

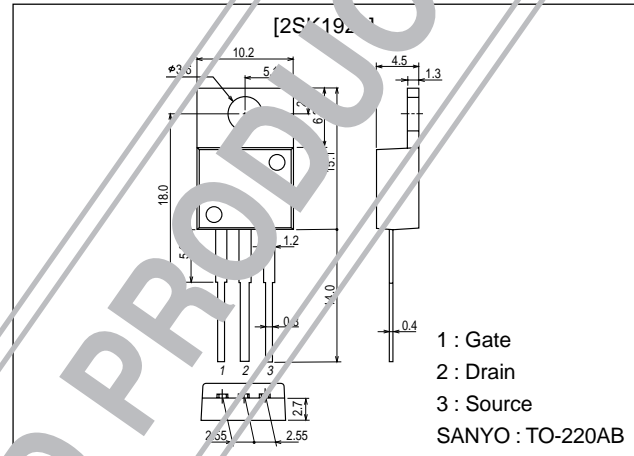
**2SK1924****Ultrahigh-Speed Switching Applications****Features**

- Low ON resistance.
- Ultrahigh-speed switching.
- High-speed diode (trr=140ns).

Package Dimensions

unit:mm

2052C

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

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		600	V
Gate-to-Source Voltage	V _{GS}		±30	V
Drain Current (DC)	I _D		6	A
Drain Current (pulse)	I _{DP}		24	A
Allowable Power Dissipation	P _D	T _C =25°C	1.75	W
Channel Temperature	T _{ch}		70	W
Storage Temperature	T _{stg}		150	°C
			-55 to +150	°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 =10mA, V _{GS} =0	600			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =480V, V _{GS} =0			1.0	mA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±30V, V _{DS} =0			±100	nA
Cutoff Voltage	V _{GS(off)}	V _{DS} =10V, I _D =1mA	2.0		3.0	V
Forward Transfer Admittance	y _{fs}	V _{DS} =10V, I _D =3A	2.3	4.5		S
Static Drain-to-Source On-state Resistance	r _{DS(on)}	I _D =3A, V _{GS} =10V		1.1	1.5	Ω

(Note) Be careful in handling the 2SK1924 because it has no protection diode between gate and source.

Continued on next page.

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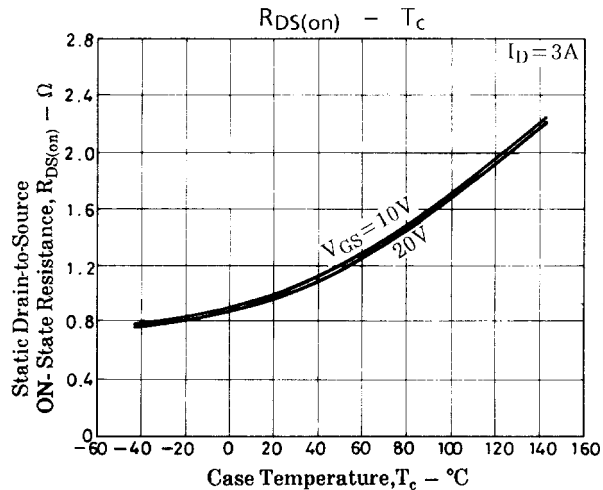
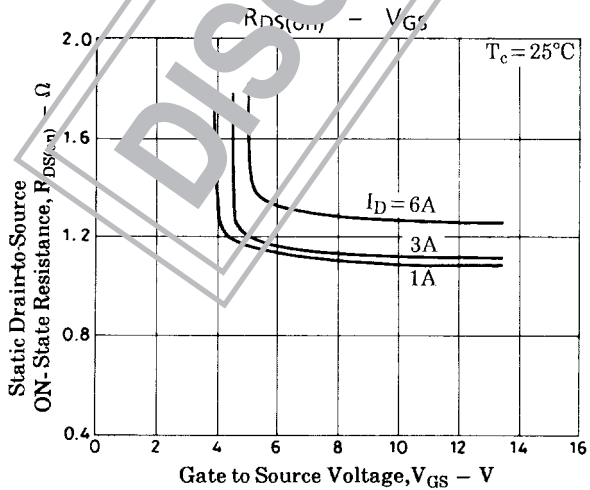
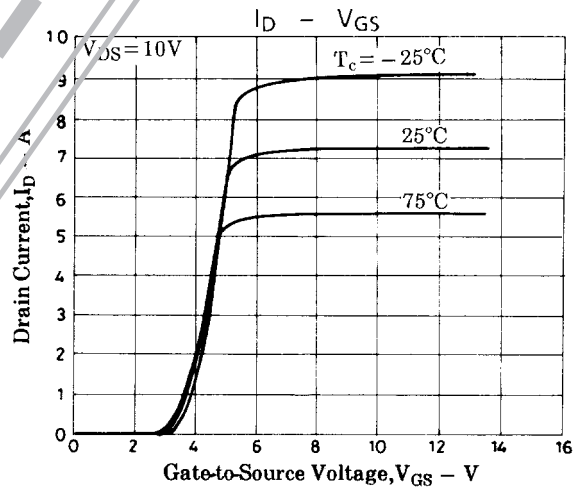
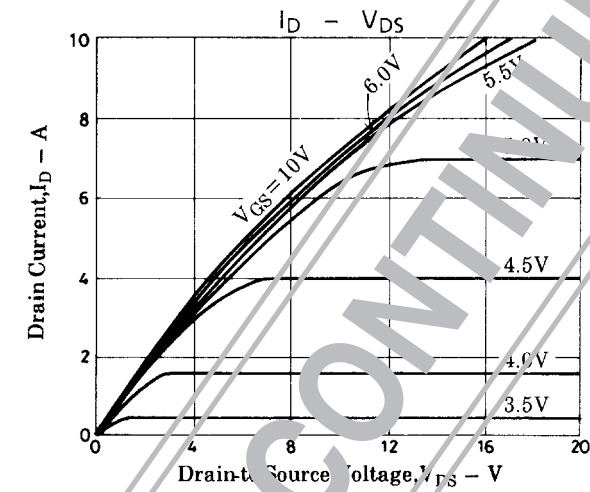
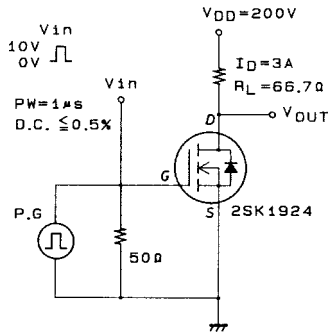
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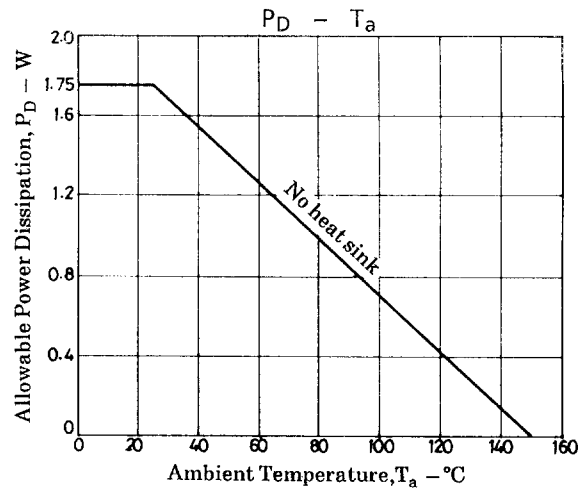
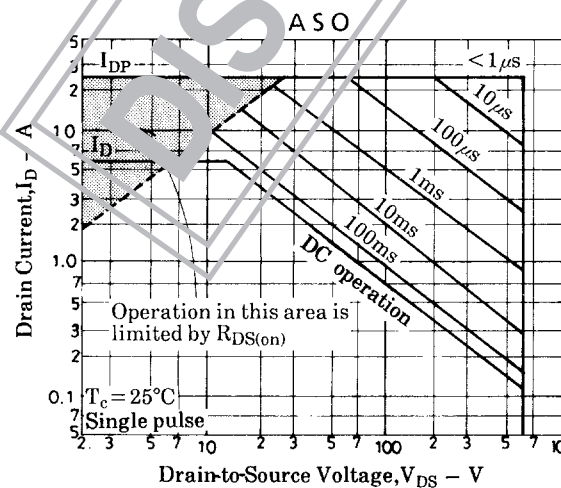
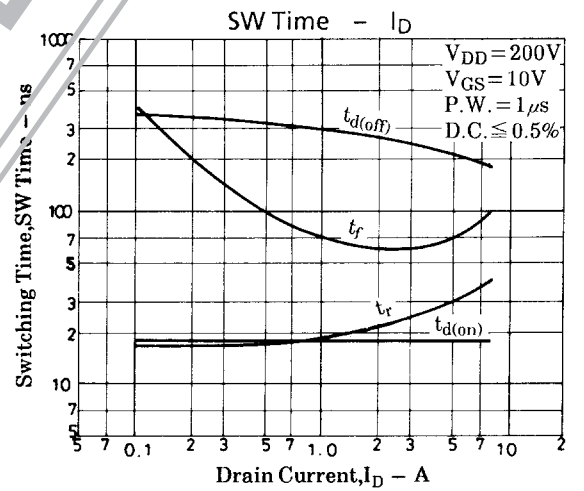
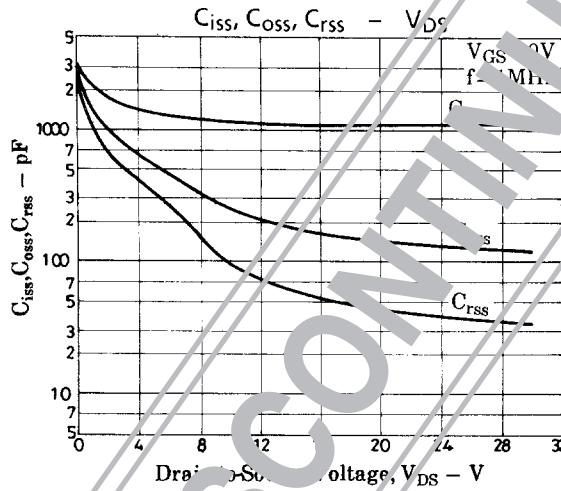
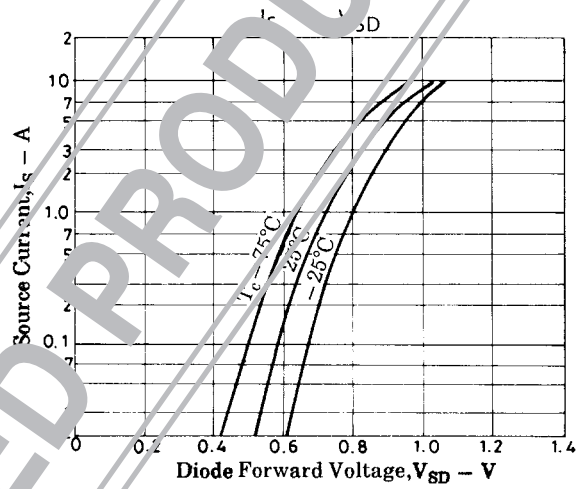
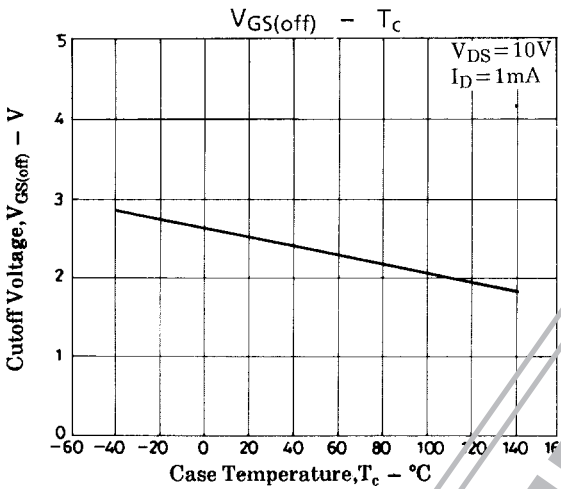
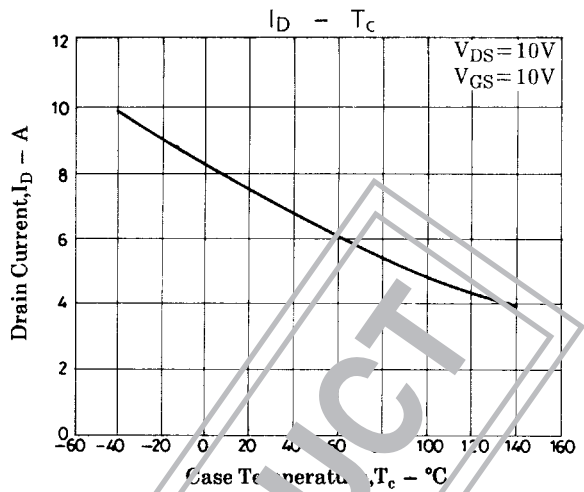
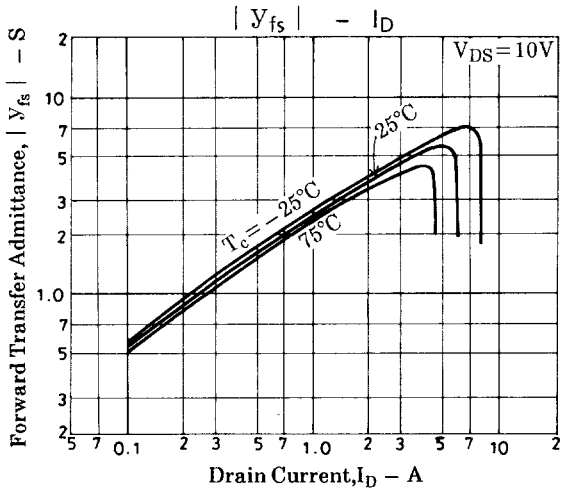
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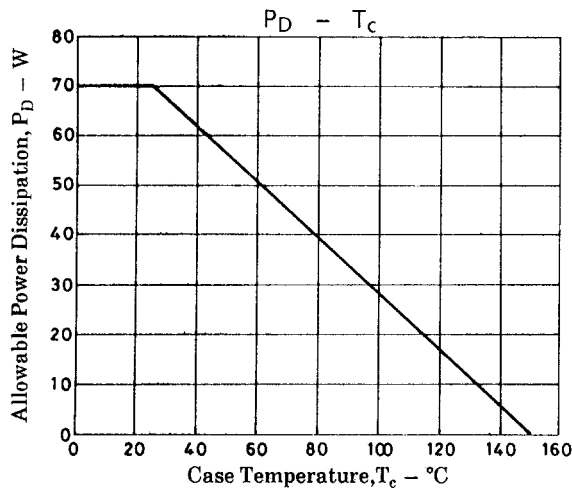
Parameter	Symbol	Conditions	Ratings	Unit
Input Capacitance	C_{iss}	$V_{DS}=20V, f=1MHz$	1100	pF
Output Capacitance	C_{oss}	$V_{DS}=20V, f=1MHz$	150	pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=20V, f=1MHz$	45	pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.	18	ns
Rise Time	t_r	See specified Test Circuit.	25	ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.	240	ns
Fall Time	t_f	See specified Test Circuit.	60	ns
Diode Forward Voltage	V_{SD}	$I_S=6A, V_{GS}=0$	1.5	V
Diode Reverse Recovery Time	t_{rr}	$I_S=6A, di/dt=100A/\mu s$	140	ns

Switching Time Test Circuit



2SK1924





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