

**2SK2441**

Ultrahigh-Speed Switching Applications

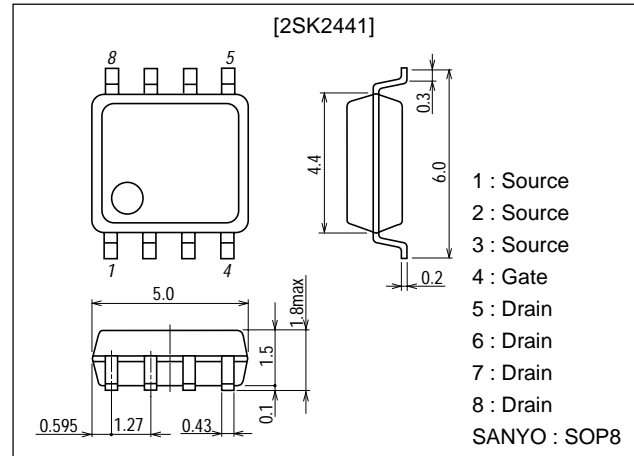
Features

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

Package Dimensions

unit:mm

2116



Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		20	V
Gate-to-Source Voltage	V_{GS}		± 12	V
Drain Current (DC)	I_D		7	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	48	A
Allowable Power Dissipation	P_D	Mounted on ceramic board (1000mm ² ×0.8mm)	2.0	W
Channel Temperature	T_{ch}		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA$, $V_{GS}=0$	20			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=16V$, $V_{GS}=0$			100	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 10V$, $V_{DS}=0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V$, $I_D=1mA$	0.4		1.4	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V$, $I_D=7A$	12	18		S
Static Drain-to-Source ON-State Resistance	$R_{DS(on)1}$	$I_D=7A$, $V_{GS}=4V$		25	32	m Ω
	$R_{DS(on)2}$	$I_D=2A$, $V_{GS}=2.5V$		37	48	m Ω

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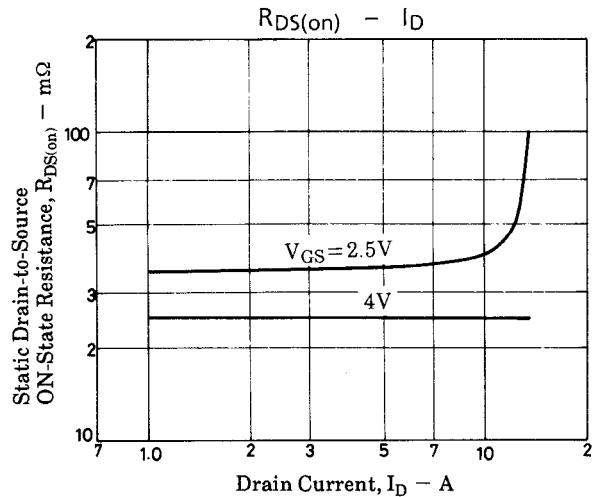
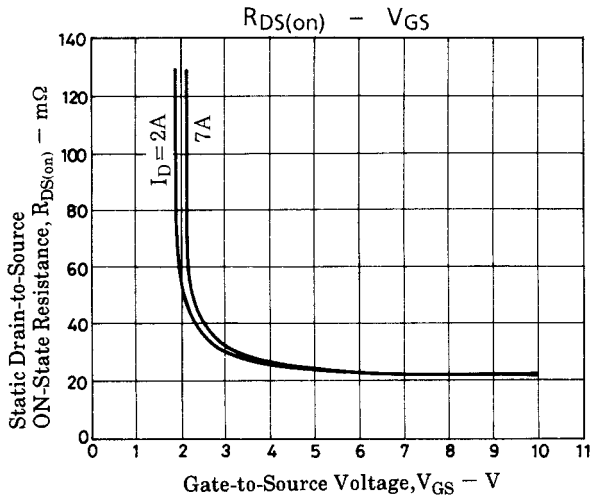
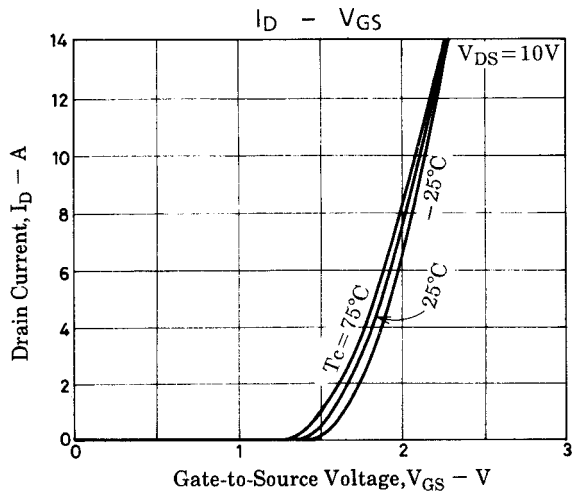
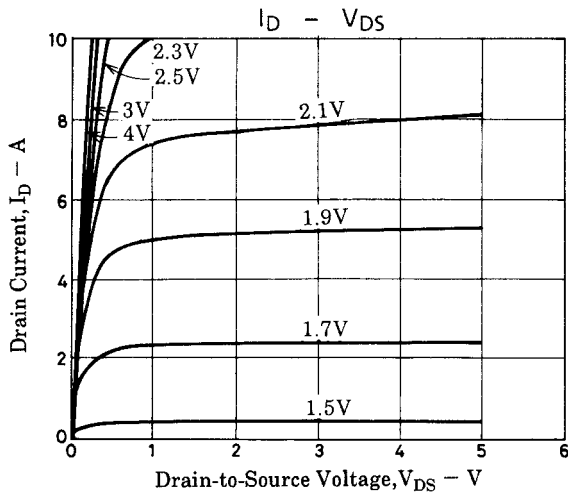
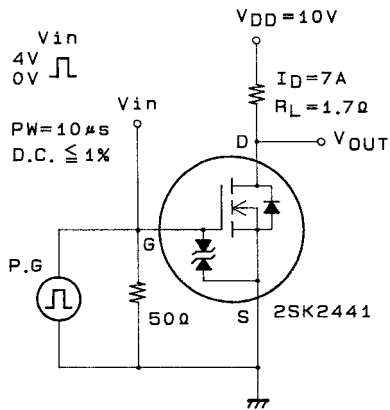
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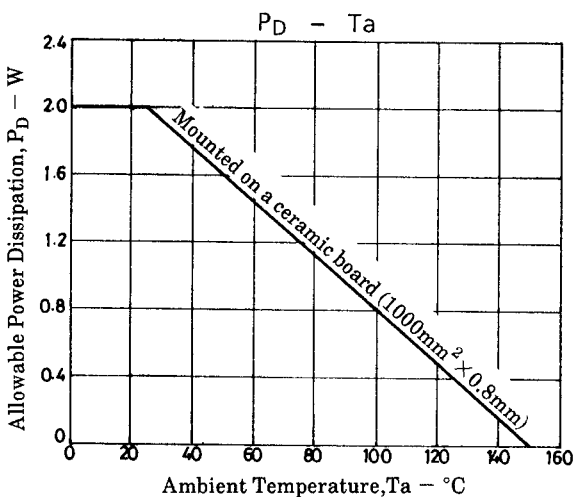
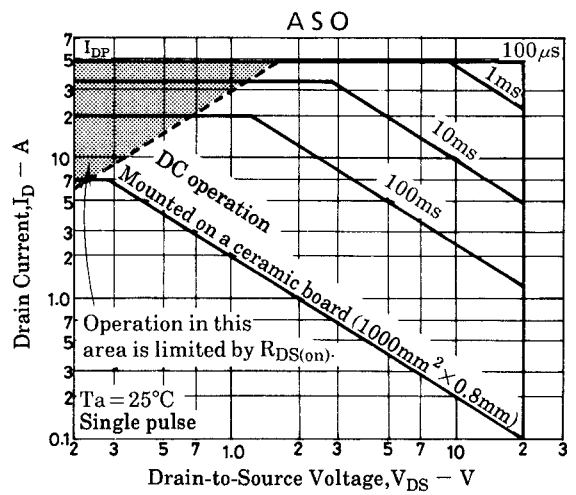
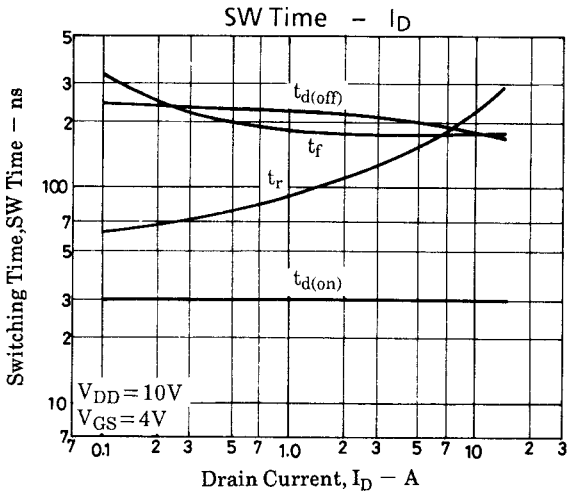
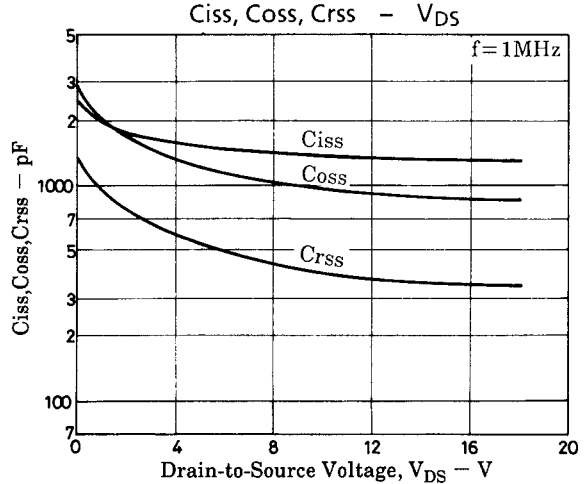
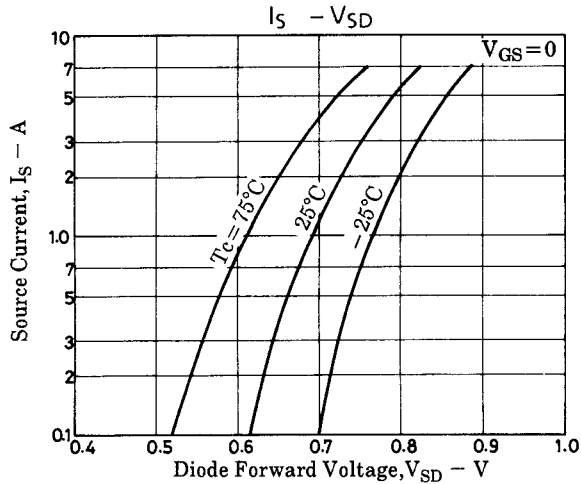
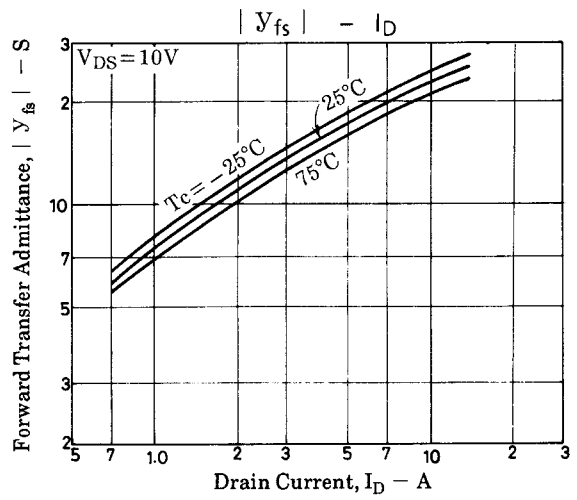
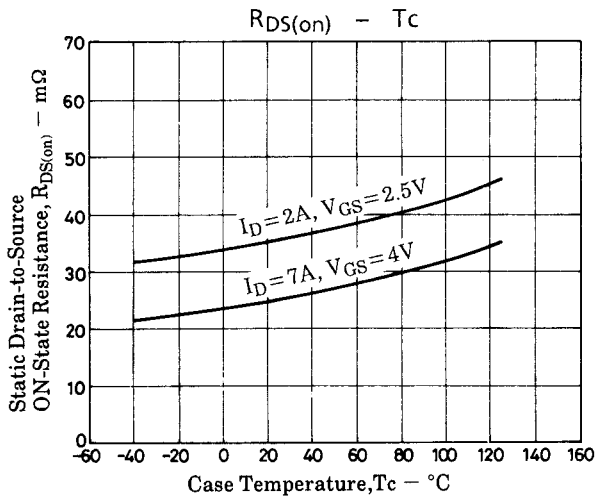
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	$V_{DS}=10V, f=1MHz$		1300		pF
Output Capacitance	Coss	$V_{DS}=10V, f=1MHz$		950		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=10V, f=1MHz$		400		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		30		ns
Rise Time	t_r	See specified Test Circuit		190		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		190		ns
Fall Time	t_f	See specified Test Circuit		180		ns
Diode Forward Voltage	V_{SD}	$I_S=7A, V_{GS}=0$		1.0	1.2	V

Switching Time Test Circuit



2SK2441



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