

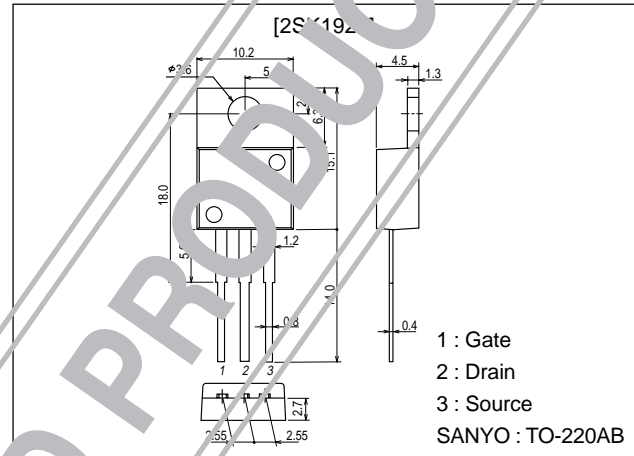
SANYO**Ultrahigh-Speed Switching Applications****Features**

- Low ON resistance.
- Ultrahigh-speed switching.
- High-speed diode (trr=120ns).

Package Dimensions

unit:mm

2052C

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

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		600	V
Gate-to-Source Voltage	V_{GS}		± 30	V
Drain Current (DC)	I_D		4	A
Drain Current (pulse)	I_{DP}		16	A
Allowable Power Dissipation	P_D	$T_c = 25^\circ\text{C}$	1.75	W
Channel Temperature	T_{ch}		60	W
Storage Temperature	T_{stg}		150	$^\circ\text{C}$
			-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	$V_{(BR)DSS}$	$I_D = 10\text{mA}, V_{GS} = 0$	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

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

Continued on next page.

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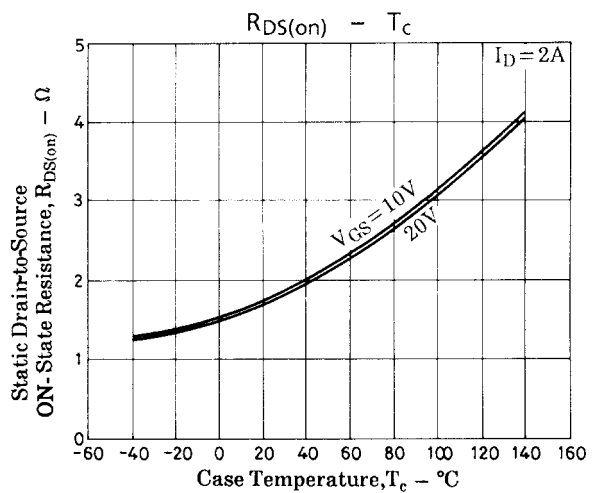
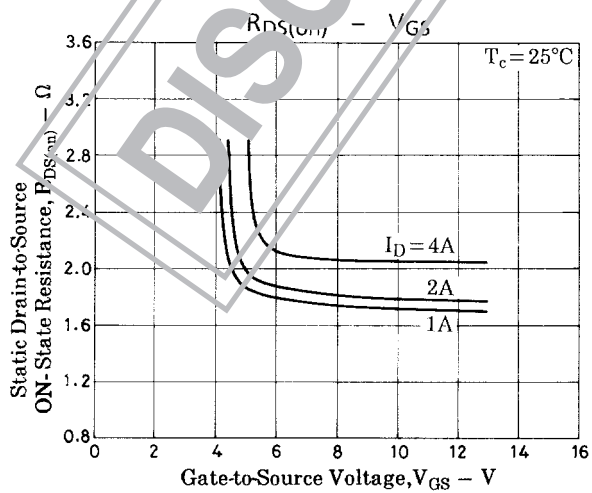
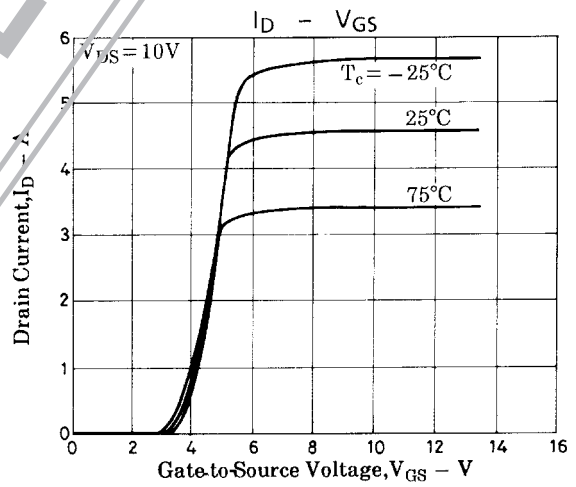
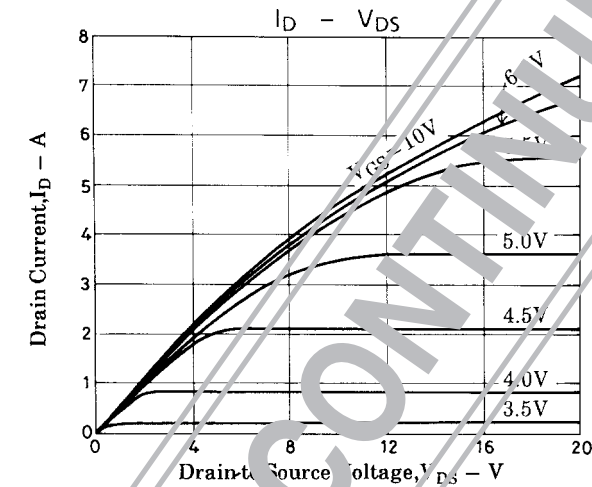
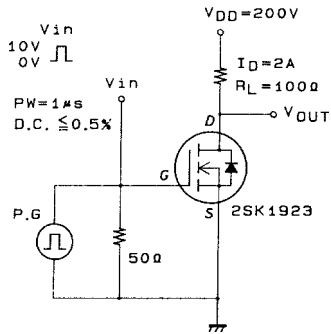
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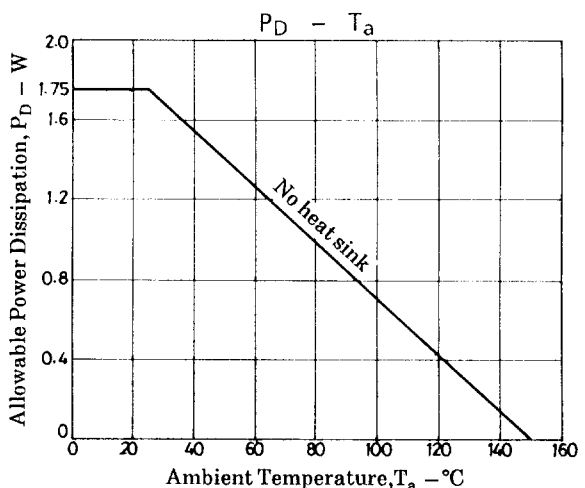
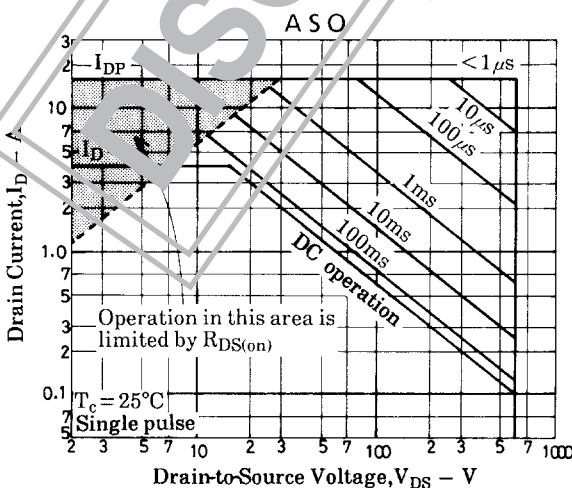
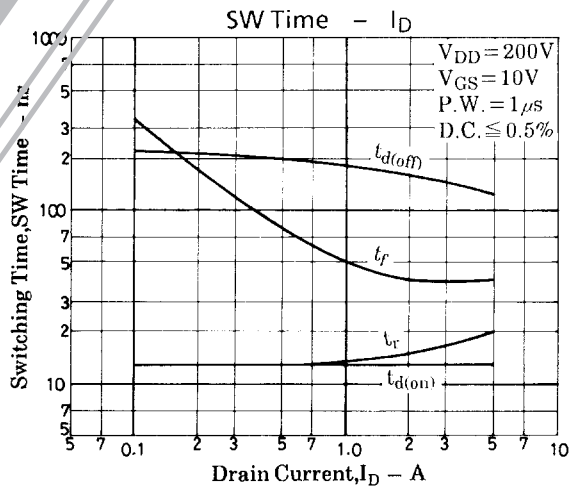
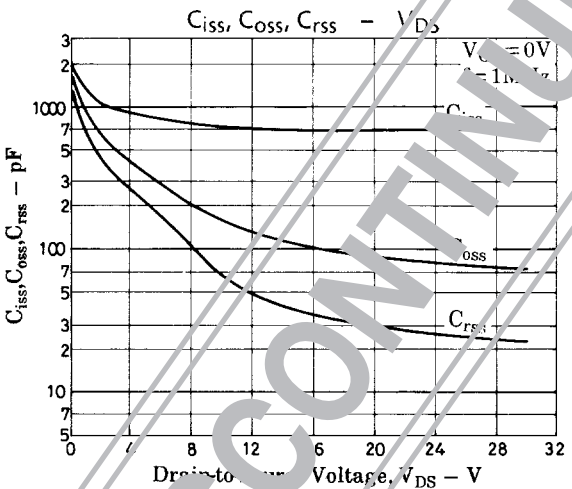
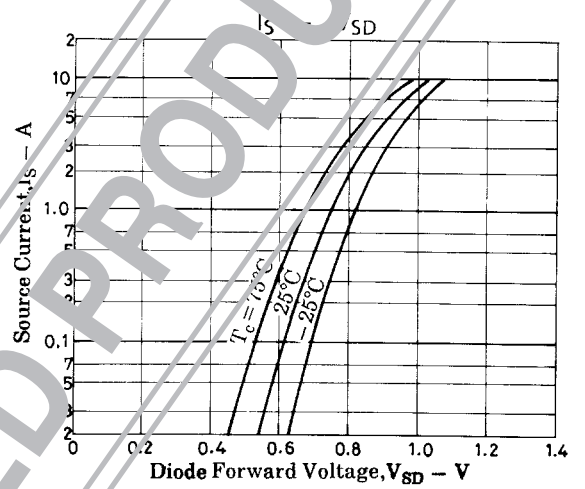
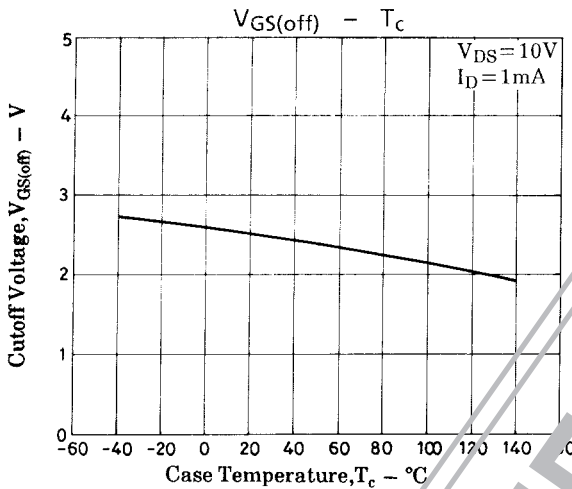
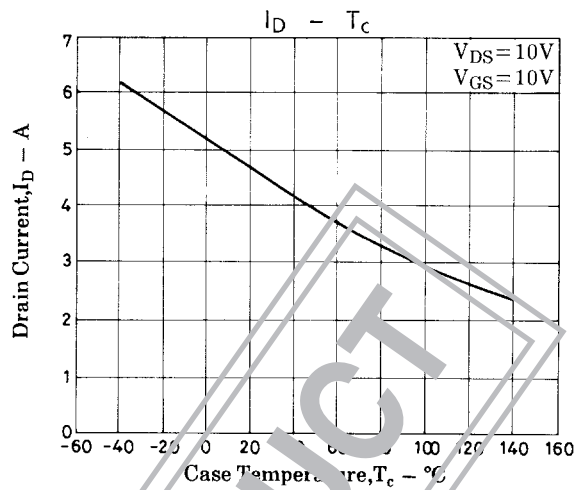
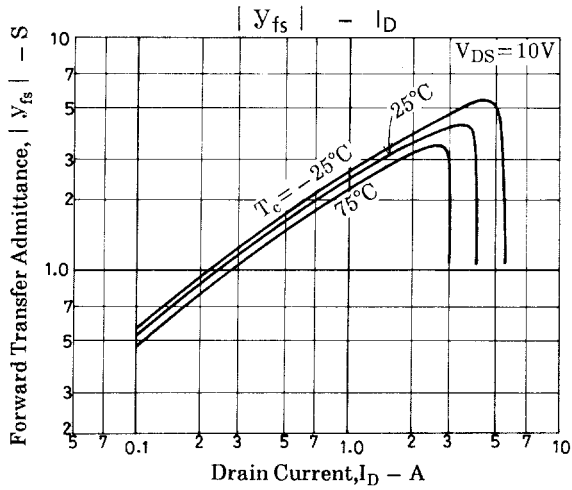
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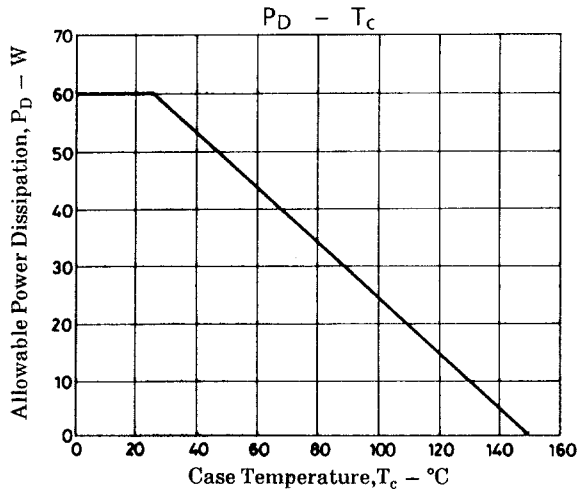
Parameter	Symbol	Conditions	Ratings	Unit
Input Capacitance	C_{iss}	$V_{DS}=20V, f=1MHz$	700	pF
Output Capacitance	C_{oss}	$V_{DS}=20V, f=1MHz$	90	pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=20V, f=1MHz$	30	pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.	13	ns
Rise Time	t_r	See specified Test Circuit.	15	ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.	160	ns
Fall Time	t_f	See specified Test Circuit.	40	ns
Diode Forward Voltage	V_{SD}	$I_S=4A, V_{GS}=0$	1.5	V
Diode Reverse Recovery Time	t_{rr}	$I_S=4A, di/dt=100A/\mu s$	20	ns

Switching Time Test Circuit



2SK1923





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