

**2SK2530**

## Ultrahigh-Speed Switching Applications

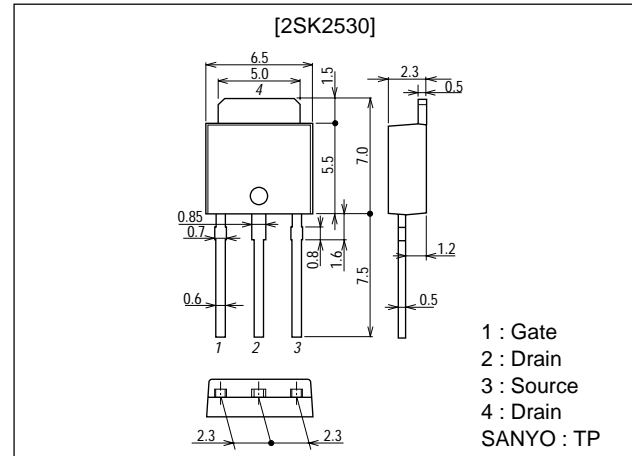
### Features

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

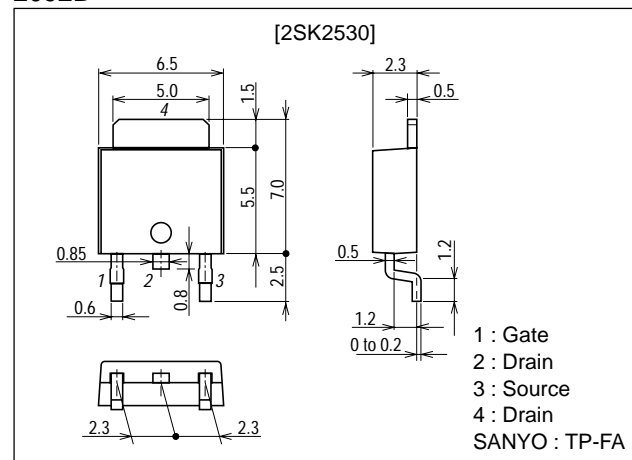
### Package Dimensions

unit:mm

2083B



2092B



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**SANYO Electric Co.,Ltd. Semiconductor Company**

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

# 2SK2530

## Specifications

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

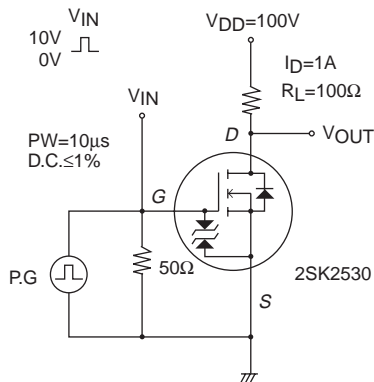
Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		250	V
Gate-to-Source Voltage	$V_{GSS}$		$\pm 30$	V
Drain Current (DC)	$I_D$		2	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10\mu\text{s}$ , duty cycle $\leq 1\%$	8	A
Allowable Power Dissipation	$P_D$		1	W
		$T_c = 25^\circ\text{C}$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

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

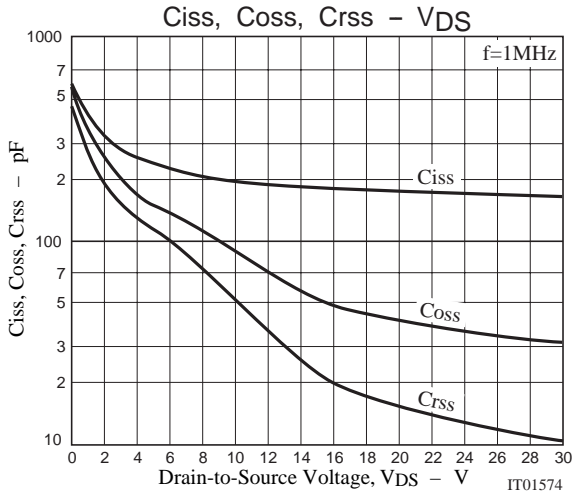
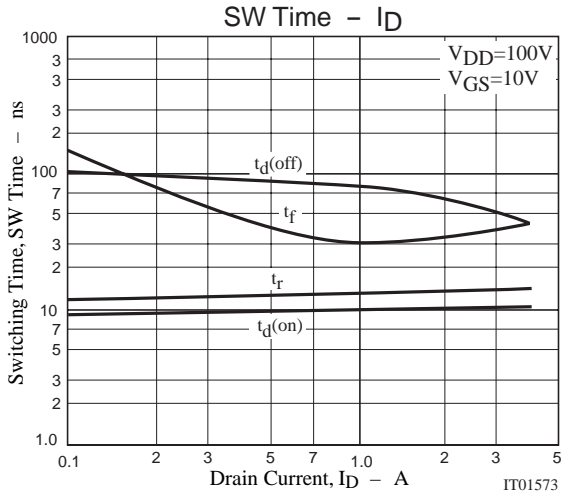
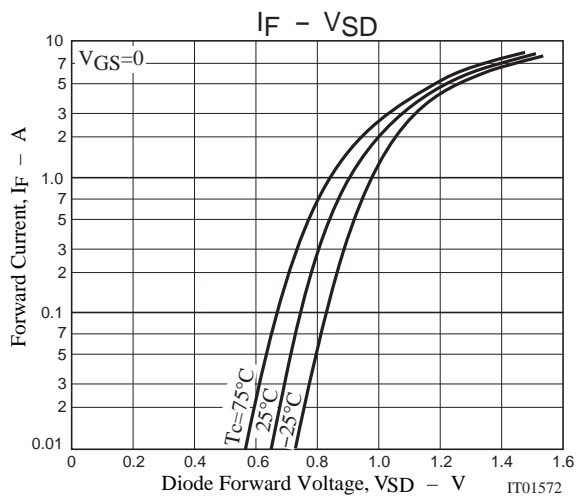
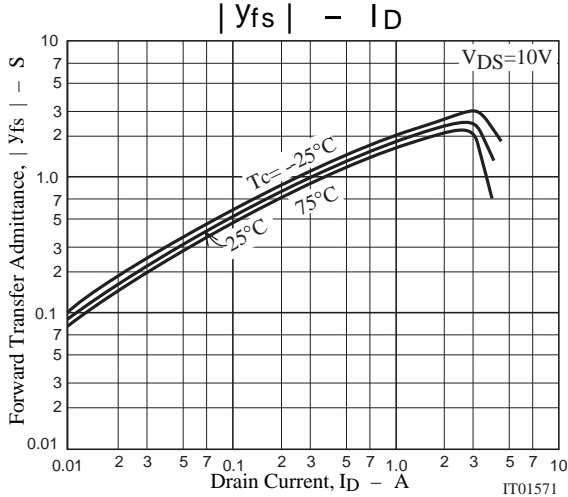
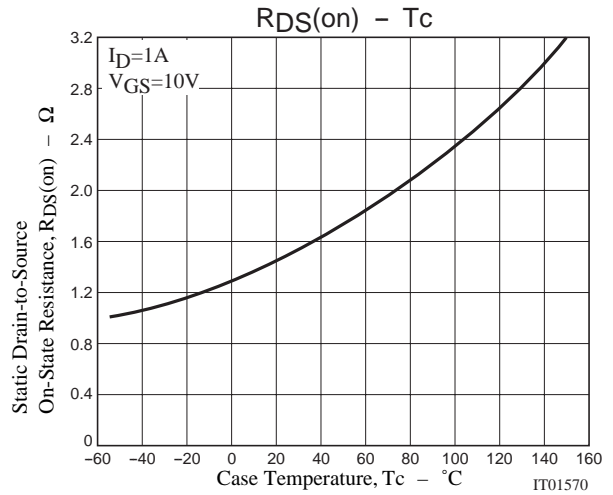
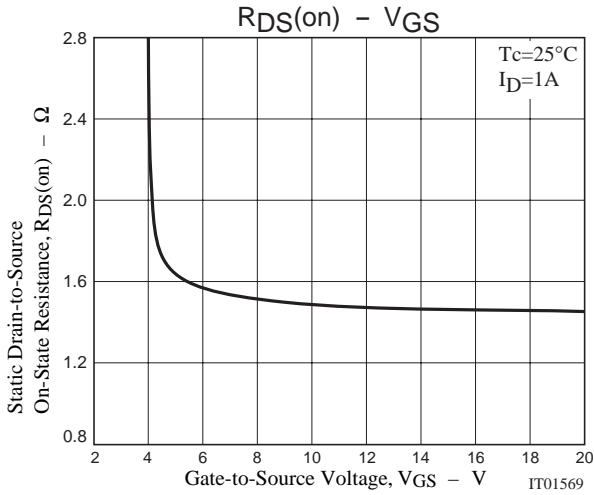
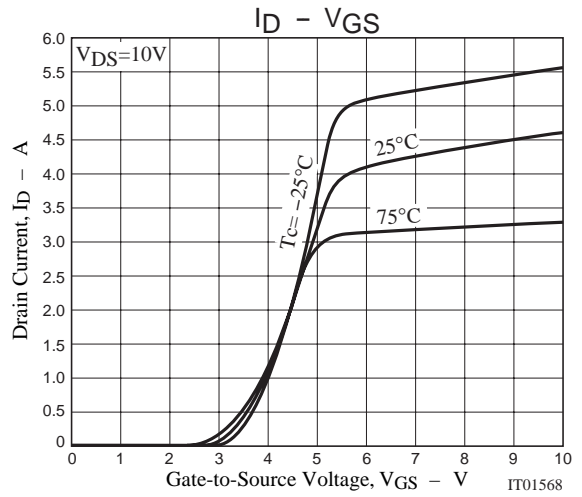
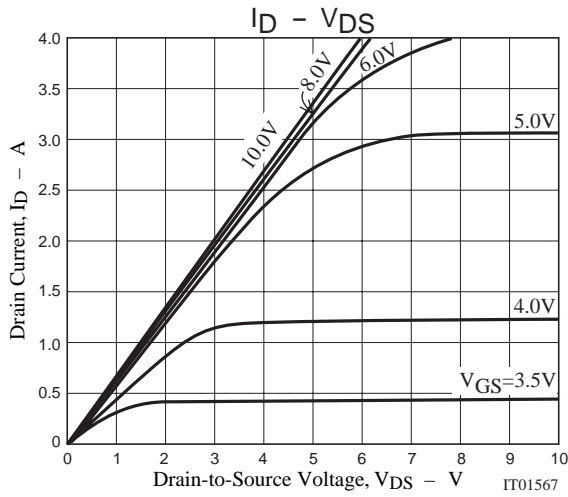
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 1\text{mA}$ , $V_{GS} = 0$	250			V
Gate-to-Source Breakdown Voltage	$V_{(BR)GSS}$	$I_G = \pm 100\mu\text{A}$ , $V_{DS} = 0$	$\pm 30$			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 250\text{V}$ , $V_{GS} = 0$			1.0	mA
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 25\text{V}$ , $V_{DS} = 0$			$\pm 10$	$\mu\text{A}$
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	$\Omega$
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

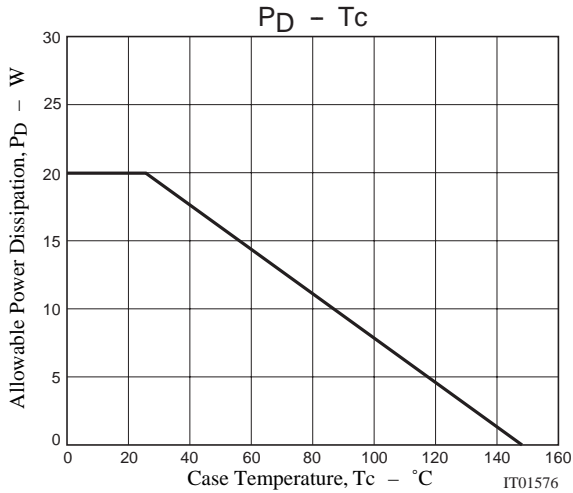
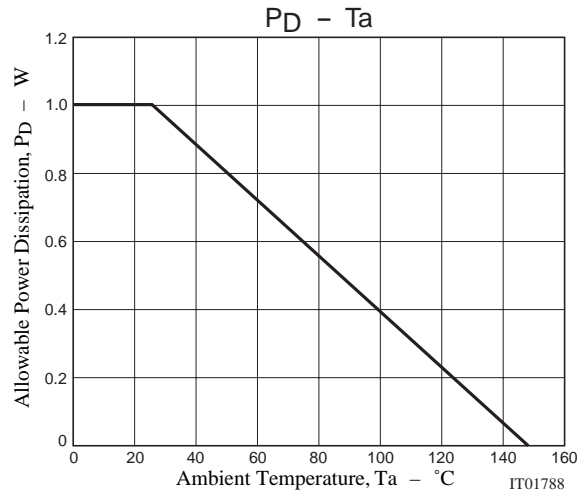
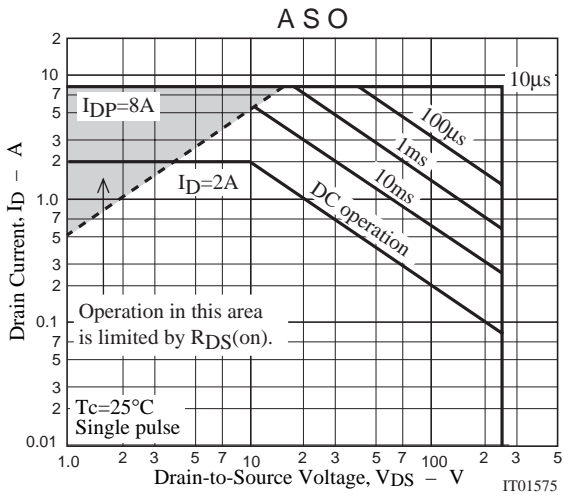
## Switching Time Test Circuit



# 2SK2530



# 2SK2530



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