

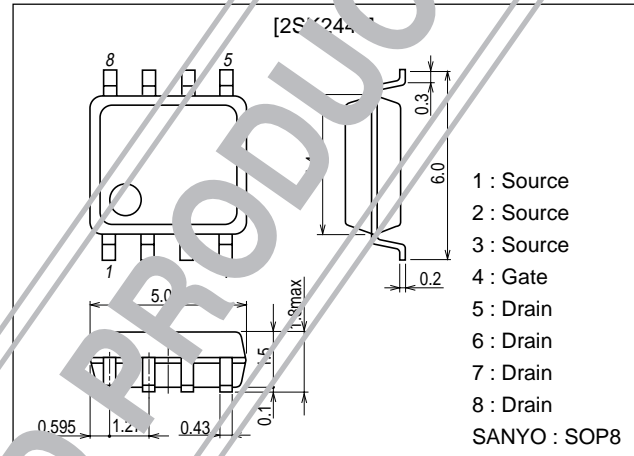
SANYO**Ultrahigh-Speed Switching Applications****Features**

- Low ON resistance.
- Ultrahigh-speed switching.
- 2.5V drive.

Package Dimensions

unit:mm

2116

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

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		20	V
Gate-to-Source Voltage	V_{GSS}		± 10	V
Drain Current (DC)	I_D		6	A
Drain Current (Pulse)	I_{DP}	PW=10%, duty cycle \leq 1%	48	A
Allowable Power Dissipation	P_D	Mounted on ceramic board (1200mm 2 \times 0.8mm)	2.0	W
Channel Temperature	T_{ch}		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-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	$V_{(BR)DSS}$	$I_D=1\text{mA}$, $V_{GS}=0$	20			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=16\text{V}$, $V_{GS}=0$			100	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 8\text{V}$, $V_{DS}=0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10\text{V}$, $I_D=1\text{mA}$	0.4		1.4	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10\text{V}$, $I_D=6\text{A}$	10	14		S
Static Drain-to-Source ON-State Resistance	$R_{DS(on)1}$	$I_D=6\text{A}$, $V_{GS}=4\text{V}$		30	38	$\text{m}\Omega$
	$R_{DS(on)2}$	$I_D=2\text{A}$, $V_{GS}=2.5\text{V}$		40	58	$\text{m}\Omega$

Continued on next page.

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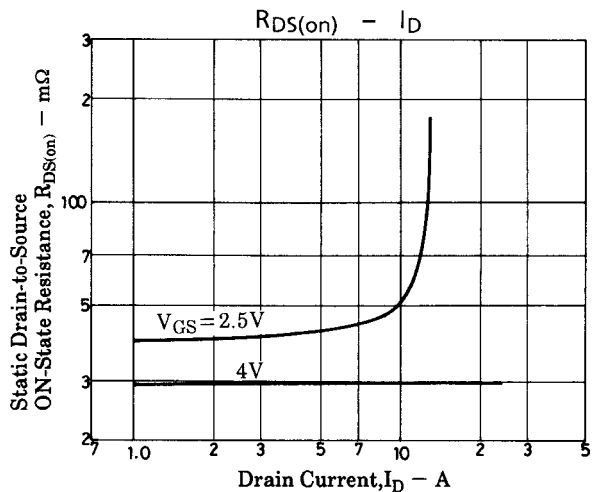
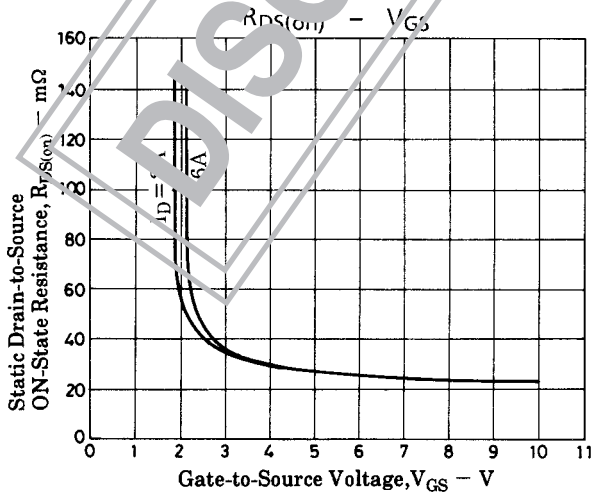
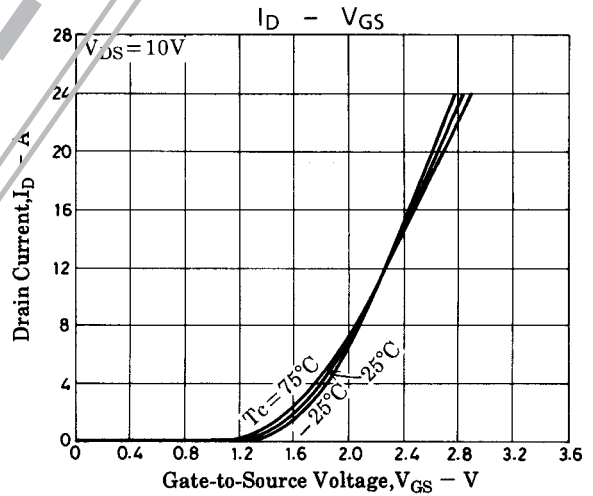
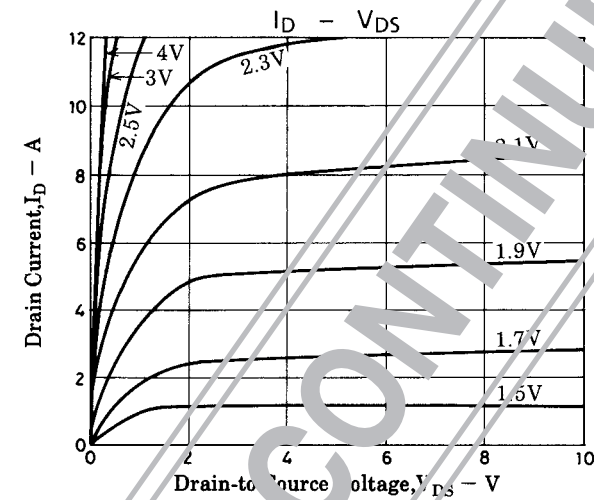
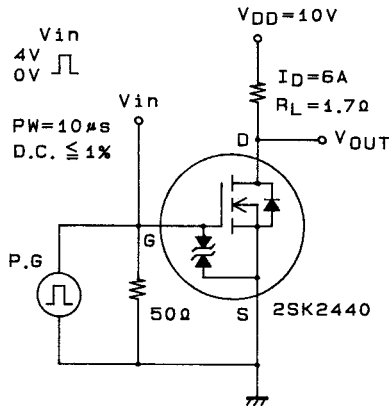
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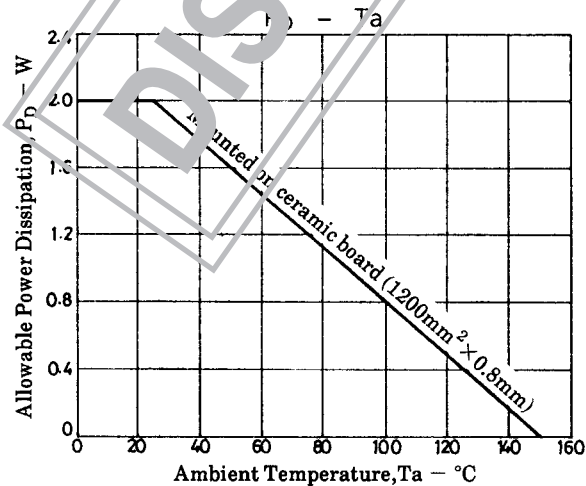
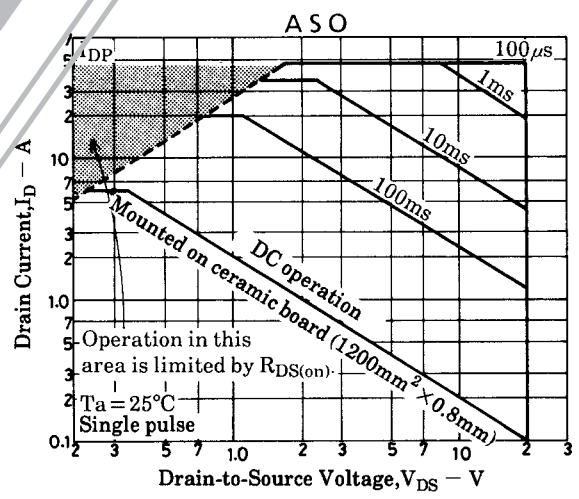
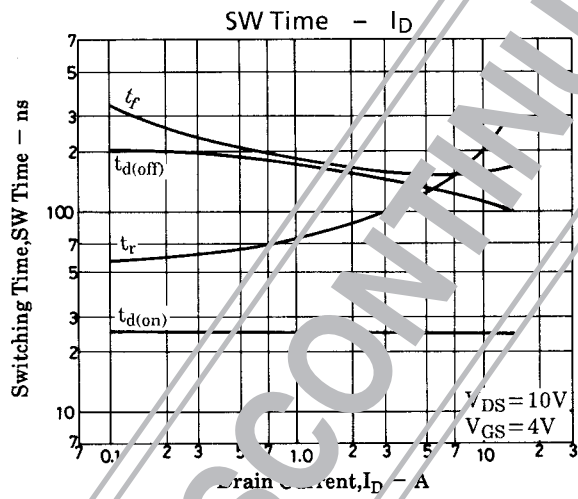
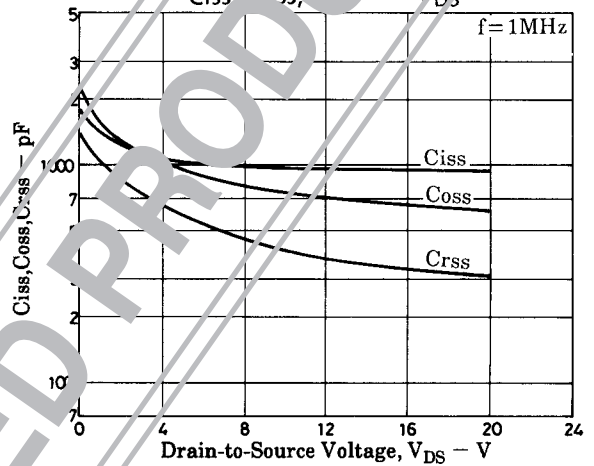
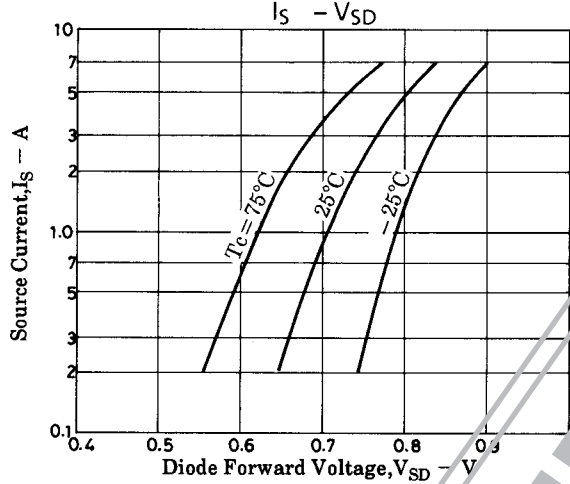
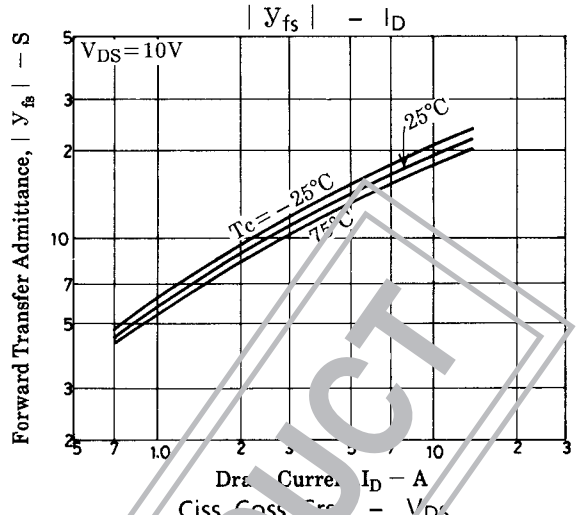
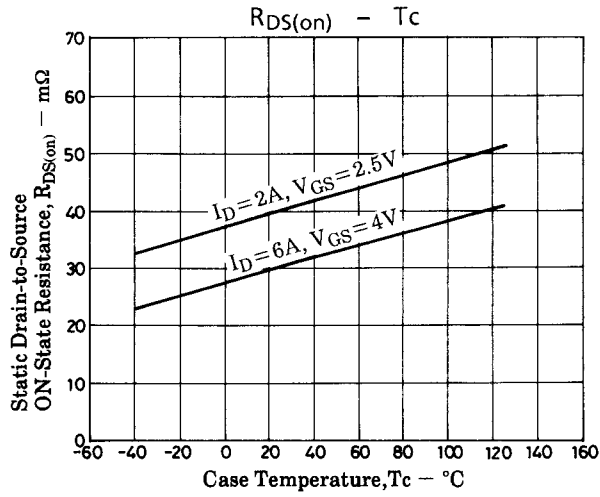
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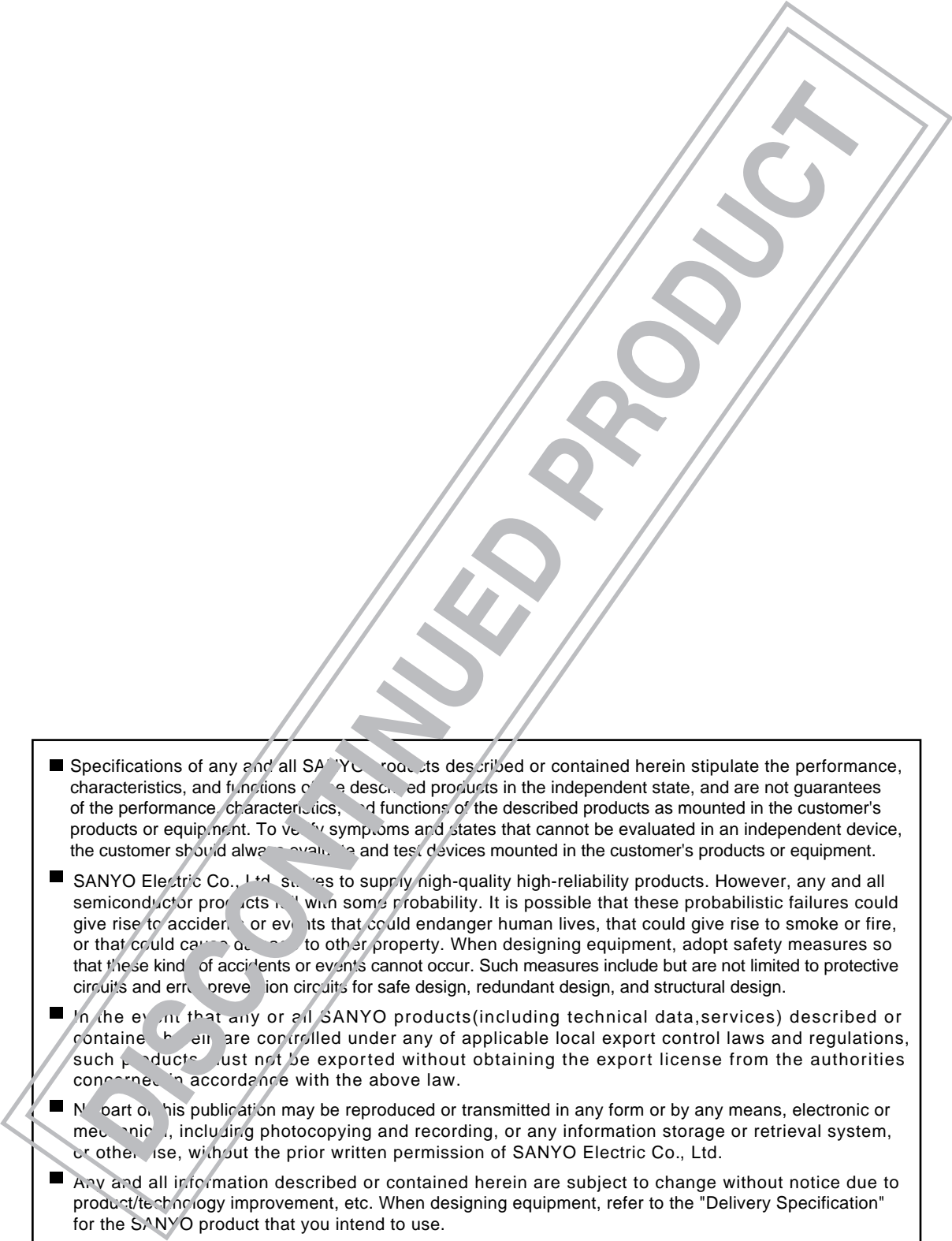
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	C _{iss}	V _{DS} =10V, f=1MHz		1000		pF
Output Capacitance	C _{oss}	V _{DS} =10V, f=1MHz		750		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =10V, f=1MHz		400		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit		25		ns
Rise Time	t _r	See specified Test Circuit		135		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit		135		ns
Fall Time	t _f	See specified Test Circuit		150		ns
Diode Forward Voltage	V _{SD}	I _S =6A, V _{GS} =0		1.0	1.2	V

Switching Time Test Circuit



2SK2440



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