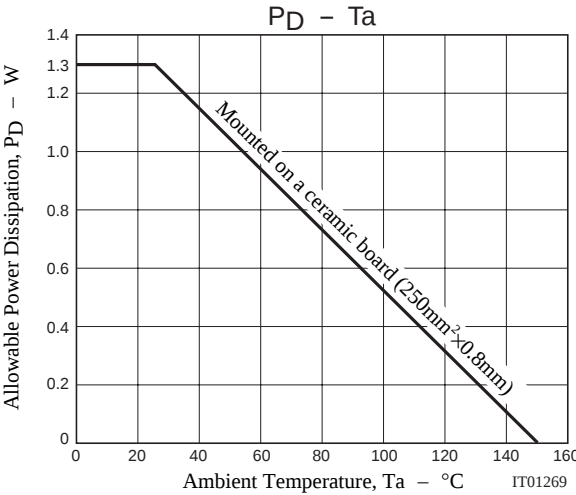
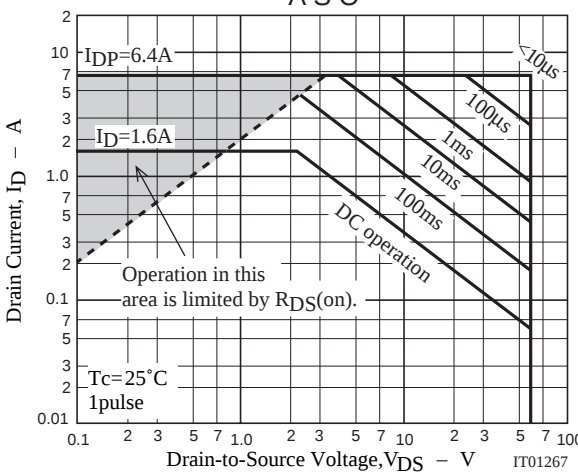
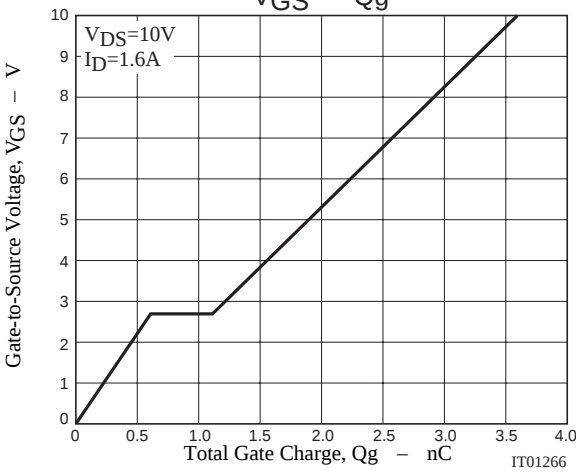
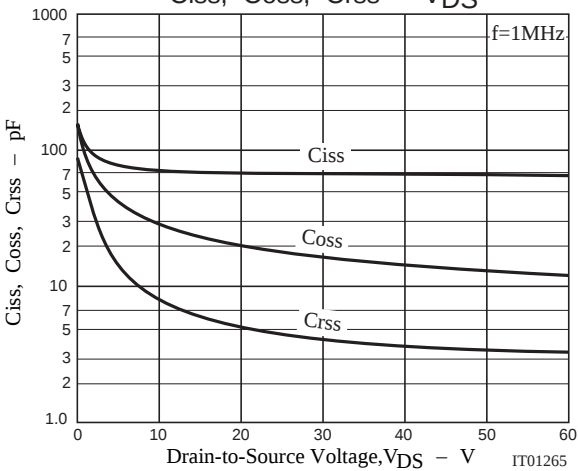
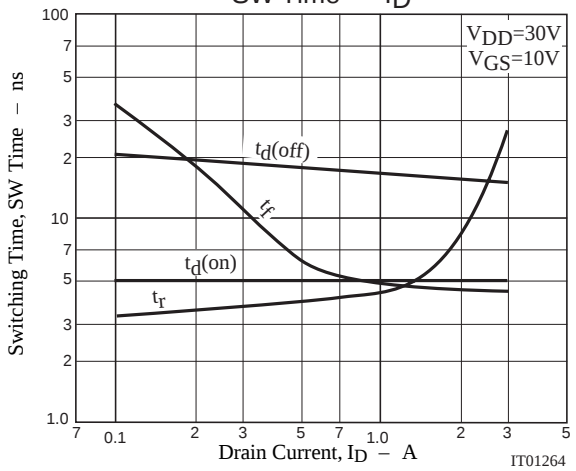
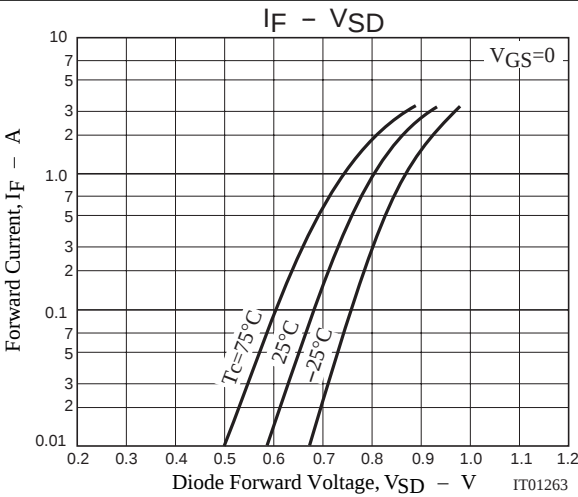
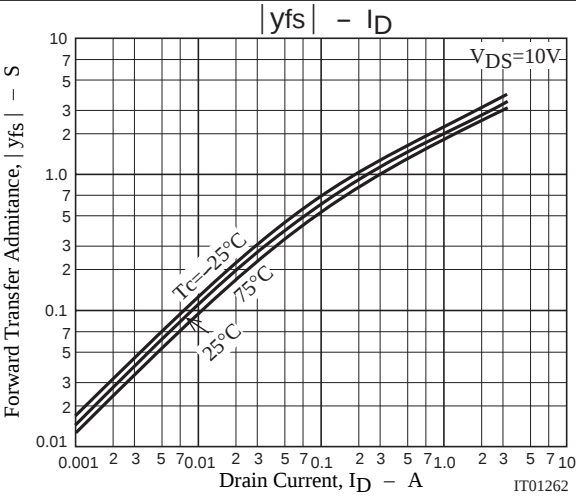
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	$V_{DS}=20V, f=1MHz$		70		pF
Output Capacitance	Coss	$V_{DS}=20V, f=1MHz$		20		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=20V, f=1MHz$		5		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		5		ns
Rise Time	t_r	See specified Test Circuit		4		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		18		ns
Fall Time	t_f	See specified Test Circuit		5		ns
Total Gate Charge	Qg	$V_{DS}=10V, V_{GS}=10V, I_D=1.6A$		3.6		nC
Gate-to-Source Charge	Qgs			0.6		nC
Gate-to-Drain "Miller" Charge	Qgd			0.5		nC
Diode Forward Voltage	V_{SD}	$I_S=1.6A, V_{GS}=0$		0.85	1.2	V

Switching Time Test Circuit



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