

**2SK2317**

## Ultrahigh-Speed Switching Applications

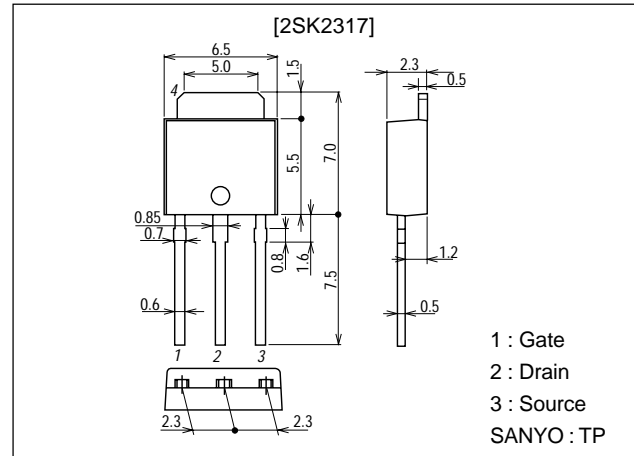
### Features

- Low ON resistance.
- Ultrahigh-speed switching.
- 2.5V drive.

### Package Dimensions

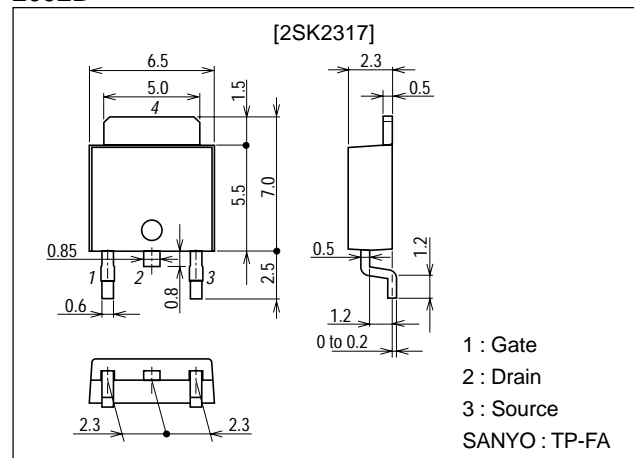
unit:mm

2083B



unit:mm

2092B



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## Specifications

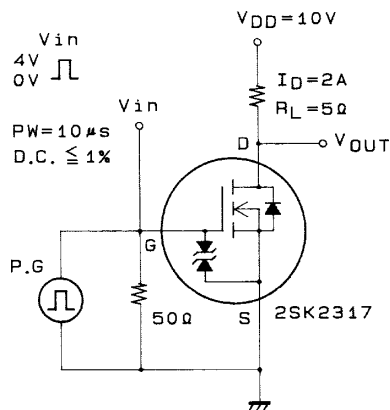
### Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		20	V
Gate-to-Source Voltage	$V_{GSS}$		±10	V
Drain Current (DC)	$I_D$		4	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10\mu s$ , duty cycle $\leq 1\%$	16	A
Allowable Power Dissipation	$P_D$		1	W
		$T_c = 25^\circ C$	20	W
Channel Temperature	$T_{ch}$		150	$^\circ C$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ C$

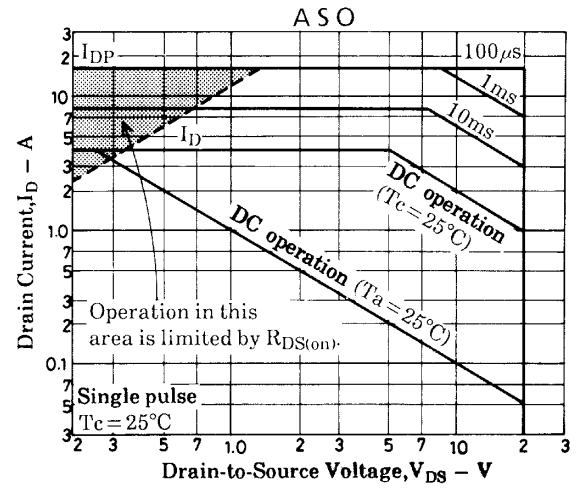
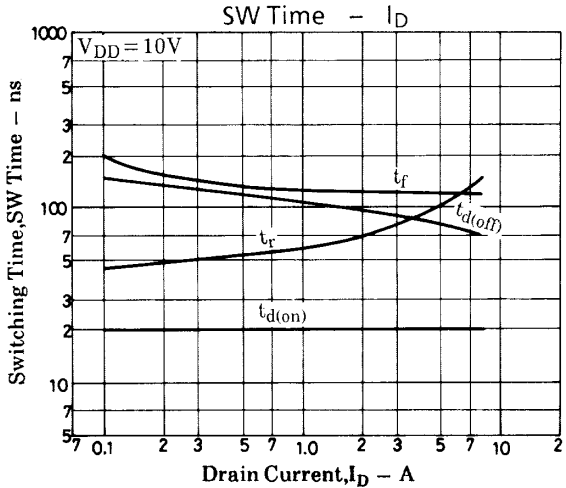
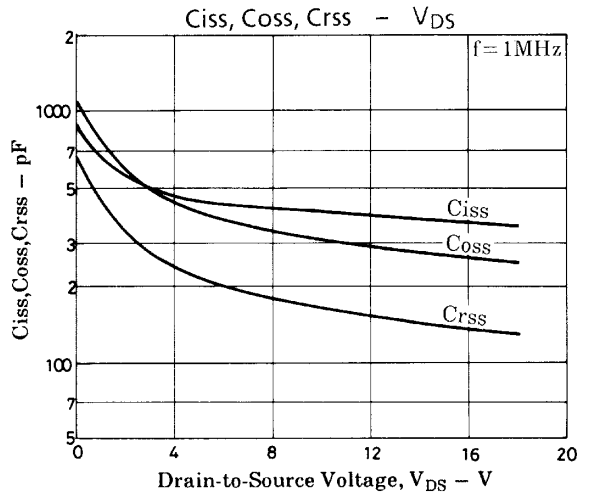
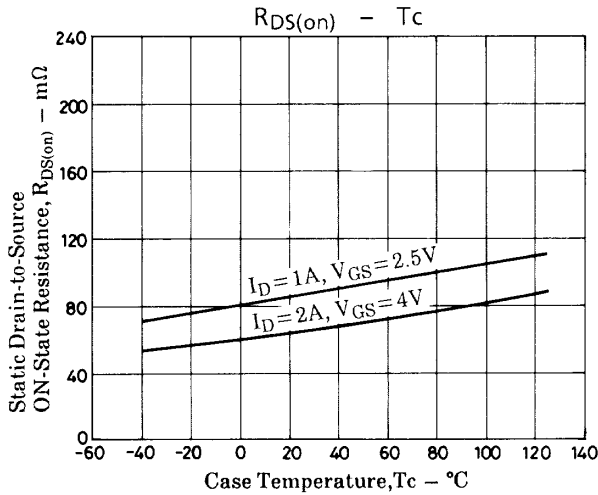
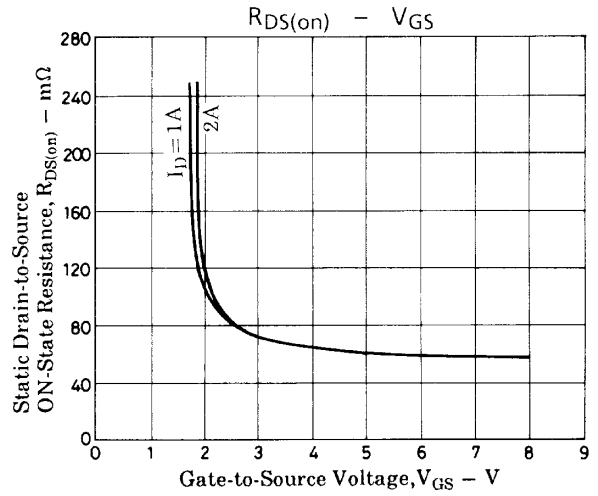
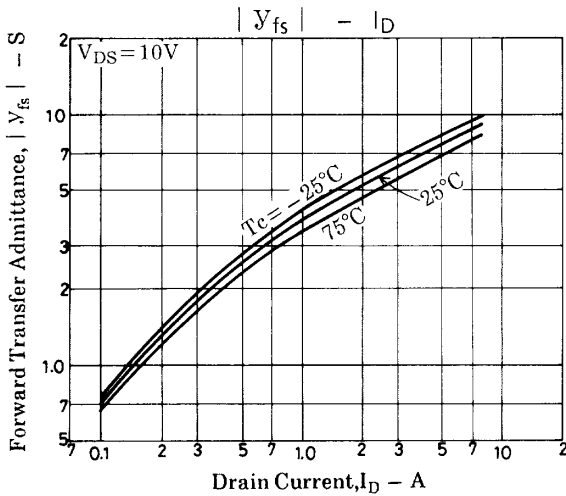
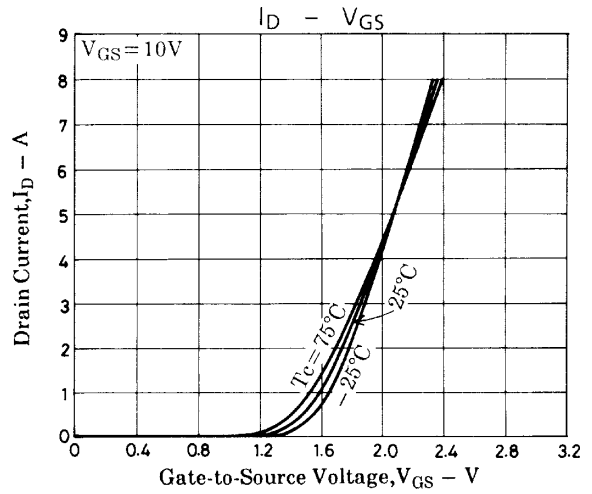
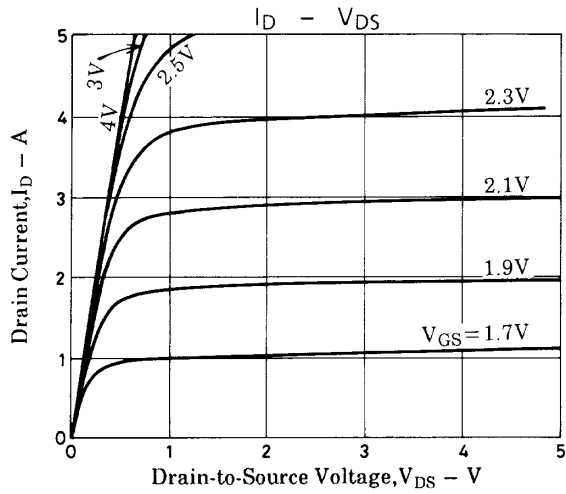
### Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 1mA$ , $V_{GS} = 0$	20			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 16V$ , $V_{GS} = 0$			100	$\mu A$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 8V$ , $V_{DS} = 0$			±10	$\mu A$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10V$ , $I_D = 1mA$	0.5		1.5	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 10V$ , $I_D = 2A$	3.5	5		S
Static Drain-to-Source ON-State Resistance	$R_{DS(on)}$	$I_D = 2A$ , $V_{GS} = 4V$		65	85	$m\Omega$
	$R_{DS(on)}$	$I_D = 1A$ , $V_{GS} = 2.5V$		85	125	$m\Omega$
Input Capacitance	$C_{iss}$	$V_{DS} = 10V$ , $f = 1MHz$		400		pF
Output Capacitance	$C_{oss}$	$V_{DS} = 10V$ , $f = 1MHz$		300		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS} = 10V$ , $f = 1MHz$		160		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		20		ns
Rise Time	$t_r$	See specified Test Circuit		70		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		100		ns
Fall Time	$t_f$	See specified Test Circuit		120		ns
Diode Forward Voltage	$V_{SD}$	$I_S = 4A$ , $V_{GS} = 0$		1.0	1.2	V

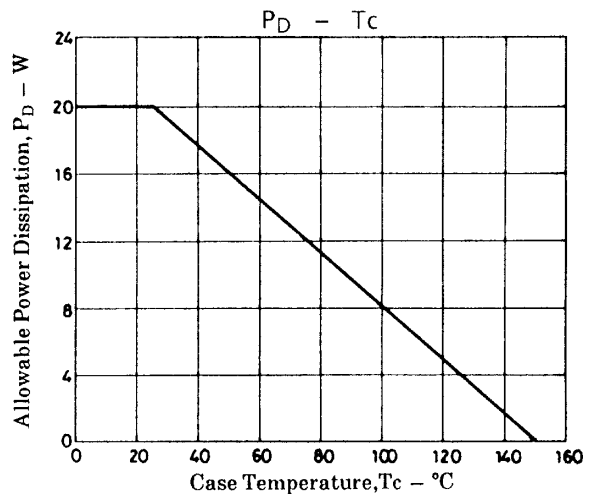
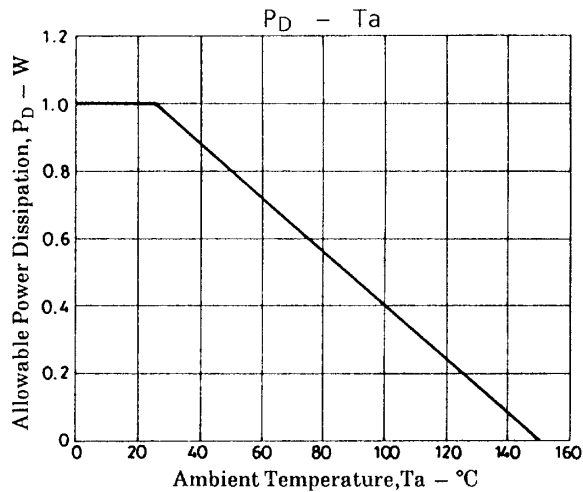
### Switching Time Test Circuit



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