

**2SK2530**

Ultrahigh-Speed Switching Applications

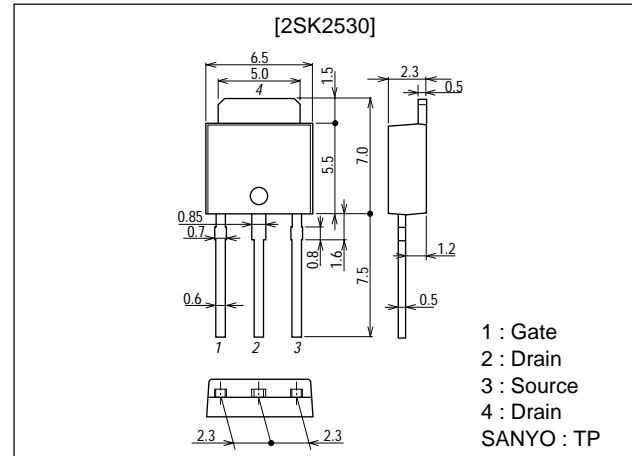
Features

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

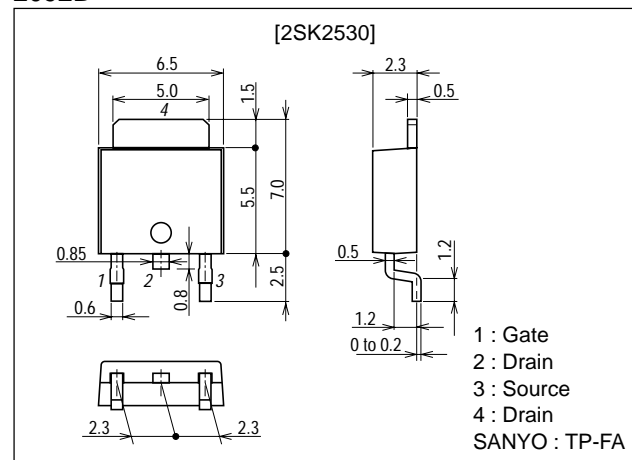
Package Dimensions

unit:mm

2083B



2092B



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Specifications

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

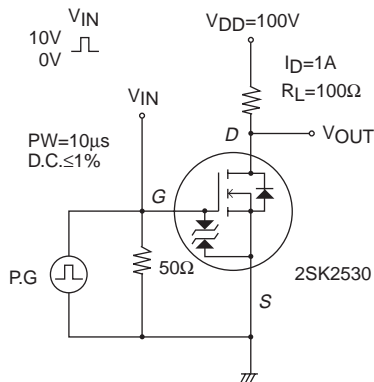
Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		250	V
Gate-to-Source Voltage	V_{GSS}		± 30	V
Drain Current (DC)	I_D		2	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	8	A
Allowable Power Dissipation	P_D		1	W
		$T_c = 25^\circ\text{C}$	20	W
Channel Temperature	T_{ch}		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

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

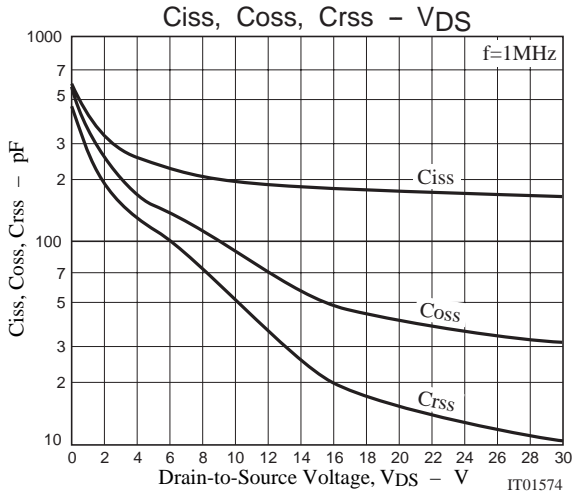
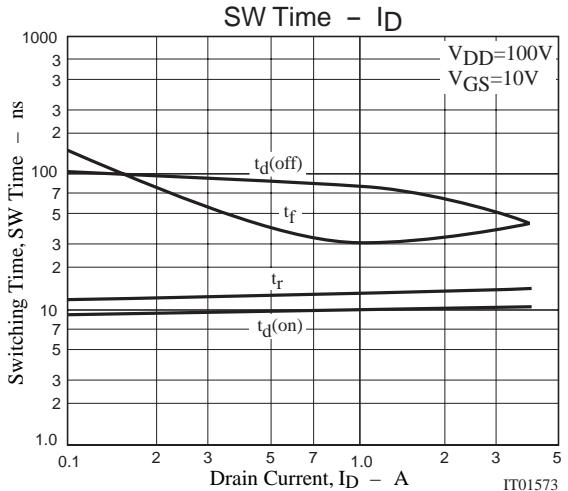
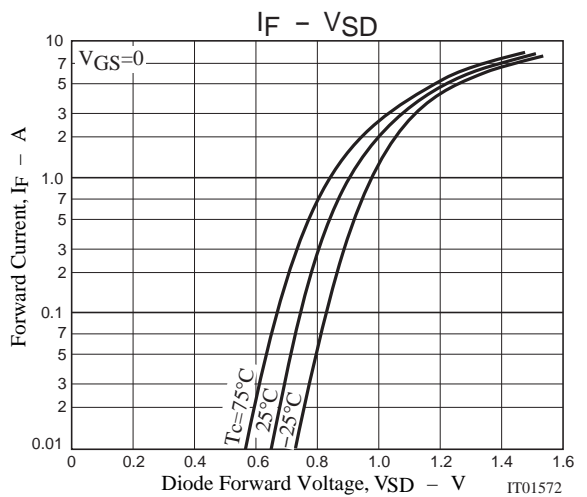
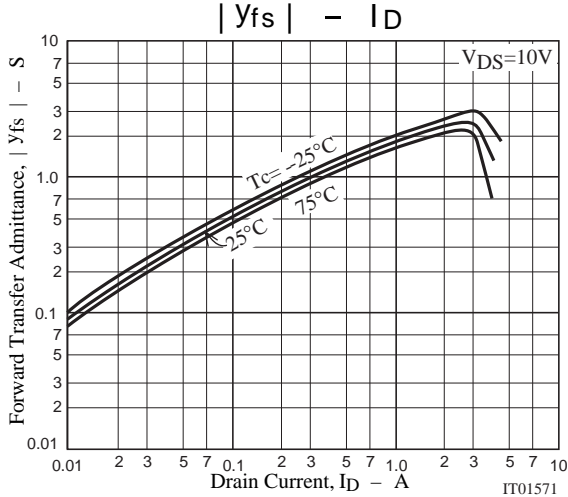
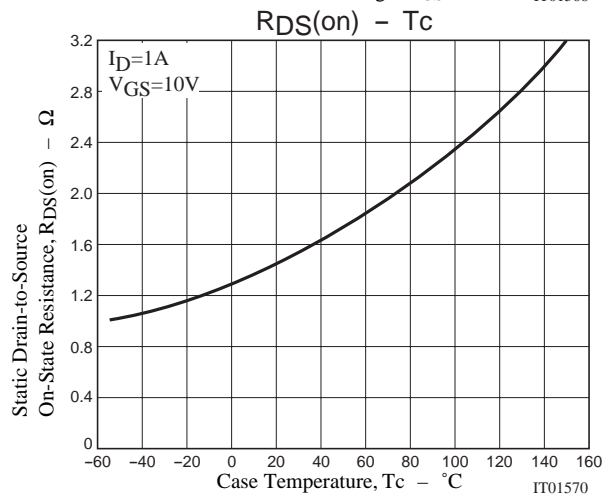
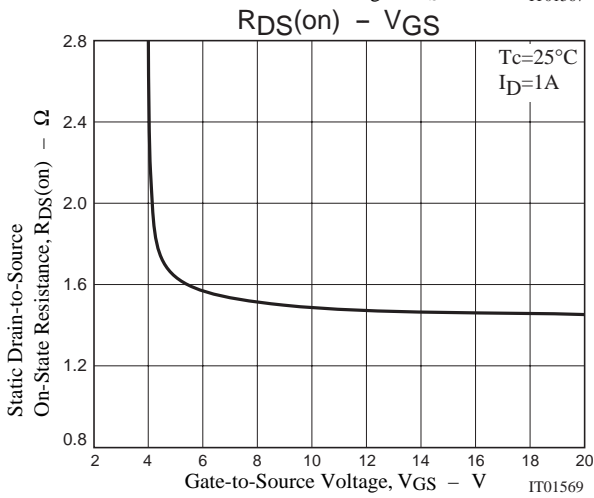
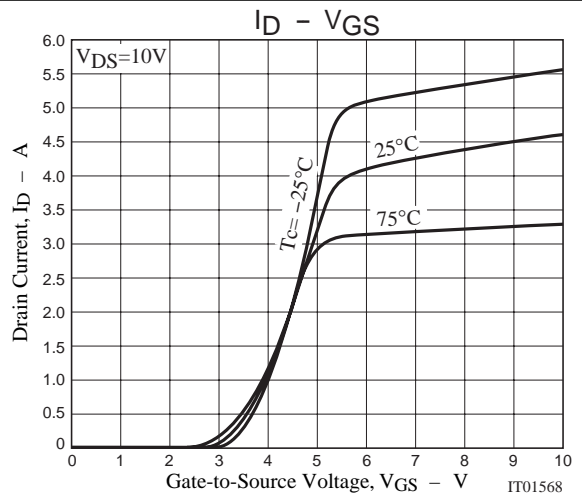
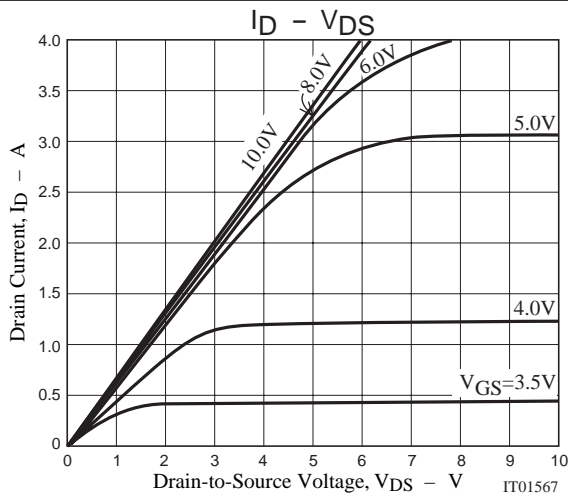
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 1\text{mA}$, $V_{GS} = 0$	250			V
Gate-to-Source Breakdown Voltage	$V_{(BR)GSS}$	$I_G = \pm 100\mu\text{A}$, $V_{DS} = 0$	± 30			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 250\text{V}$, $V_{GS} = 0$			1.0	mA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 25\text{V}$, $V_{DS} = 0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10\text{V}$, $I_D = 1\text{mA}$	2.0		3.0	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 10\text{V}$, $I_D = 1\text{A}$	1.3	1.9		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	$V_{GS} = 10\text{V}$, $I_D = 1\text{A}$		1.5	2.0	Ω
Input Capacitance	C_{iss}	$V_{DS} = 20\text{V}$, $f = 1\text{MHz}$		160		pF
Output Capacitance	C_{oss}	$V_{DS} = 20\text{V}$, $f = 1\text{MHz}$		40		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 20\text{V}$, $f = 1\text{MHz}$		15		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		10		ns
Rise Time	t_r	See specified Test Circuit		13		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		80		ns
Fall Time	t_f	See specified Test Circuit		30		ns
Diode Forward Voltage	V_{SD}	$I_S = 2\text{A}$, $V_{GS} = 0$		1.0	1.5	V
Diode Reverse Recovery Time	t_{rr}	$I_S = 2\text{A}$, $di/dt = 100\mu\text{A}/\mu\text{s}$		90		ns

Marking : K2530

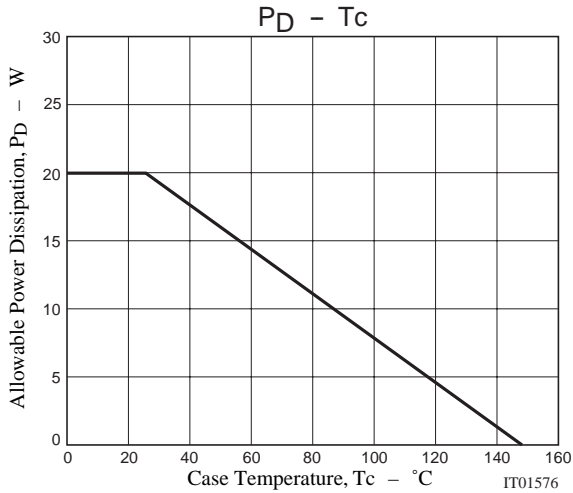
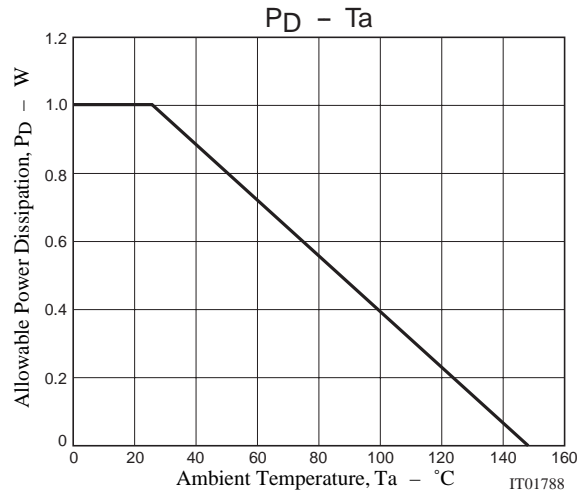
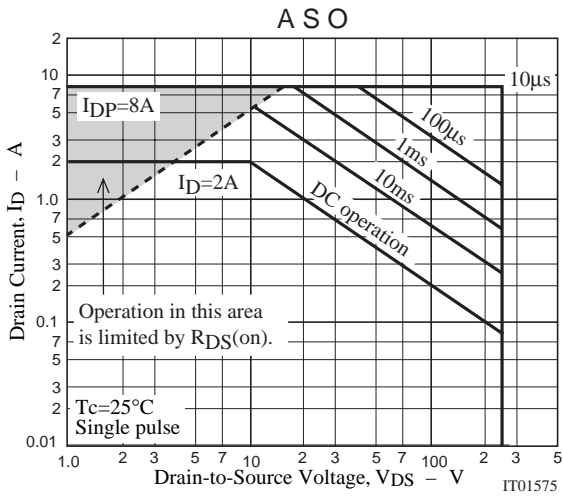
Switching Time Test Circuit



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