

**2SK1444**

## Ultrahigh-Speed Switching Applications

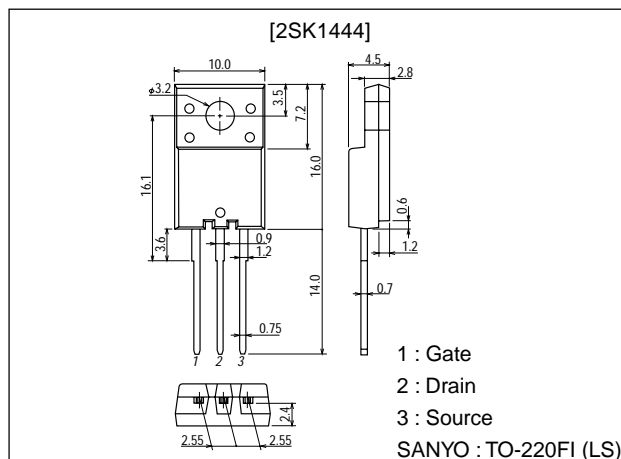
### Features

- Low ON-state resistance.
- Ultrahigh-speed switching.
- Micaless package facilitating easy mounting.

### Package Dimensions

unit:mm

2078B



### Specifications

#### Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		450	V
Gate-to-Source Voltage	$V_{GSS}$		$\pm 30$	V
Drain Current (DC)	$I_D$		3	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10\mu s$ , duty cycle $\leq 1\%$	12	A
Allowable Power Dissipation	$P_D$		2.0	W
		$T_c = 25^\circ C$	25	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	$V_{(BR)DSS}$	$I_D = 1mA$ , $V_{GS} = 0$	450			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 450V$ , $V_{GS} = 0$			1.0	mA
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 30V$ , $V_{DS} = 0$			$\pm 100$	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10V$ , $I_D = 1mA$	2.0		3.0	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 10V$ , $I_D = 0.5A$	1.1	2.2		S
Static Drain-to-Source ON-State Resistance	$R_{DS(on)}$	$I_D = 0.5A$ , $V_{GS} = 10V$		2.0	2.6	$\Omega$

(Note) Be careful in handling the 2SK1444 because it has no protection diode between gate and source.

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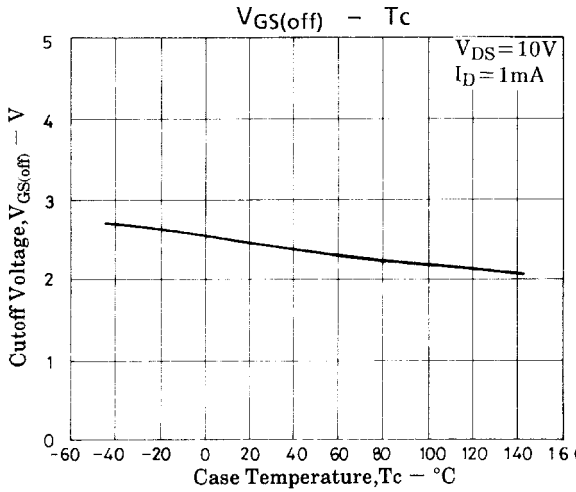
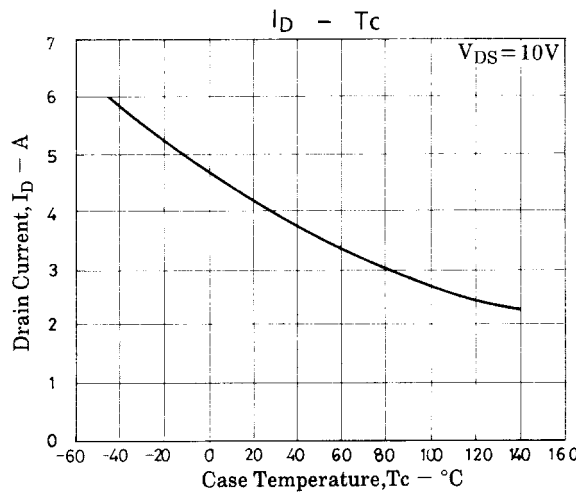
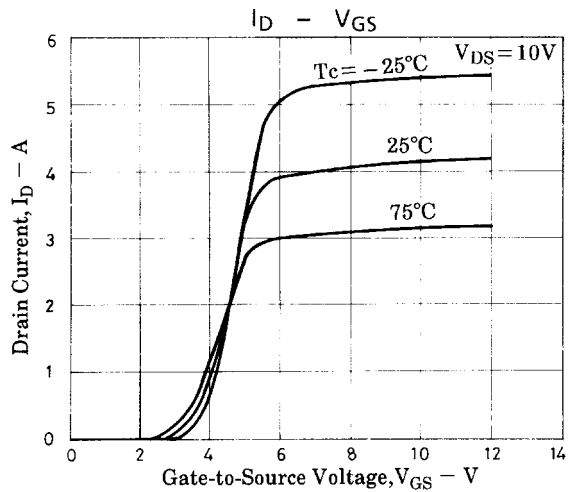
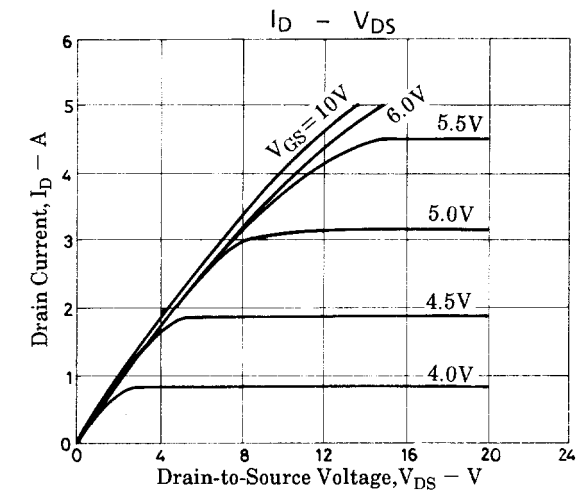
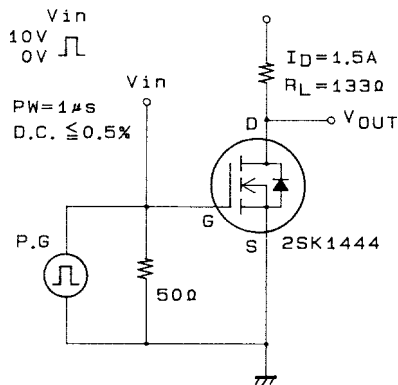
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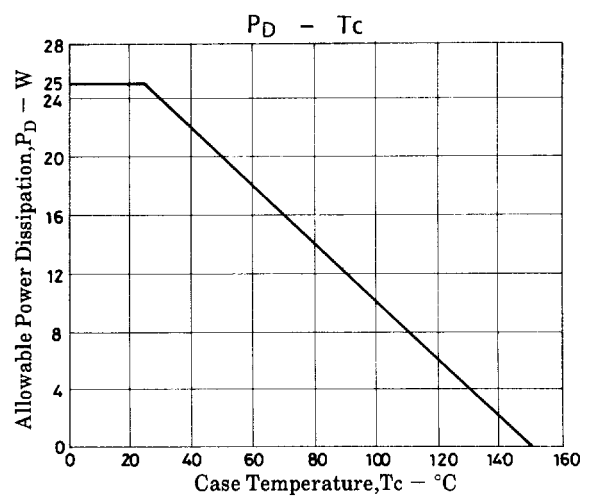
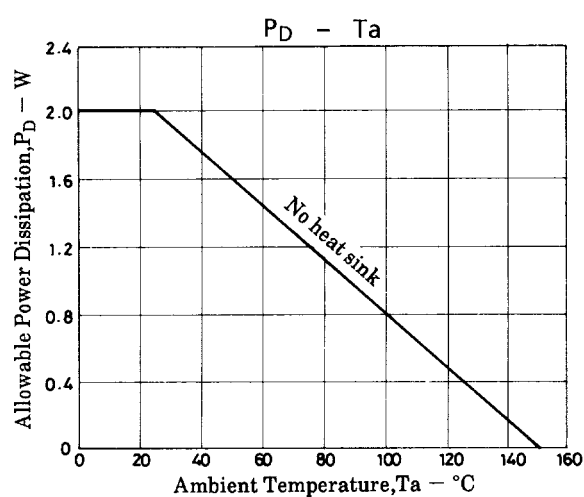
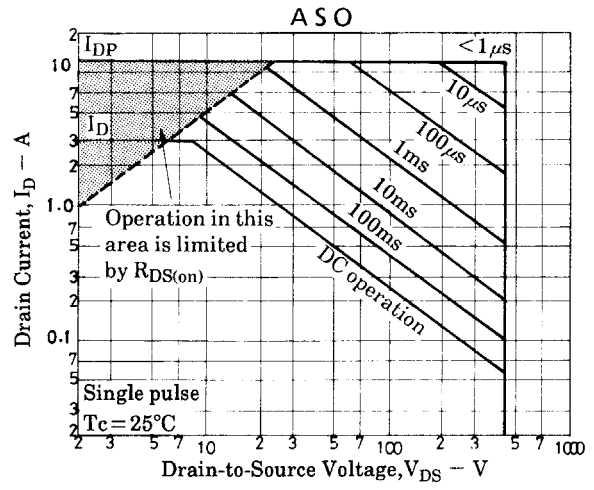
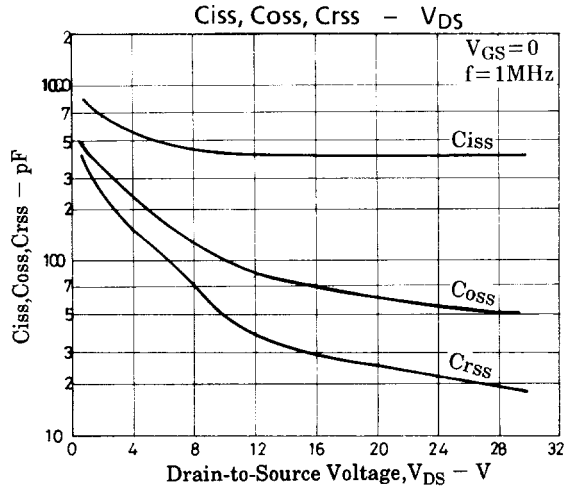
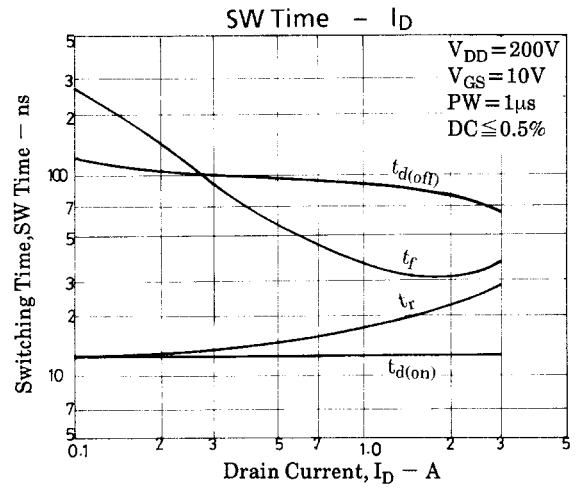
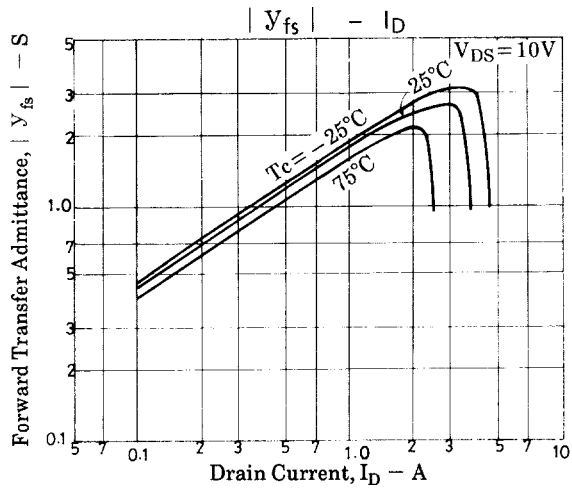
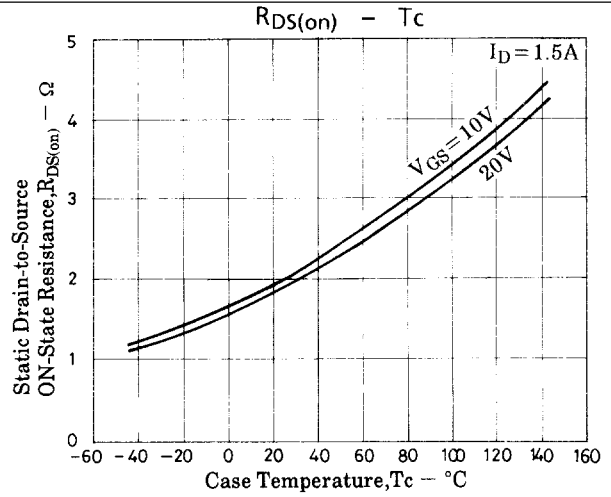
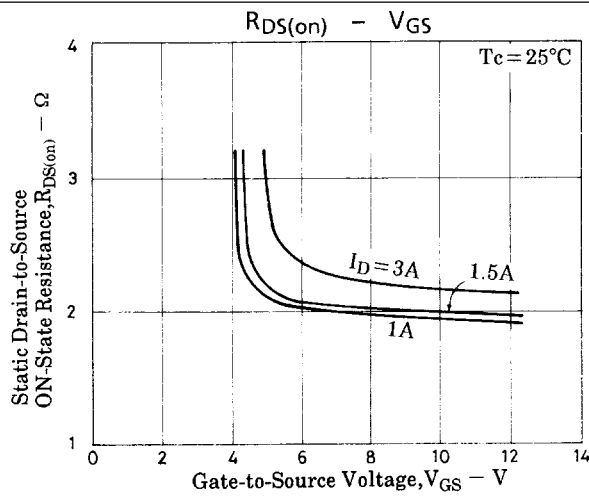
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V <sub>DS</sub> =20V, f=1MHz		400		pF
Output Capacitance	Coss	V <sub>DS</sub> =20V, f=1MHz		60		pF
Reverse Transfer Capacitance	Crss	V <sub>DS</sub> =20V, f=1MHz		25		pF
Turn-ON Delay Time	t <sub>d(on)</sub>	See specified Test Circuit.		12		ns
Rise Time	t <sub>r</sub>	See specified Test Circuit.		20		ns
Turn-OFF Delay Time	t <sub>d(off)</sub>	See specified Test Circuit.		80		ns
Fall Time	t <sub>f</sub>	See specified Test Circuit.		35		ns
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =3A, V <sub>GS</sub> =0			1.8	V

Switching Time Test Circuit



# 2SK1444



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