



No.4244A

**2SK1920**

N-Channel MOS Silicon FET

Very High-Speed  
Switching Applications

**Features**

- Low ON resistance.
- Very high-speed switching.
- Low-voltage drive.

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

			unit
Drain-to-Source Voltage	$V_{DSS}$	250	V
Gate-to-Source Voltage	$V_{GSS}$	$\pm 30$	V
Drain Current(DC)	$I_D$	4	A
Drain Current(Pulse)	$I_{DP}$	$PW \leq 10\mu s, \text{duty cycle} \leq 1\%$	16
Allowable Power Dissipation	$P_D$	1.0	W
		$T_c = 25^\circ C$	30
Channel Temperature	$T_{ch}$	150	$^\circ C$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ C$

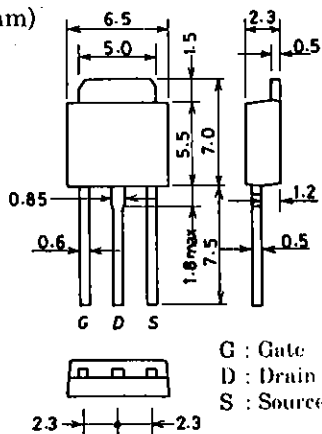
**Electrical Characteristics at Ta = 25°C**

			min	typ	max	unit
D-S Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 1mA, V_{GS} = 0$	250			V
G-S Breakdown Voltage	$V_{(BR)GSS}$	$I_G = \pm 100\mu A, V_{DS} = 0$	$\pm 30$			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 250V, V_{GS} = 0$			100	$\mu A$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 25V, V_{DS} = 0$			$\pm 10$	$\mu A$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10V, I_D = 1mA$	1.5		2.5	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 10V, I_D = 2A$	2.5	4		S
Static Drain to Source on State Resistance	$R_{DS(on)}$	$I_D = 2A, V_{GS} = 10V$	500	700		m $\Omega$
Input Capacitance	$C_{iss}$	$V_{DS} = 20V, f = 1MHz$		420		pF
Output Capacitance	$C_{oss}$	$V_{DS} = 20V, f = 1MHz$		95		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS} = 20V, f = 1MHz$		30		pF

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**Package Dimensions 2083A**

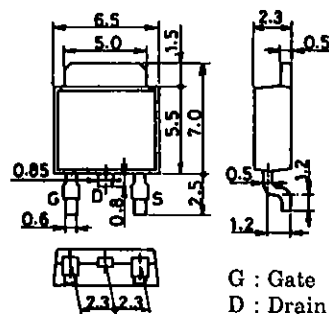
(unit: mm)



SANYO: TP

**Package Dimensions 2092A**

(unit: mm)



SANYO: TP-FA

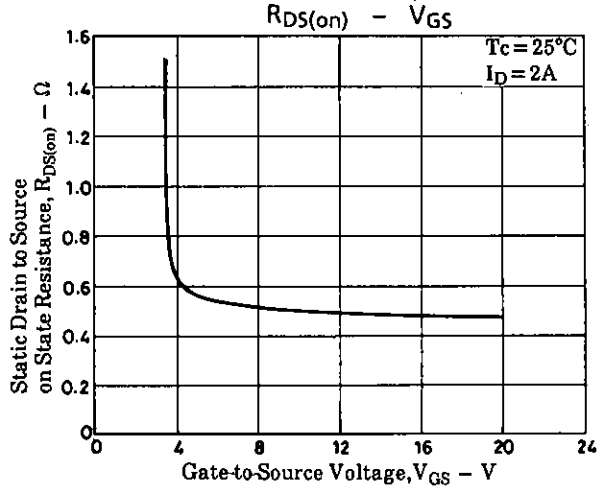
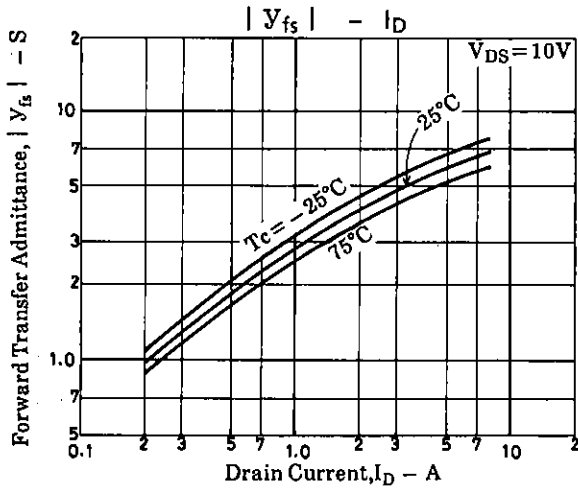
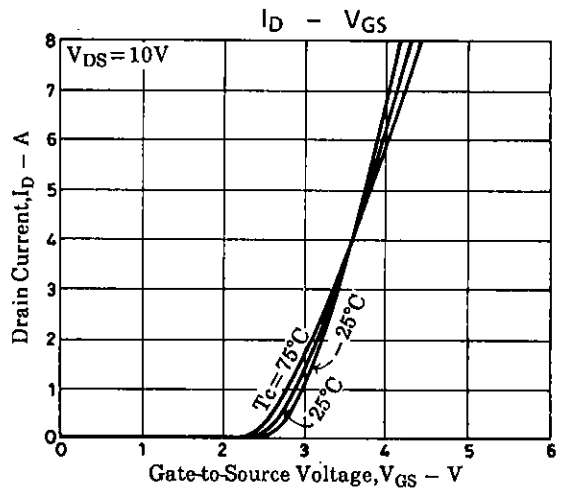
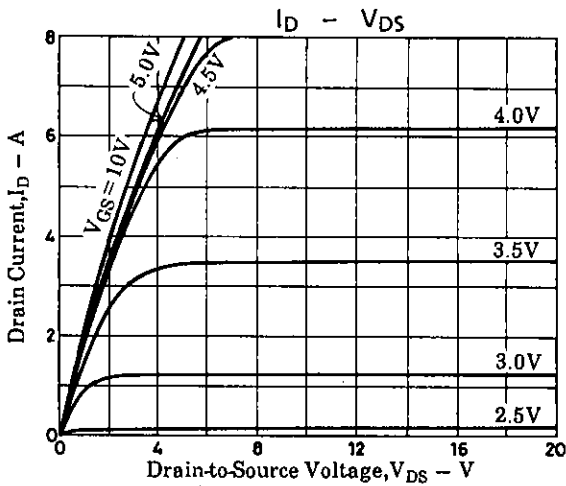
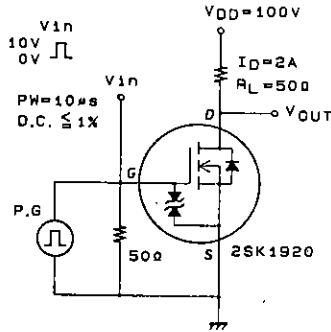
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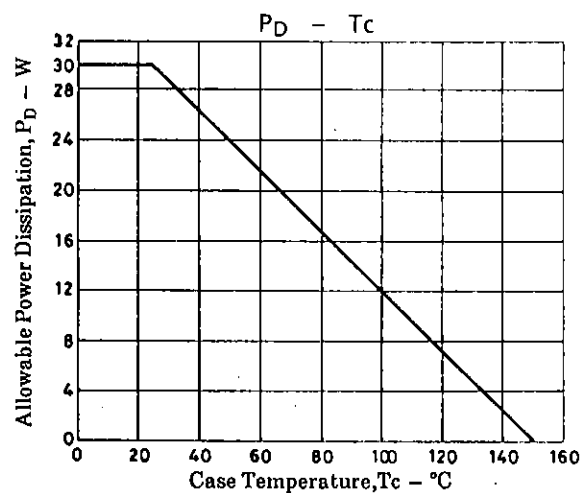
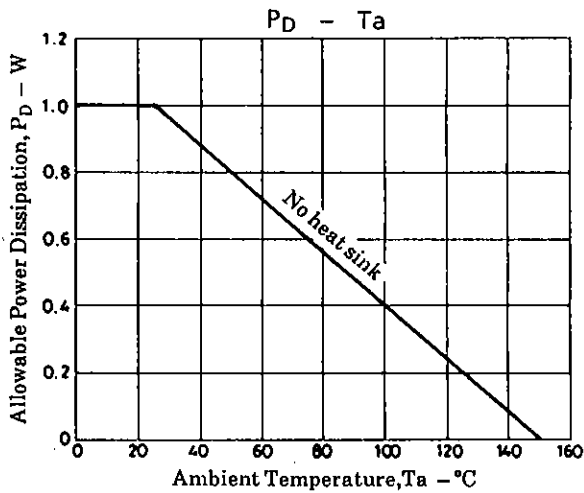
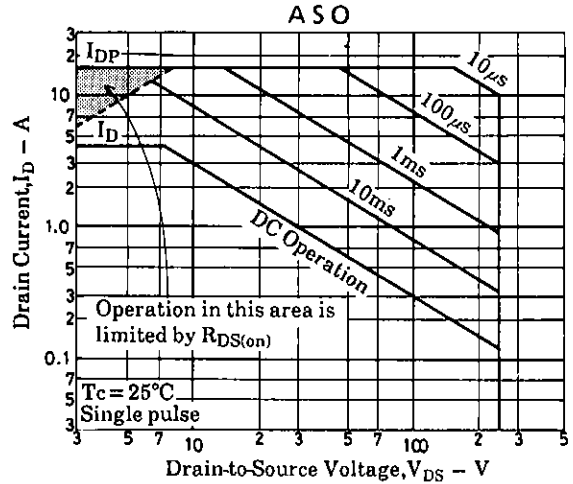
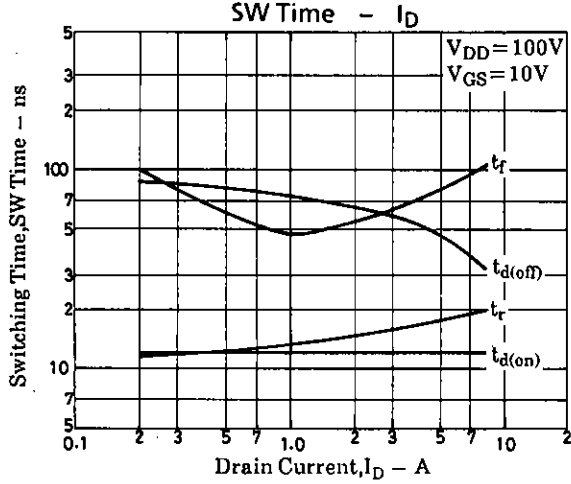
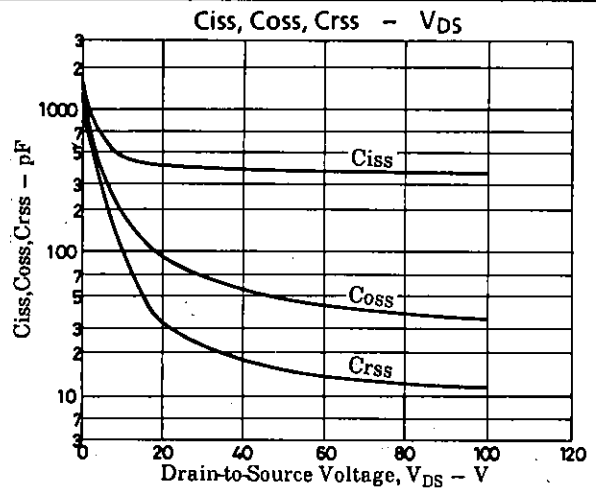
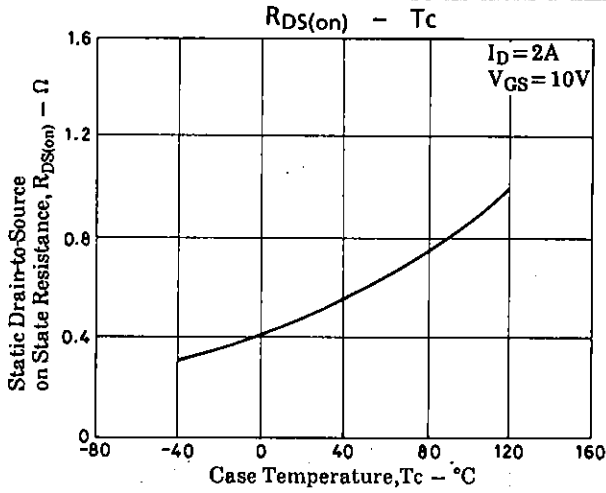
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			min	typ	max	unit
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		12		ns
Rise Time	$t_r$	“		15		ns
Turn-OFF Delay Time	$t_{d(off)}$	“		65		ns
Fall Time	$t_f$	“		55		ns
Diode Forward Voltage	$V_{SD}$	$I_S=4A, V_{GS}=0$	1.0	1.5		V

Switching Time Test Circuit





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