

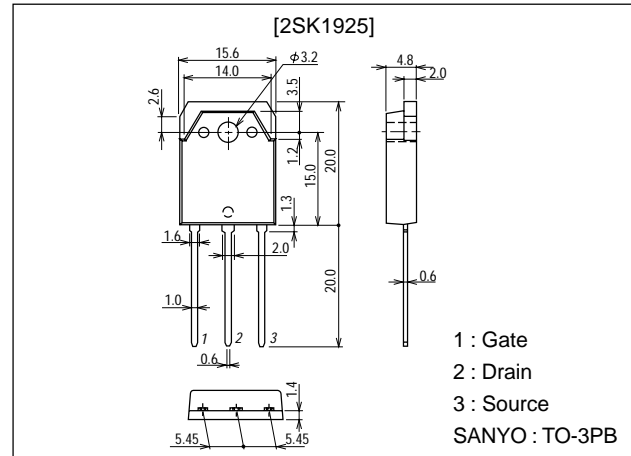
**2SK1925****Ultrahigh-Speed Switching Applications****Features**

- Low ON resistance.
- Ultrahigh-speed switching.
- High-speed diode (trr=150ns).

**Package Dimensions**

unit:mm

2056A

**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	$V_{GSS}$		$\pm 30$	V
Drain Current (DC)	$I_D$		8	A
Drain Current (pulse)	$I_{DP}$		32	A
Allowable Power Dissipation	$P_D$	$T_c=25^\circ\text{C}$	2.5	W
			120	W
Channel Temperature	$T_{ch}$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source 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	$I_{GSS}$	$V_{GS}=\pm 30\text{V}, V_{DS}=0$			$\pm 100$	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} $	$V_{DS}=10\text{V}, I_D=4\text{A}$	2.8	5.5		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	$I_D=4\text{A}, V_{GS}=10\text{V}$		0.9	1.2	$\Omega$

(Note) Be careful in handling the 2SK1925 because it has no protection diode between gate and source.

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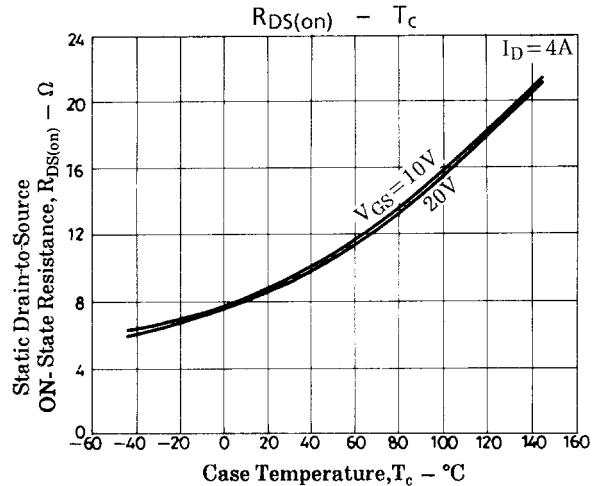
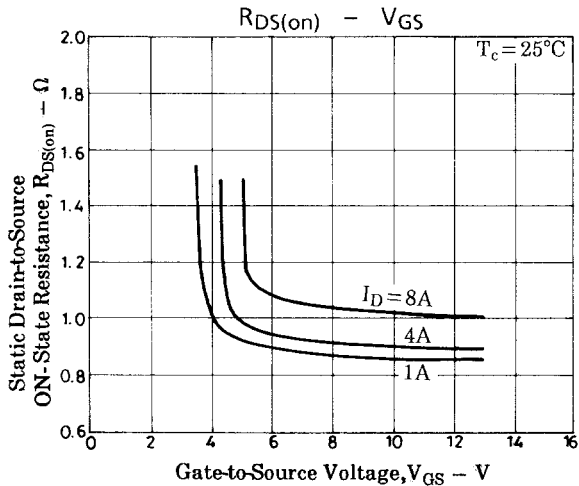
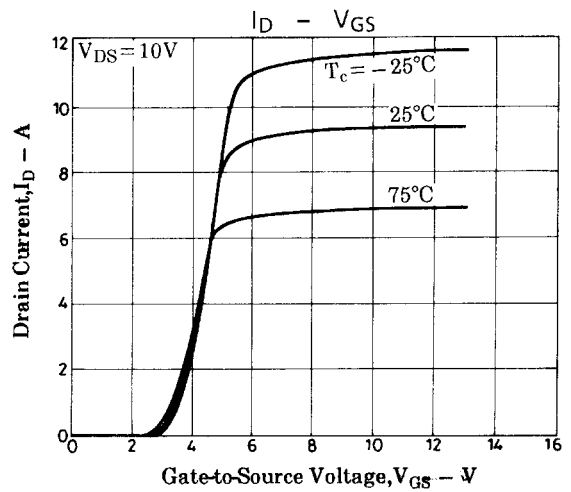
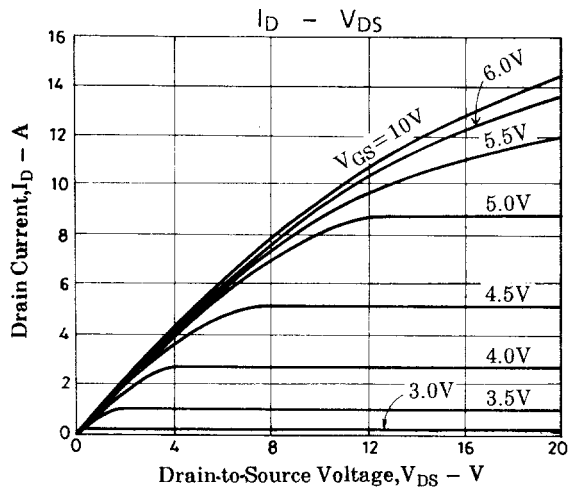
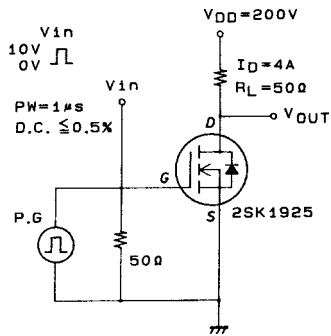
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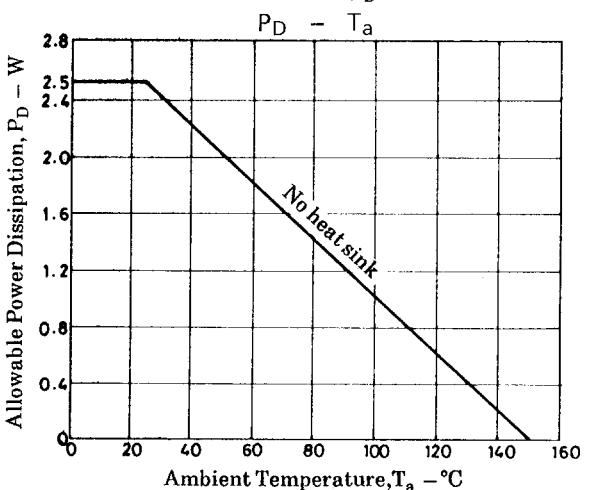
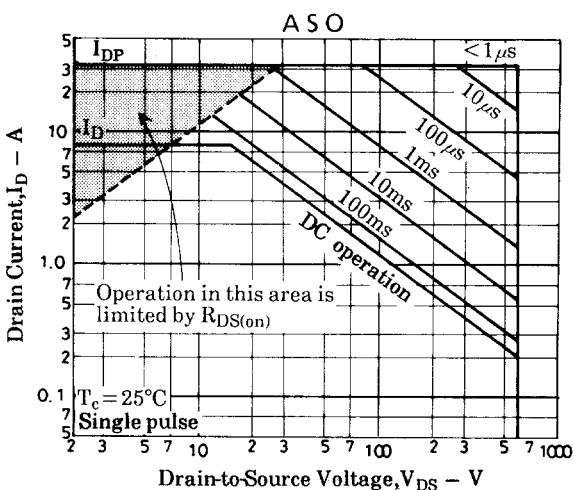
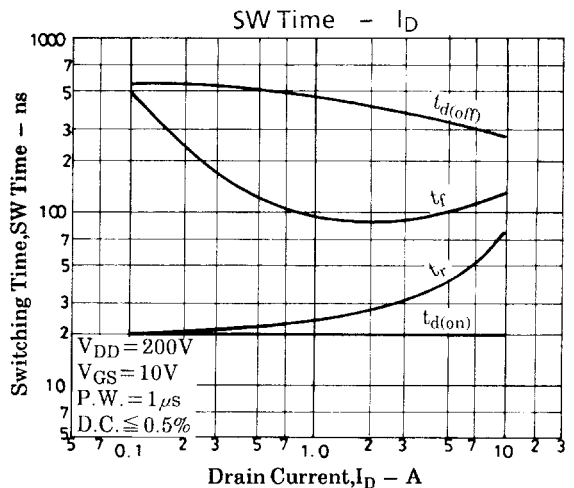
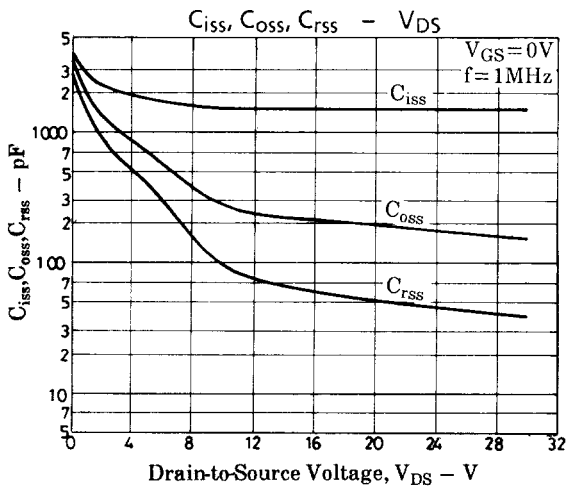
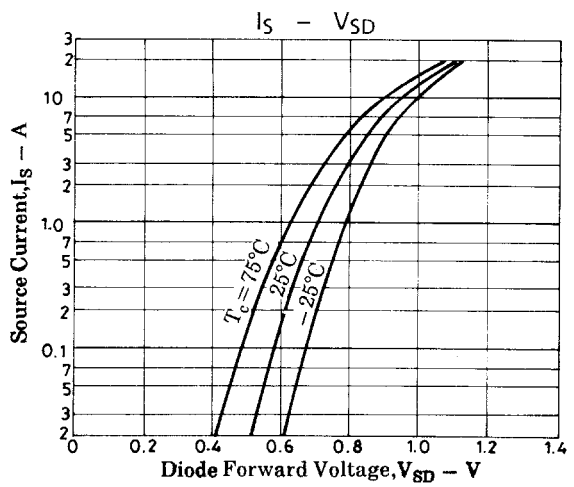
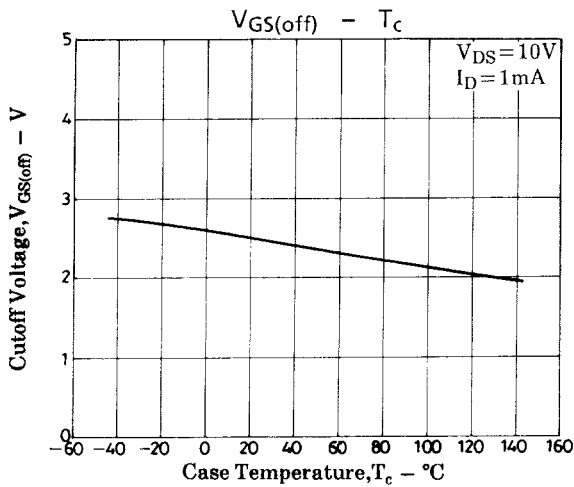
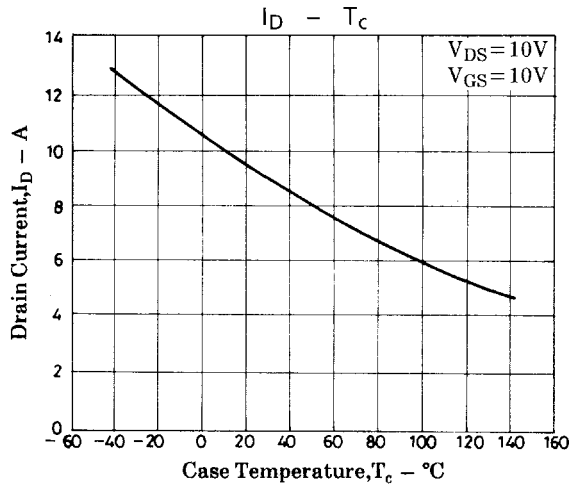
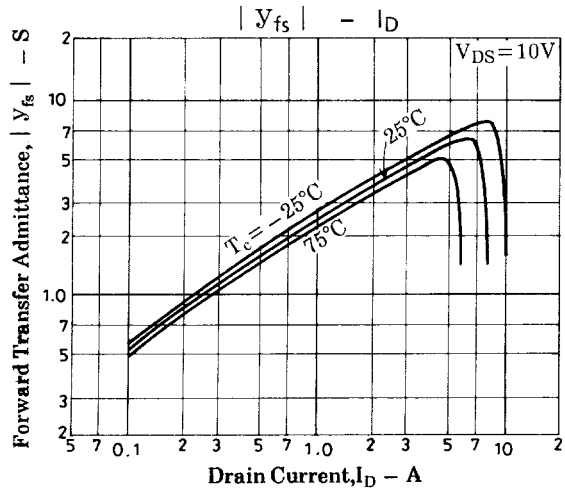
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	$V_{DS}=20V, f=1MHz$		1500		pF
Output Capacitance	Coss	$V_{DS}=20V, f=1MHz$		190		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=20V, f=1MHz$		50		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		20		ns
Rise Time	$t_r$	See specified Test Circuit.		35		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		350		ns
Fall Time	$t_f$	See specified Test Circuit.		100		ns
Diode Forward Voltage	$V_{SD}$	$I_S=8A, V_{GS}=0$			1.5	V
Diode Reverse Recovery Time	$t_{rr}$	$I_S=8A, di/dt=100A/\mu s$		150		ns

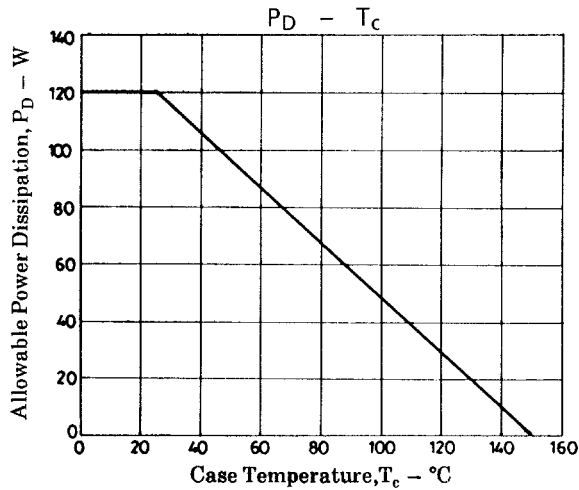
## Switching Time Test Circuit



# 2SK1925



## 2SK1925



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