

Ordering number : ENN6788

N-Channel Silicon MOSFET



2SK3092

Ultrahigh-Speed Switching Applications

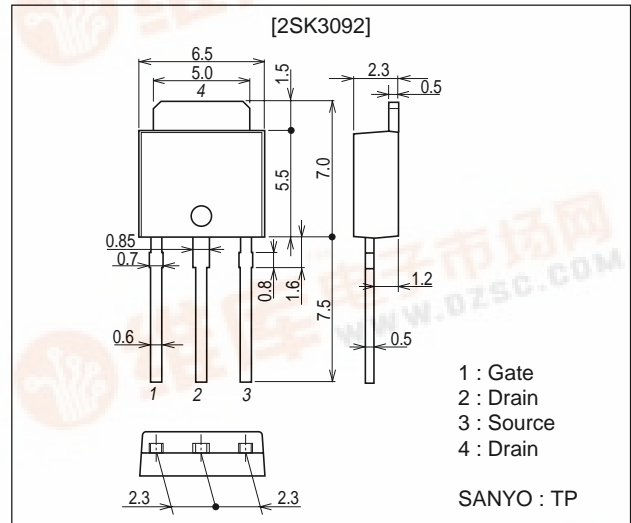
Features

- Low ON-resistance.
- Low Qg.

Package Dimensions

unit : mm

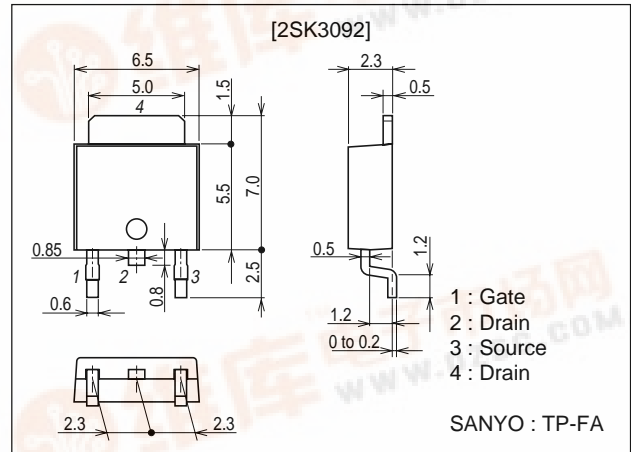
2083B



Package Dimensions

unit : mm

2092B



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Specifications

Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

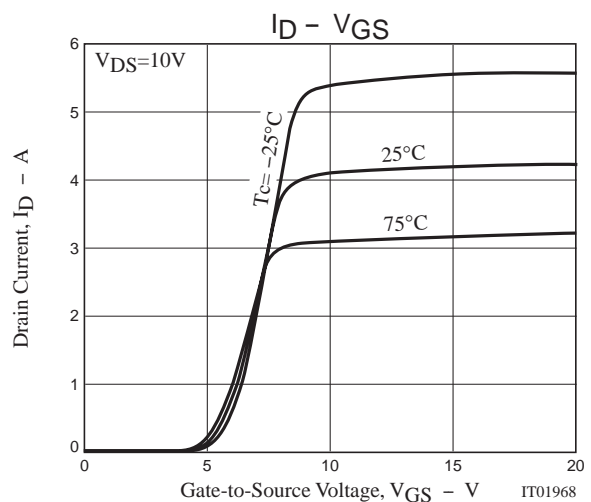
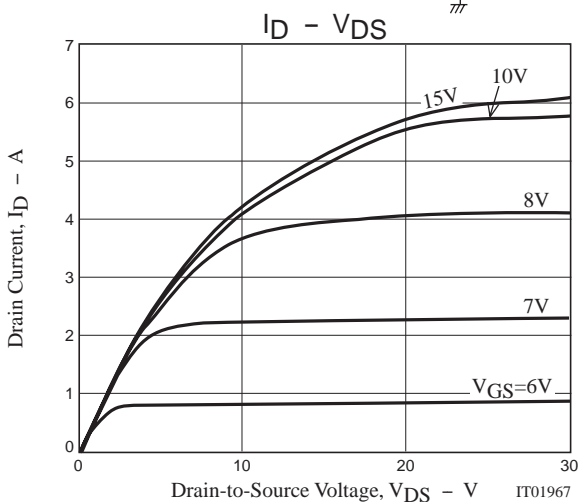
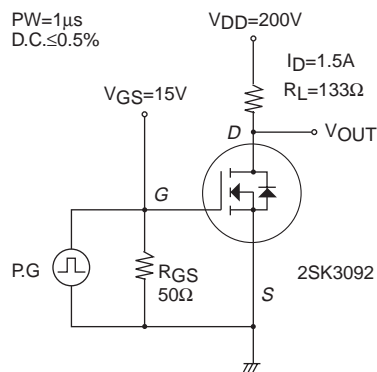
Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		400	V
Gate-to-Source Voltage	V_{GS}		± 30	V
Drain Current (DC)	I_D		3	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	12	A
Allowable Power Dissipation	P_D		1.0	W
		$T_c=25^\circ\text{C}$	30	W
Channel Temperature	T_{ch}		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a=25^\circ\text{C}$

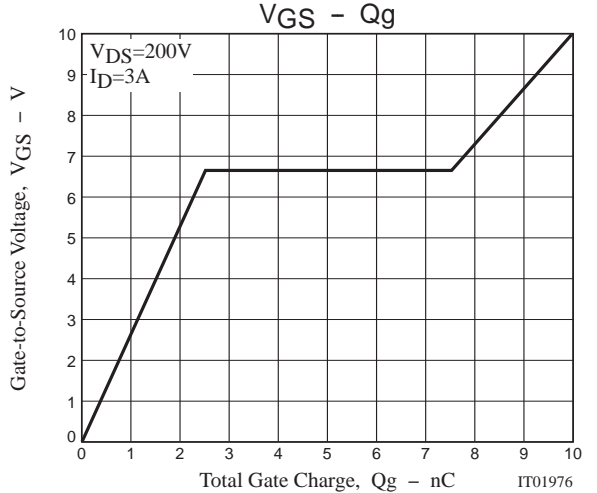
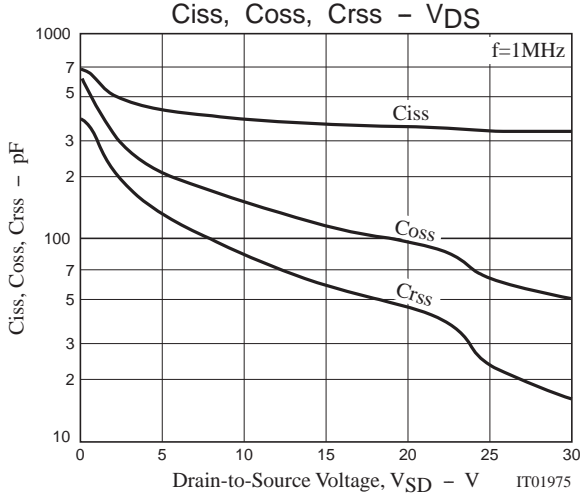
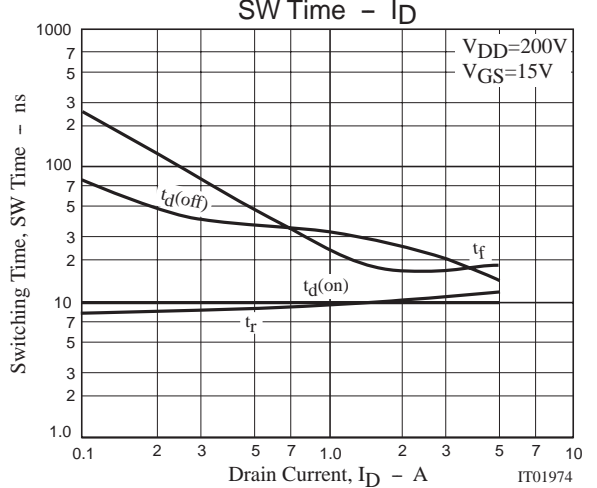
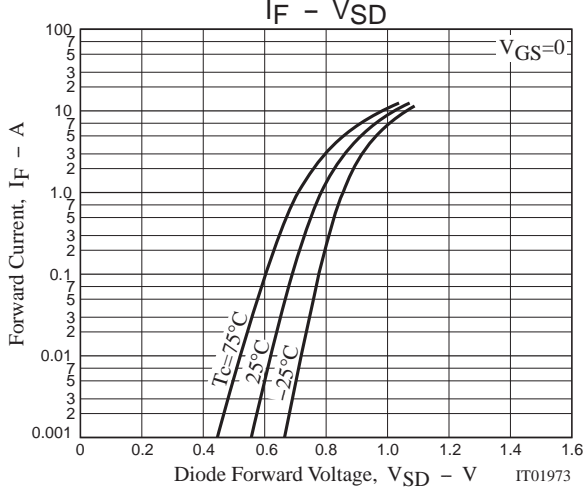
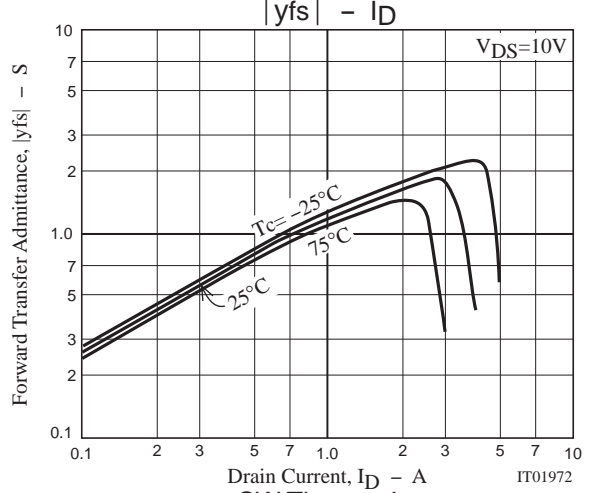
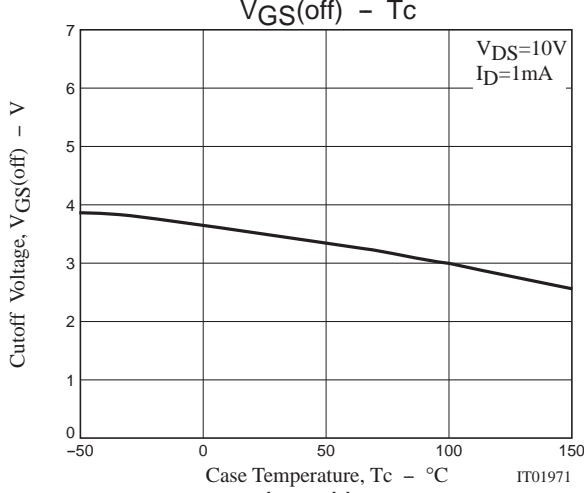
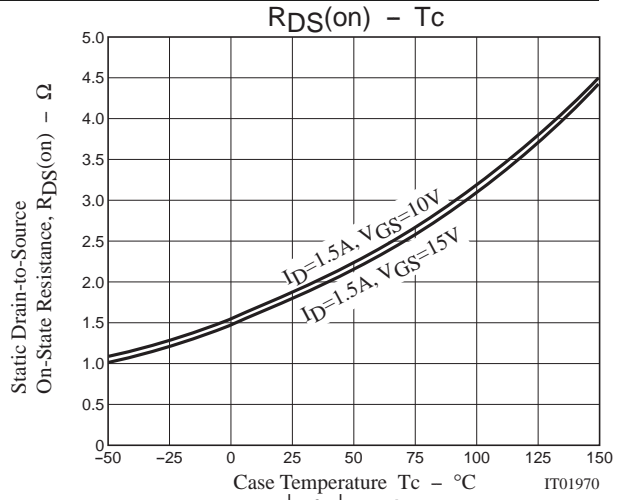
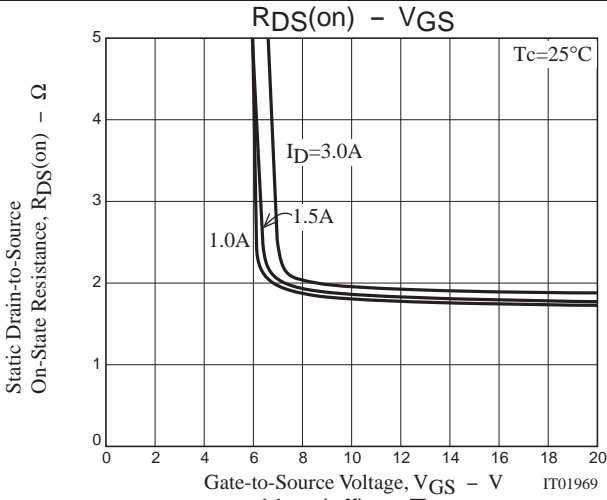
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1\text{mA}$, $V_{GS}=0$	400			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=320\text{V}$, $V_{GS}=0$			1.0	mA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 30\text{V}$, $V_{DS}=0$			± 100	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10\text{V}$, $I_D=1\text{mA}$	3.0		4.0	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10\text{V}$, $I_D=1.5\text{A}$	0.7	1.4		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	$I_D=1.5\text{A}$, $V_{GS}=15\text{V}$		1.8	2.3	Ω
Input Capacitance	C_{iss}	$V_{DS}=20\text{V}$, $f=1\text{MHz}$		360		pF
Output Capacitance	C_{oss}	$V_{DS}=20\text{V}$, $f=1\text{MHz}$		90		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=20\text{V}$, $f=1\text{MHz}$		45		pF
Total Gate Charge	Q_g	$V_{DS}=200\text{V}$, $V_{GS}=10\text{V}$, $I_D=3\text{A}$		10		nC
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		10		ns
Rise Time	t_r	See specified Test Circuit		10		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		28		ns
Fall Time	t_f	See specified Test Circuit		17		ns
Diode Forward Voltage	V_{SD}	$I_S=3\text{A}$, $V_{GS}=0$		0.85	1.2	V

Marking : K3092

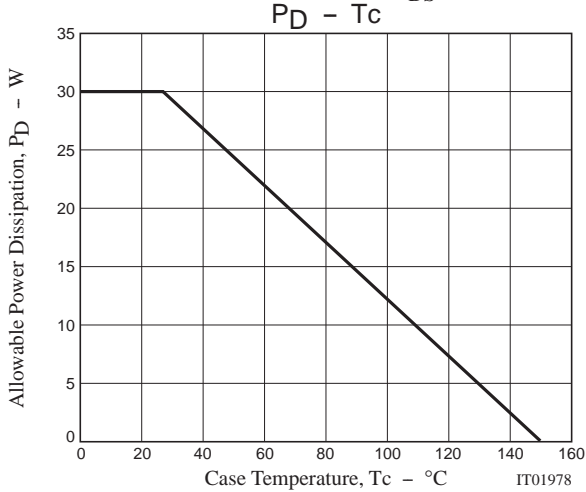
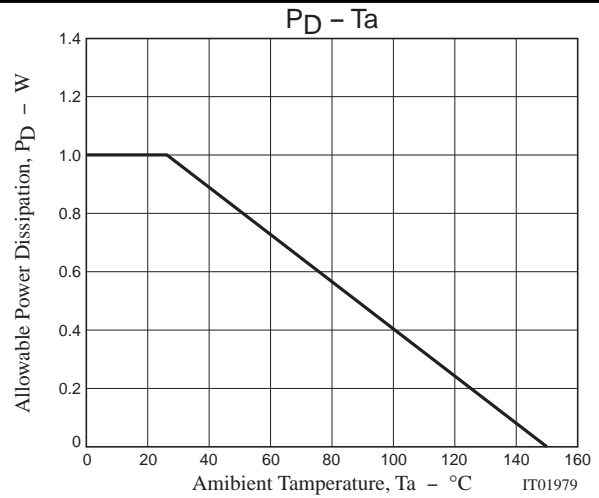
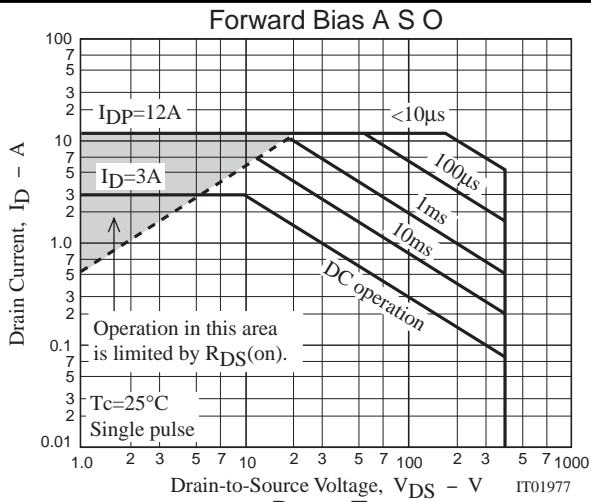
Switching Time Test Circuit



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