

SANYO

No.4312

2SK1923

N-Channel MOS Silicon FET

Very High-Speed
Switching Applications**Features**

- Low ON resistance.
- Very high-speed switching.
- High-speed diode ($t_{rr} = 120\text{ns}$).

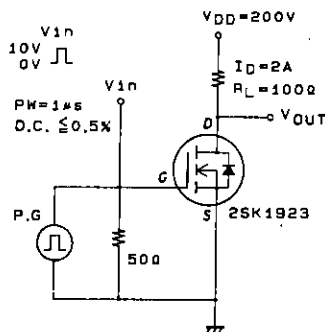
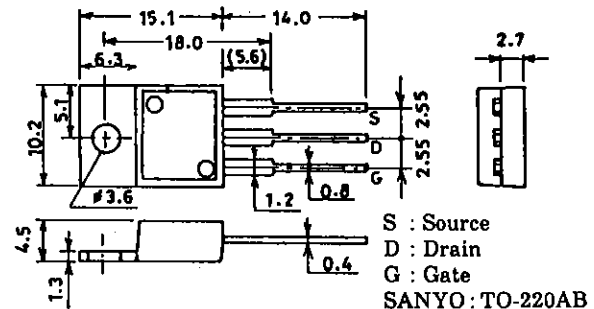
Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

			unit
Drain-to-Source Voltage	V_{DSS}	600	V
Gate-to-Source Voltage	V_{GSS}	± 30	V
Drain Current(DC)	I_D	4	A
Drain Current(Pulse)	I_{DP}	16	A
Allowable Power Dissipation	P_D	1.75	W
		60	W
Channel Temperature	T_{ch}	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

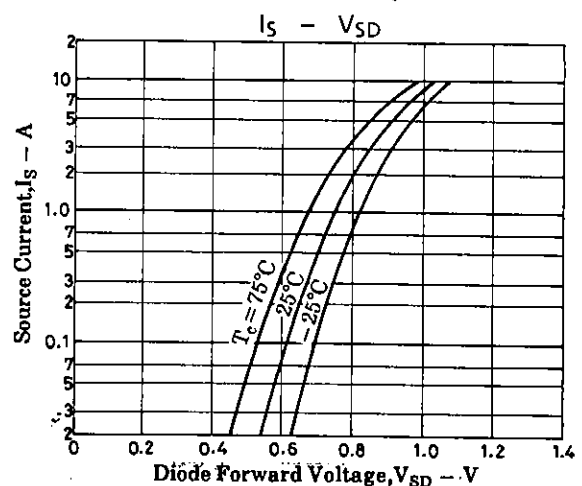
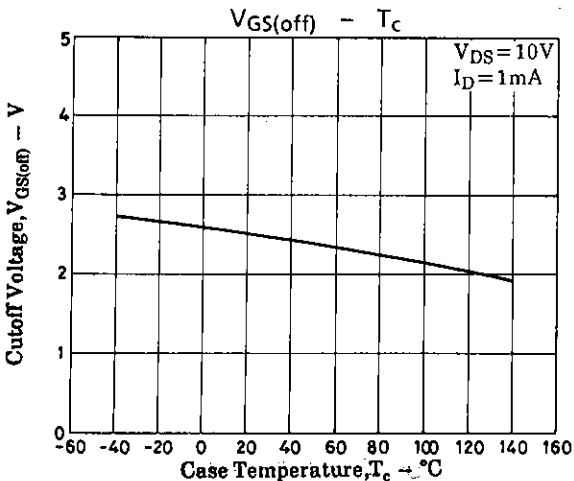
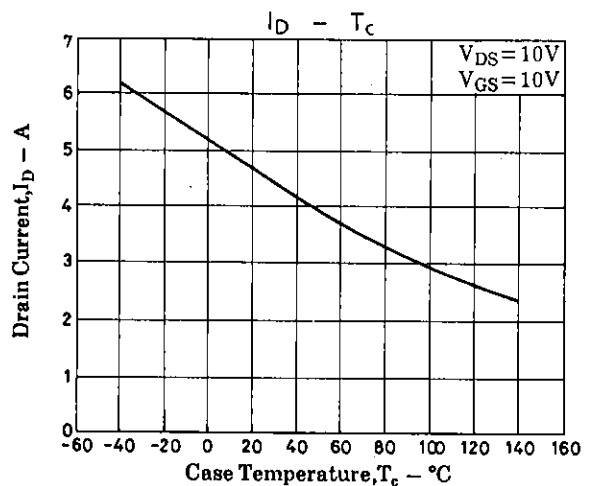
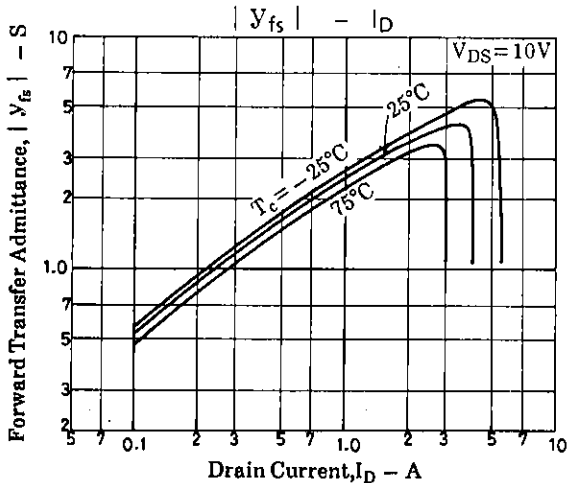
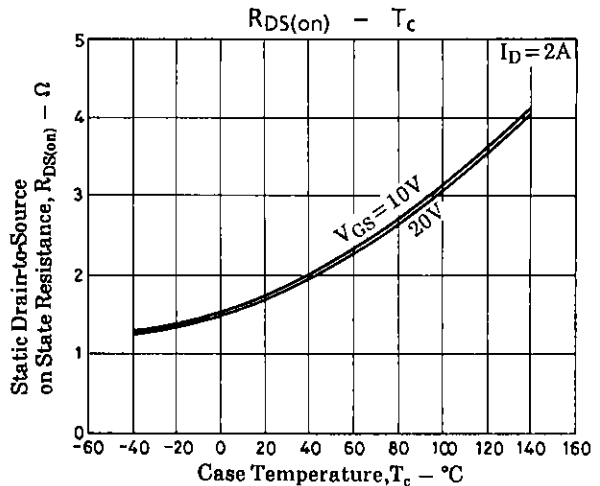
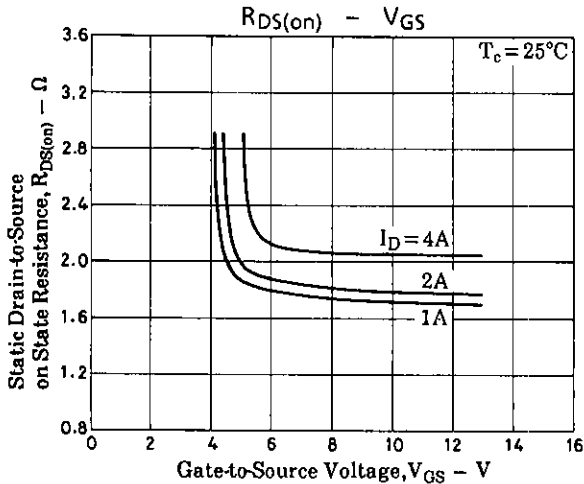
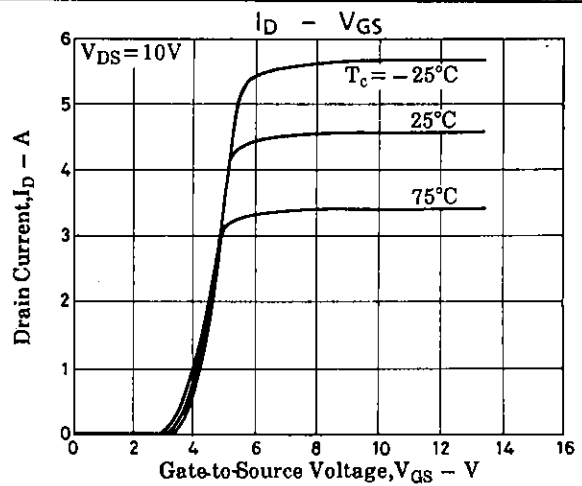
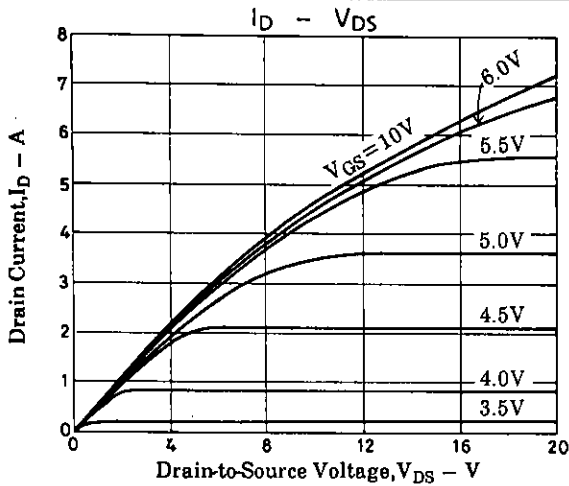
			min	typ	max	unit
D-S Breakdown Voltage	V_{DSS}	$I_D = 10\text{mA}, V_{GS} = 0$	600			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 480\text{V}, V_{GS} = 0$			1.0	mA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 30\text{V}, V_{DS} = 0$			± 100	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10\text{V}, I_D = 1\text{mA}$	2.0		3.0	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 10\text{V}, I_D = 2\text{A}$	1.8	3.5		S
Static Drain-to-Source on State Resistance	$R_{DS(on)}$	$I_D = 2\text{A}, V_{GS} = 10\text{V}$		1.8	2.4	Ω
Input Capacitance	C_{iss}	$V_{DS} = 20\text{V}, f = 1\text{MHz}$		700		pF
Output Capacitance	C_{oss}	$V_{DS} = 20\text{V}, f = 1\text{MHz}$		90		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 20\text{V}, f = 1\text{MHz}$		30		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		13		ns
Rise Time	t_r	"		15		ns
Turn-OFF Delay Time	$t_{d(off)}$	"		160		ns
Fall Time	t_f	"		40		ns
Diode Forward Voltage	V_{SD}	$I_S = 4\text{A}, V_{GS} = 0$			1.5	V
Diode Reverse Recovery Time	t_{rr}	$I_S = 4\text{A}, di/dt = 100\text{A}/\mu\text{s}$		120		ns

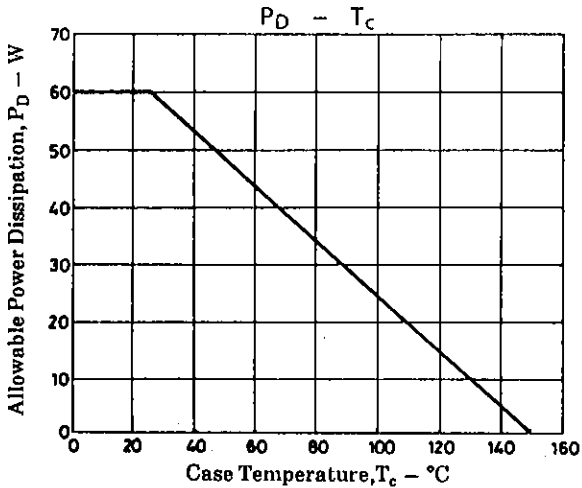
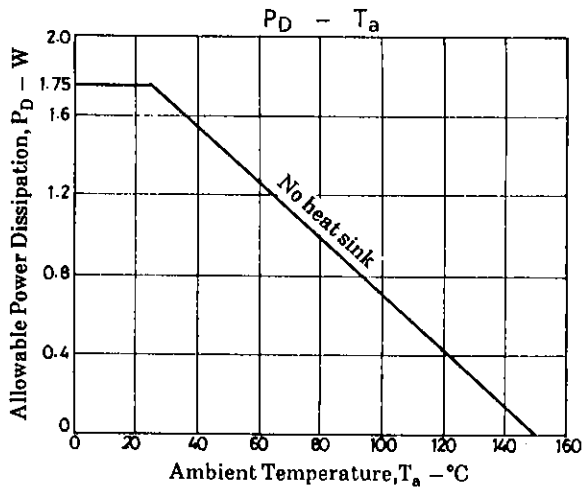
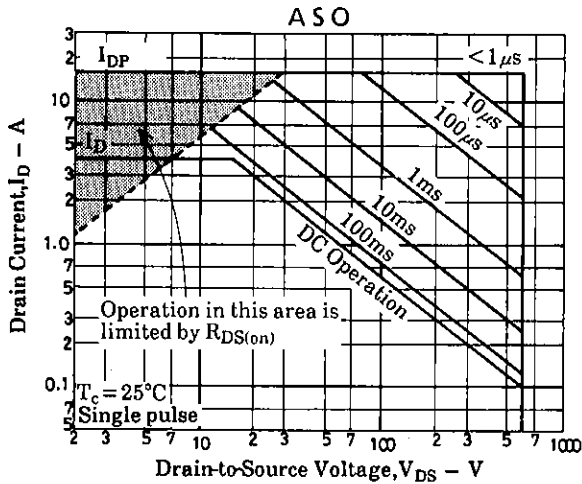
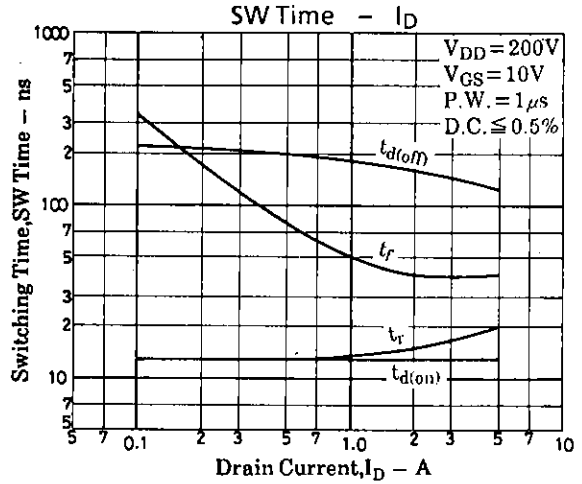
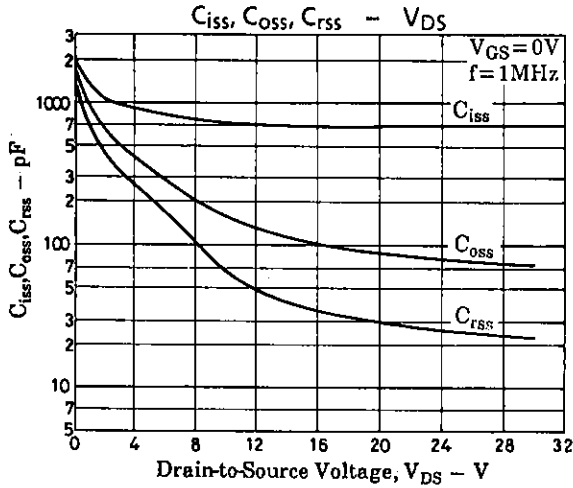
(Note) Be careful in handling the 2SK1923 because it has no protection diode between gate and source.

Switching Time Test Circuit**Package Dimensions 2052B**
(unit: mm)**SANYO Electric Co., Ltd. Semiconductor Business Headquarters**

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