

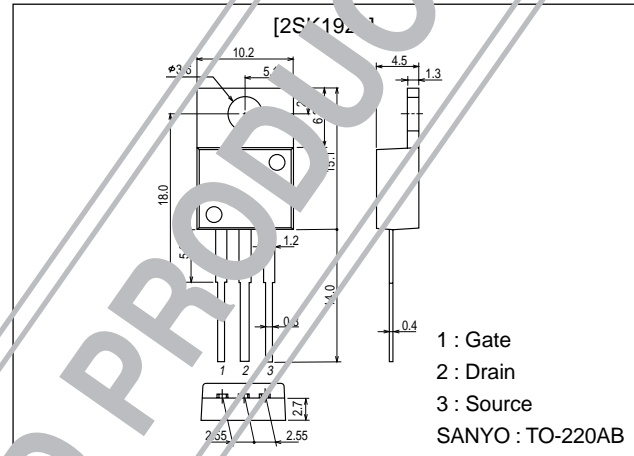
**SANYO****Ultrahigh-Speed Switching Applications****Features**

- 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 <sub>DSS</sub>		600	V
Gate-to-Source Voltage	V <sub>GS</sub>		±30	V
Drain Current (DC)	I <sub>D</sub>		6	A
Drain Current (pulse)	I <sub>DP</sub>		24	A
Allowable Power Dissipation	P <sub>D</sub>	T <sub>C</sub> =25°C	1.75	W
Channel Temperature	T <sub>ch</sub>		70	W
Storage Temperature	T <sub>stg</sub>		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 <sub>(BR)DSS</sub>	I <sub>D</sub> =10mA, V <sub>GS</sub> =0	600			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =480V, V <sub>GS</sub> =0			1.0	mA
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±30V, V <sub>DS</sub> =0			±100	nA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =1mA	2.0		3.0	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =3A	2.3	4.5		S
Static Drain-to-Source On-state Resistance	r <sub>DS(on)</sub>	I <sub>D</sub> =3A, V <sub>GS</sub> =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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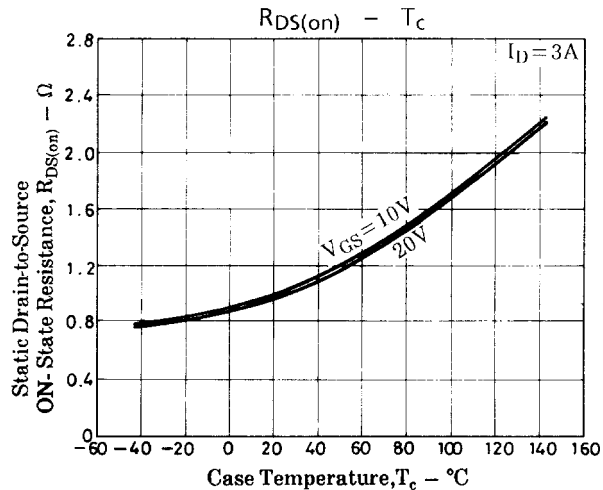
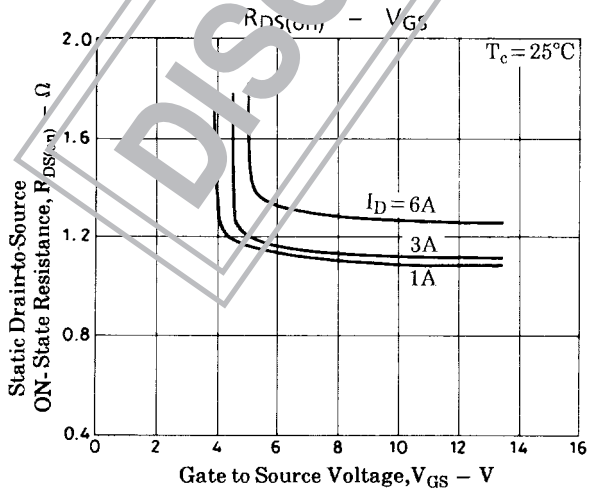
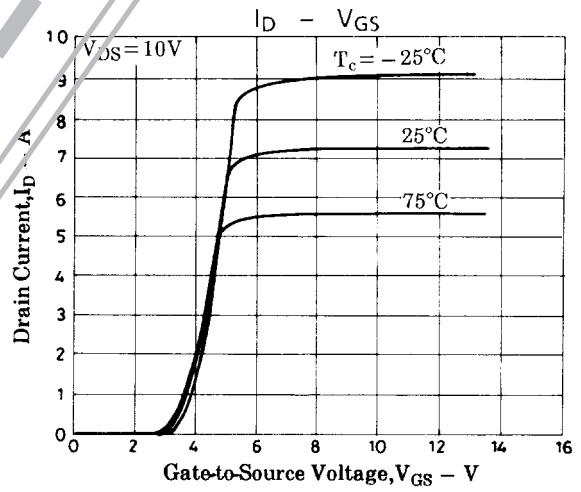
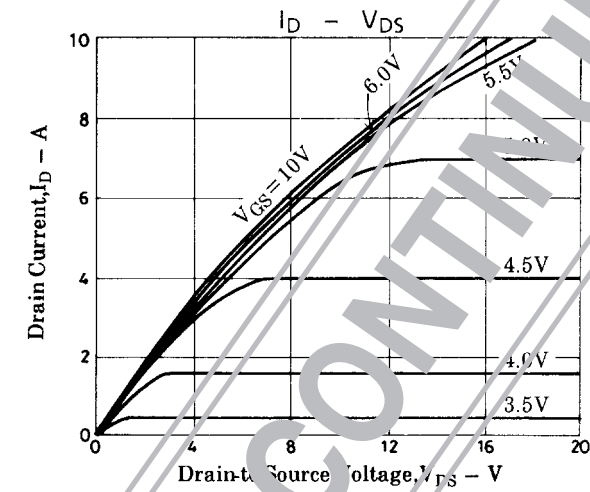
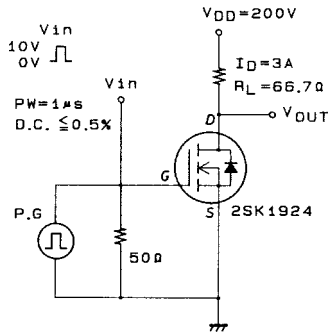
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

# 2SK1924

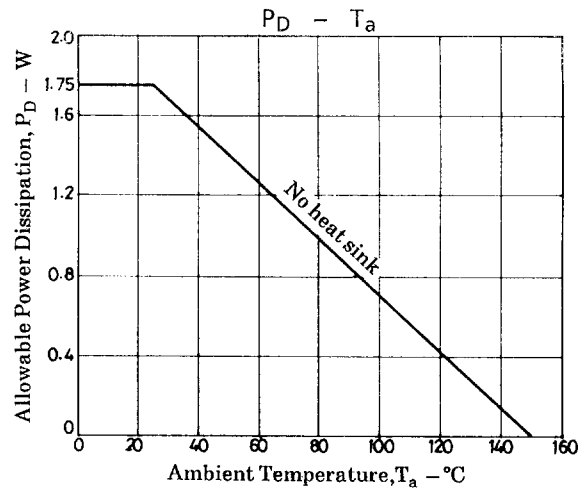
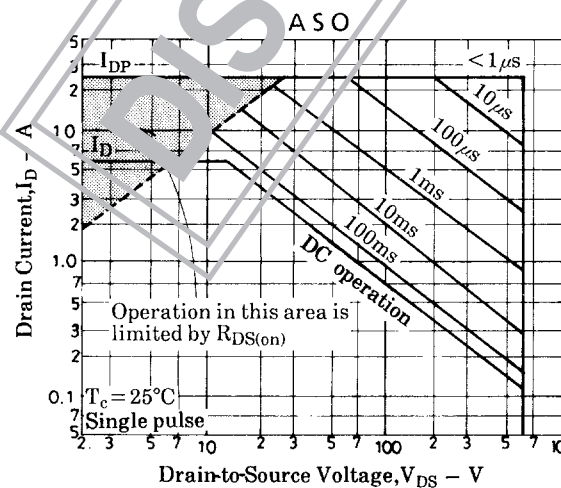
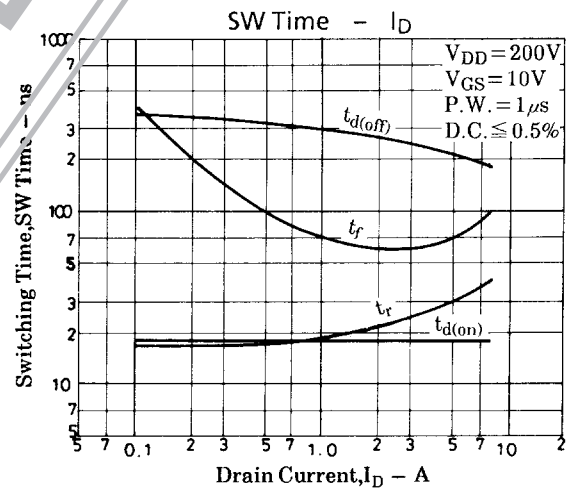
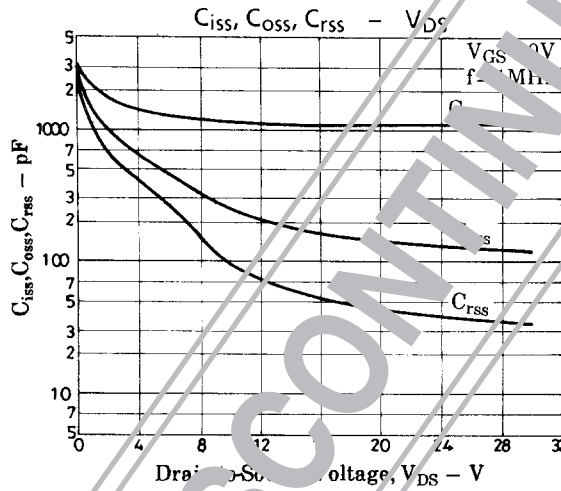
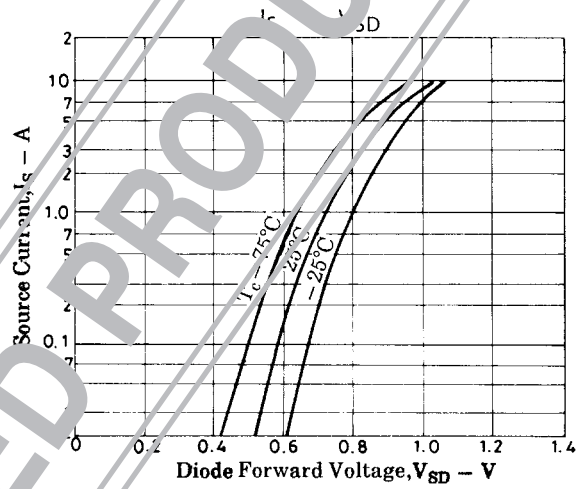
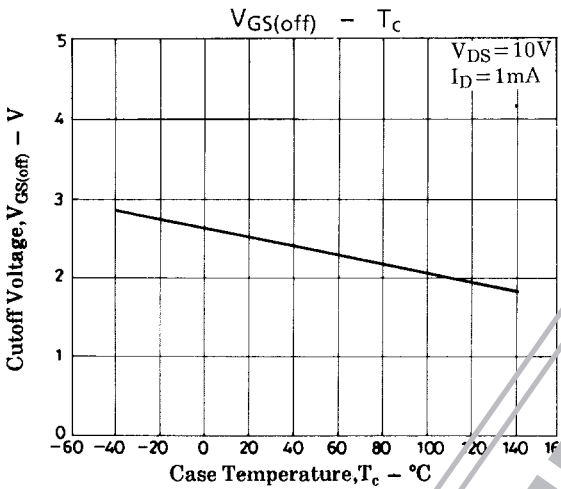
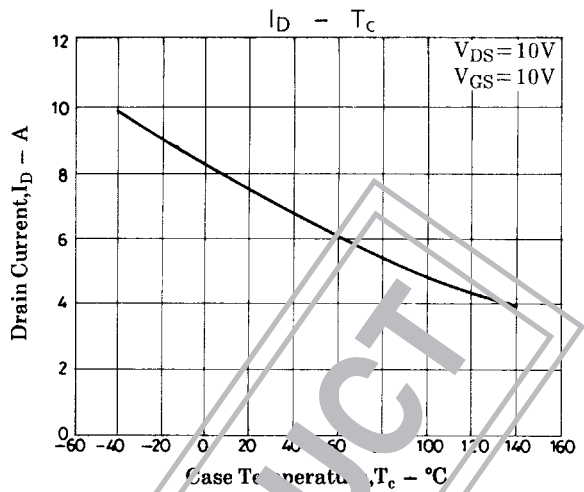
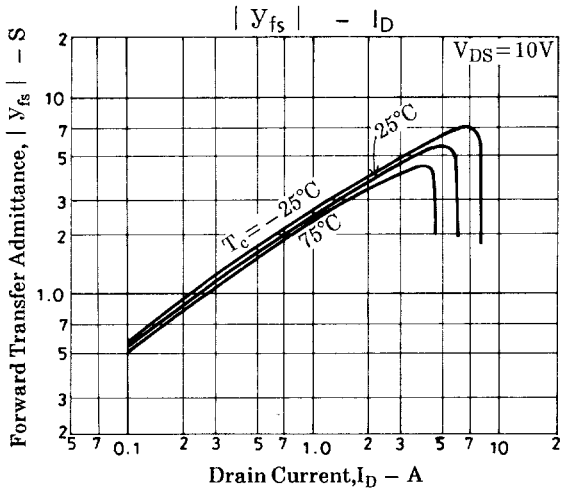
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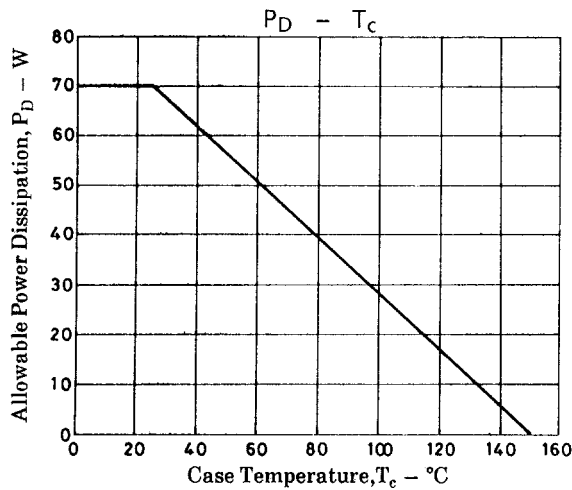
Parameter	Symbol	Conditions	Ratings	Unit
Input Capacitance	$C_{iss}$	$V_{DS}=20V, f=1MHz$	1100	pF
Output Capacitance	$C_{oss}$	$V_{DS}=20V, f=1MHz$	150	pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=20V, f=1MHz$	45	pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.	18	ns
Rise Time	$t_r$	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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