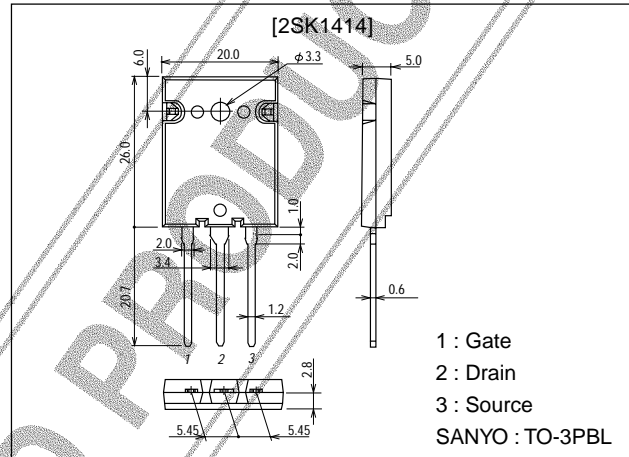


**SANYO****2SK1414****Ultrahigh-Speed Switching Applications****Features**

- Low ON resistance, low input capacitance, Ultrahigh-speed switching.
- High reliability (Adoption of HVP process).

**Package Dimensions**unit:mm  
2077A**Specifications****Absolute Maximum Ratings at Ta = 25°C**

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DS}$		1500	V
Gate-to-Source Voltage	$V_{GS}$		$\pm 20$	V
Drain Current (DC)	$I_D$		6	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10 \mu s$ , duty cycle $\leq 1\%$	12	A
Allowable Power Dissipation	$P_D$		3.5	W
		$T_c = 25^\circ C$	200	W
Channel Temperature	$T_{ch}$		150	$^\circ C$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ C$

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 1mA$ , $V_{GS} = 0$	1500			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 1200V$ , $V_{GS} = 0$			100	$\mu A$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 20V$ , $V_{DS} = 0$			$\pm 100$	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10V$ , $I_D = 1mA$	1.5		3.5	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 20V$ , $I_D = 3A$	1.0	3.0		S
Static Drain-to-Source ON-State Resistance	$R_{DS(on)}$	$I_D = 3A$ , $V_{GS} = 10V$		2.5	3.5	$\Omega$

(Note) Be careful in handling the 2SK1414 because it has no protection diode between gate and source.

Continued on next page.

■ Any and all SANYO products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your SANYO representative nearest you before using any SANYO products described or contained herein in such applications.

■ SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

**SANYO Electric Co., Ltd. Semiconductor Company**

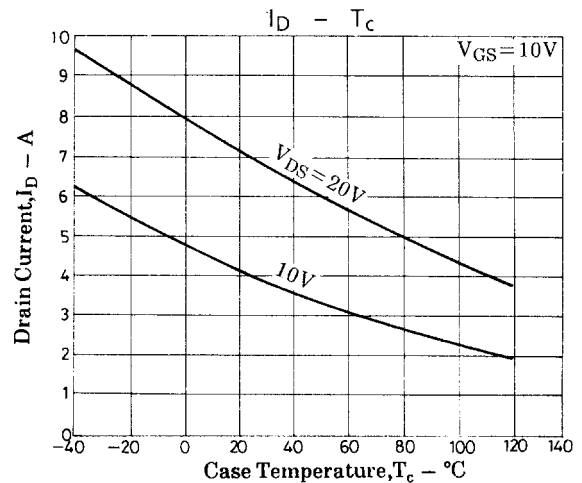
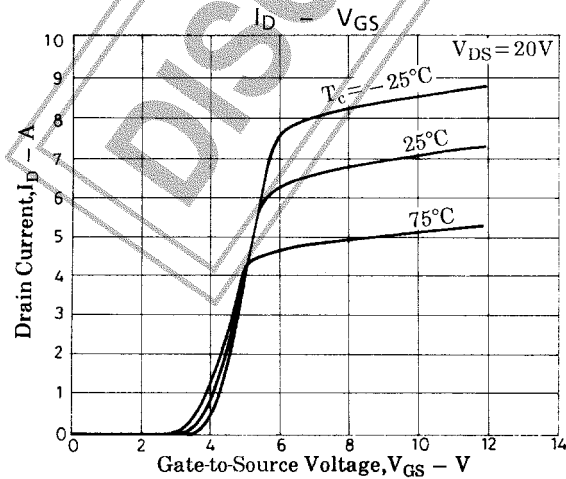
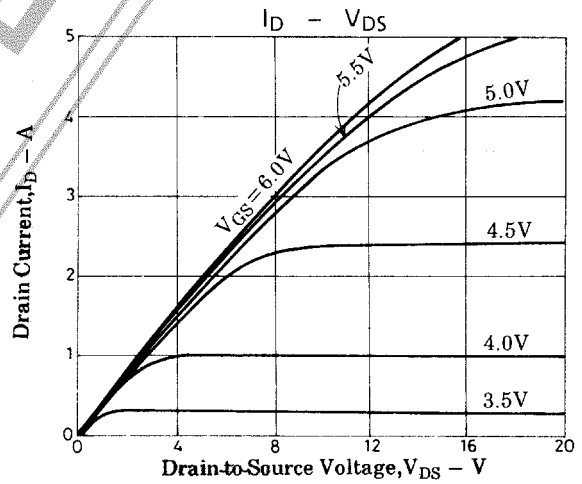
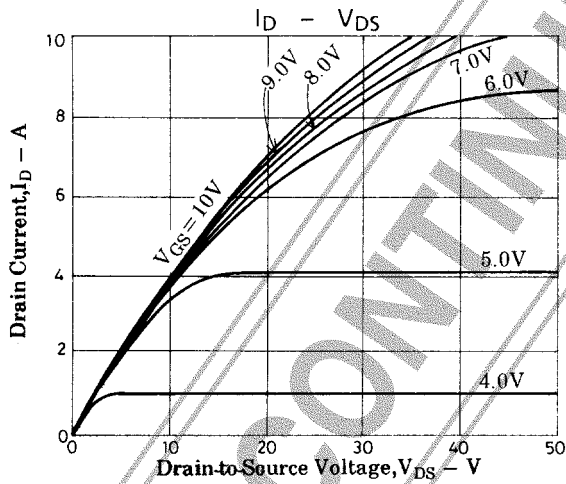
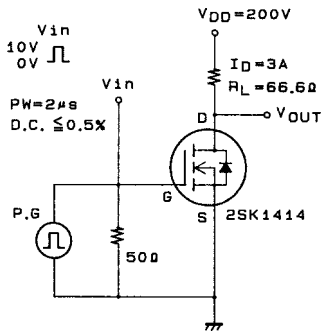
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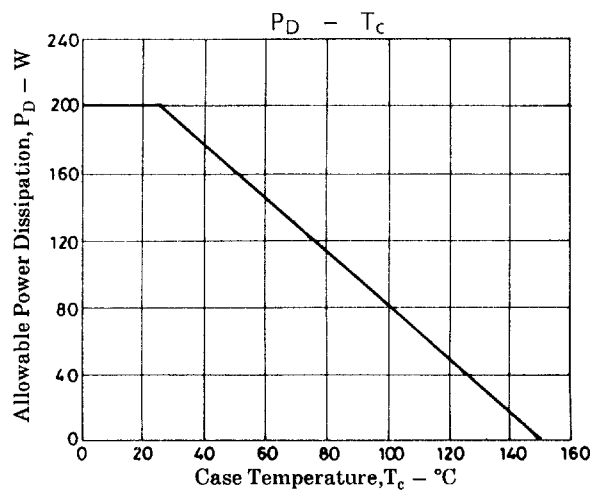
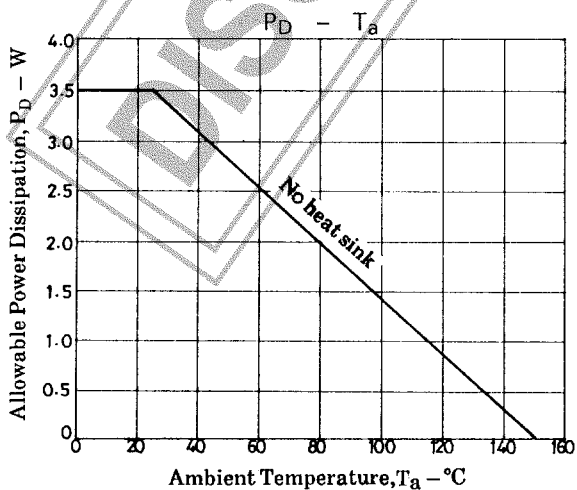
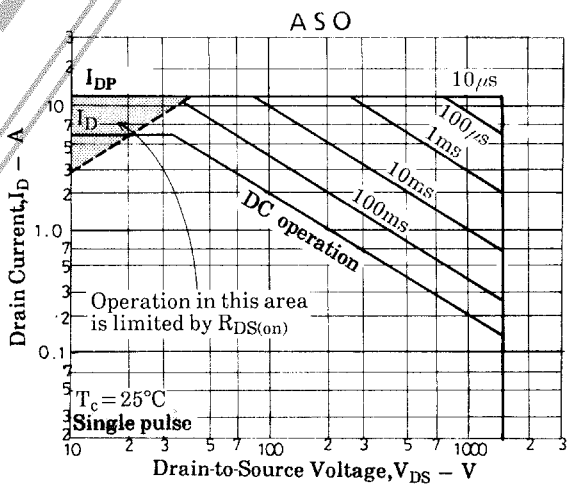
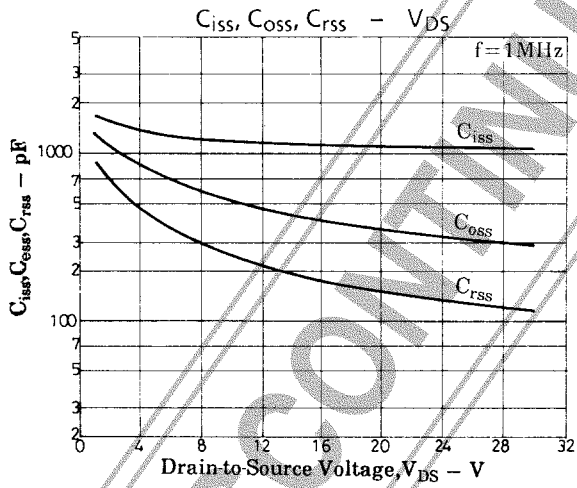
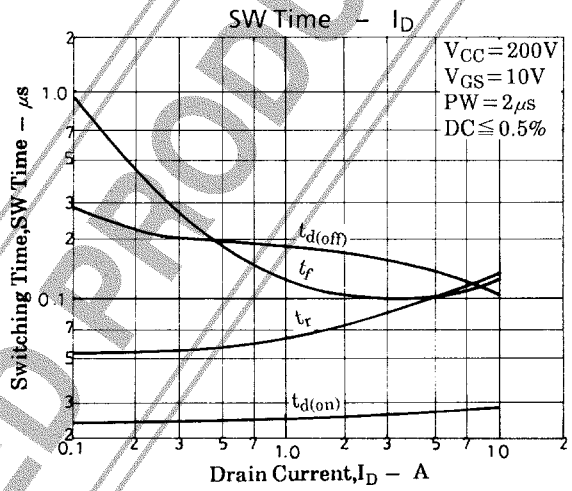
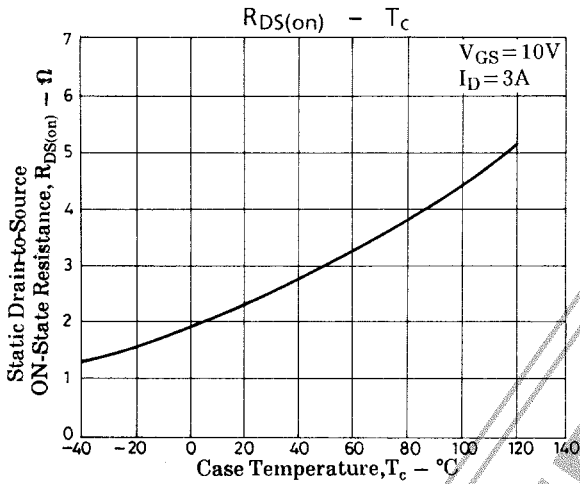
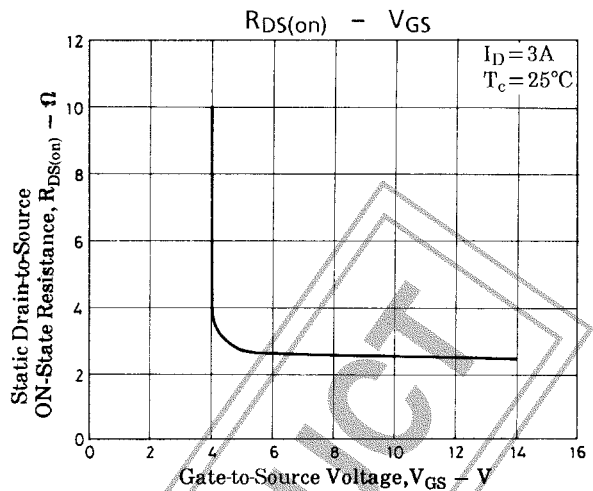
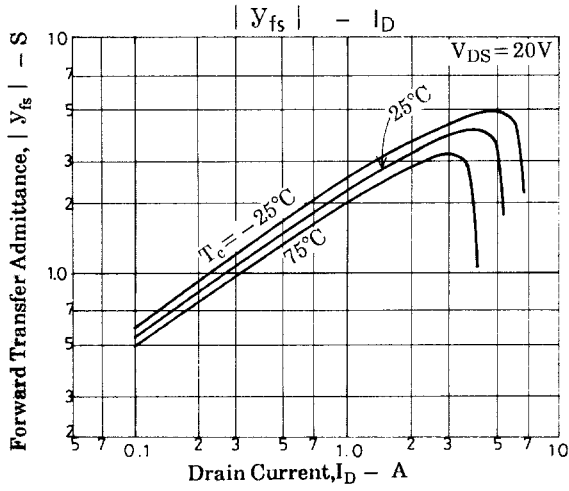
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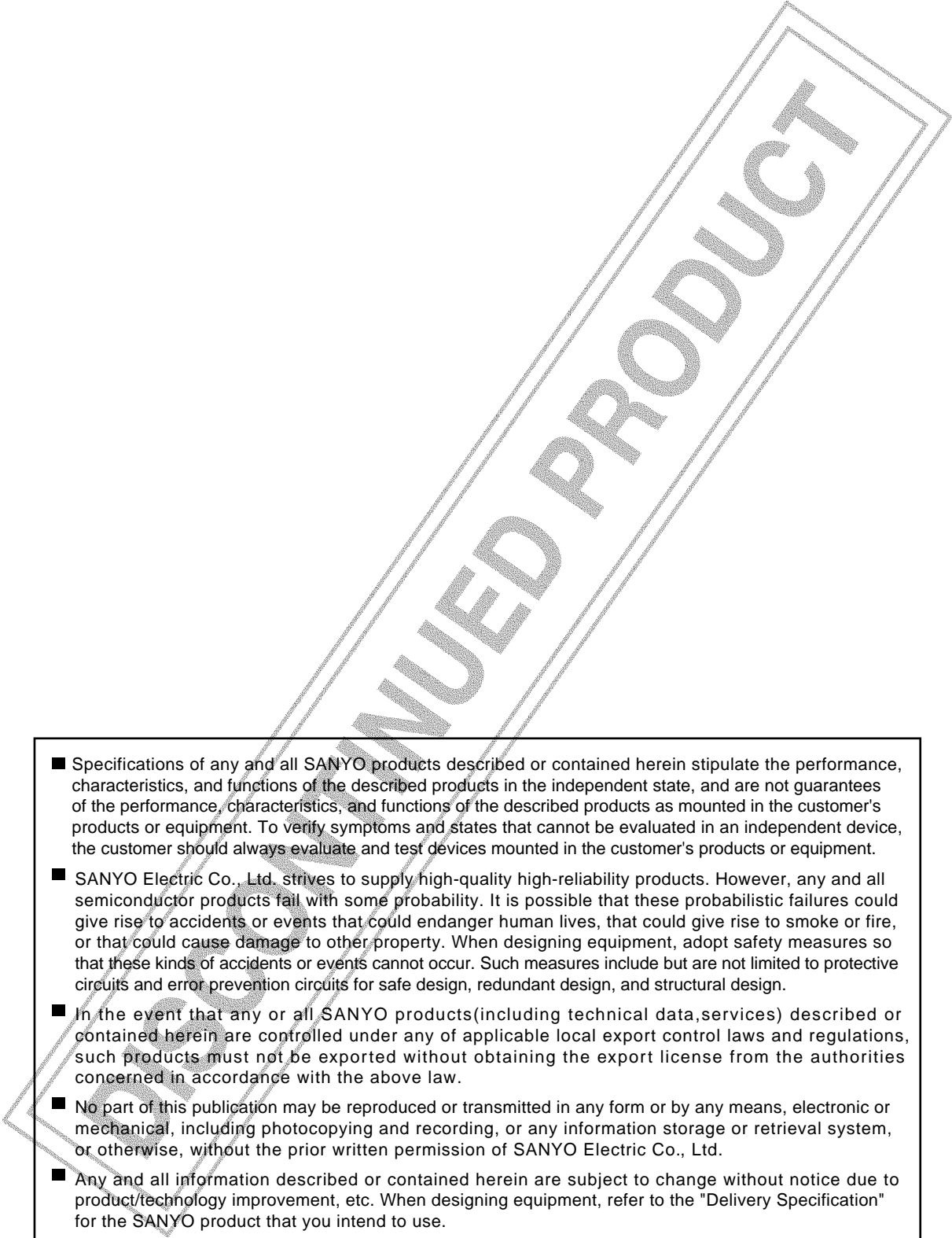
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	$C_{iss}$	$V_{DS}=20V, f=1MHz$		1100		pF
Output Capacitance	$C_{oss}$	$V_{DS}=20V, f=1MHz$		350		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=20V, f=1MHz$		150		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		25		ns
Rise Time	$t_r$	See specified Test Circuit		85		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		155		ns
Fall Time	$t_f$	See specified Test Circuit		95		ns
Diode Forward Voltage	$V_{SD}$	$I_S=6A, V_{GS}=0$		1.0	1.5	V

## Switching Time Test Circuit



# 2SK1414



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