

**2SK2161**

Ultrahigh-Speed Switching Applications

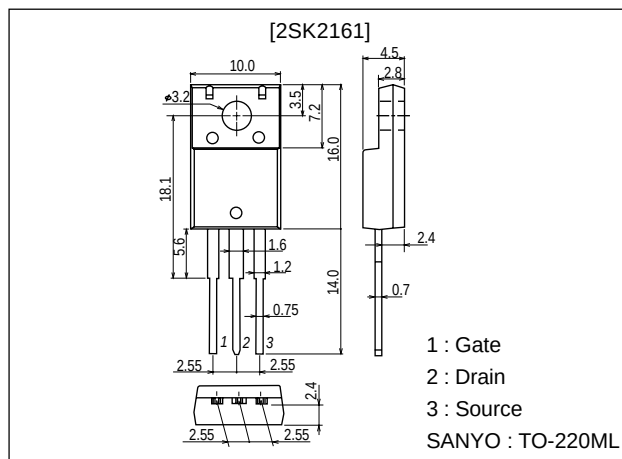
Features

- Low ON resistance.
- Ultrahigh-speed switching.
- Low-voltage drive.
- Micaless package facilitating mounting.

Package Dimensions

unit:mm

2063A



Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		200	V
Gate-to-Source Voltage	V_{GS}		±20	V
Drain Current (DC)	I_D		9	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	36	A
Allowable Power Dissipation	P_D		2.0	W
		$T_c = 25^\circ C$	25	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	$V_{(BR)DSS}$	$I_D = 1mA$, $V_{GS} = 0$	200			V
Gate-to-Source Breakdown Voltage	$V_{(BR)GSS}$	$I_G = \pm 100\mu A$, $V_{DS} = 0$	±20			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 200V$, $V_{GS} = 0$			100	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 16V$, $V_{DS} = 0$			±10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10V$, $I_D = 1mA$	1.5		2.5	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 10V$, $I_D = 4.5A$	3.5	6		S
Static Drain-to-Source ON-State Resistance	$R_{DS(on)}$	$I_D = 4.5A$, $V_{GS} = 10V$		250	350	mΩ

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SANYO Electric Co.,Ltd. Semiconductor Company

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

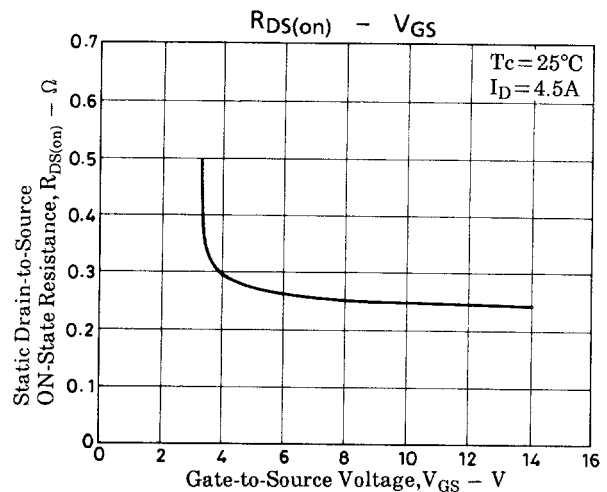
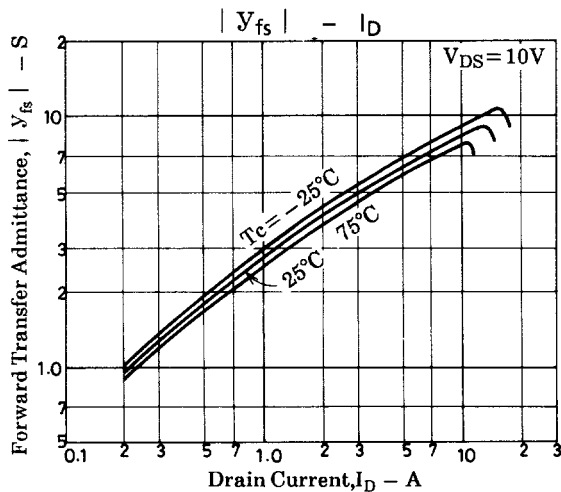
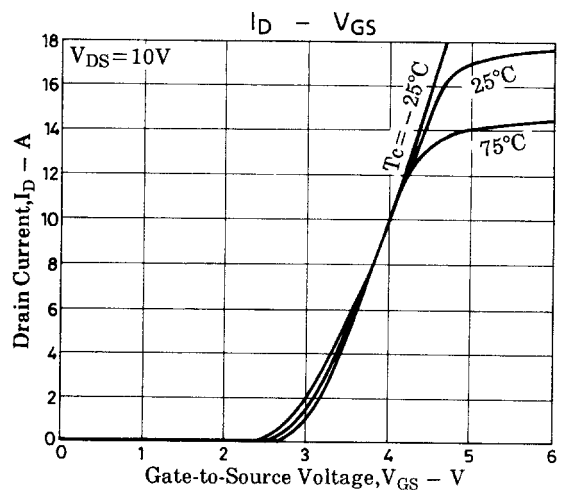
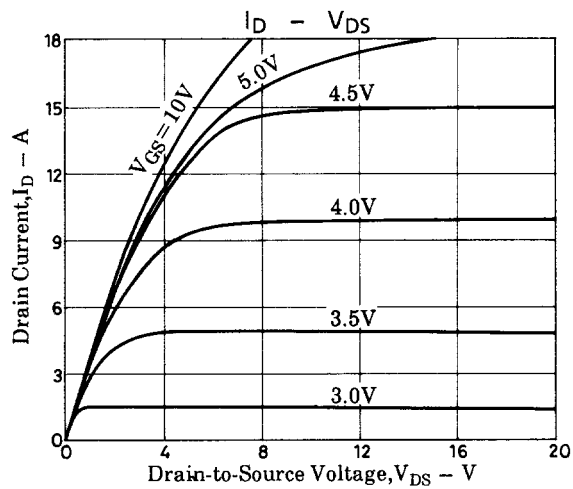
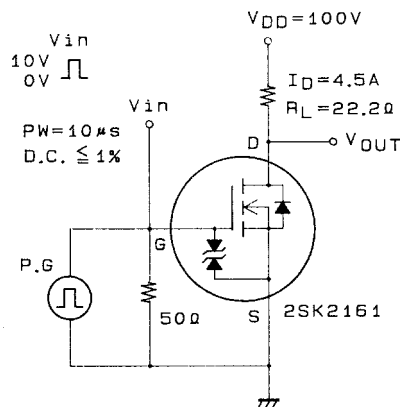
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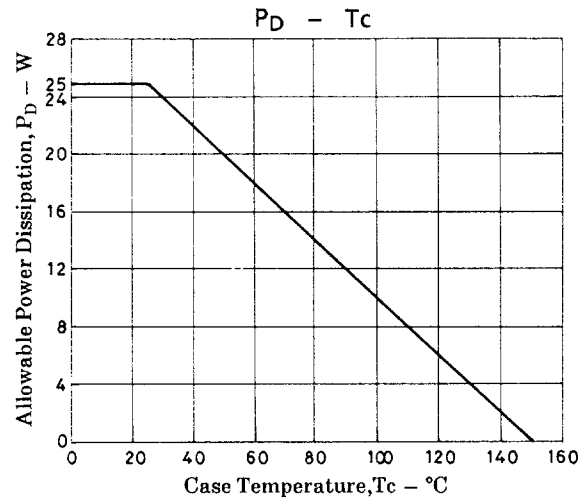
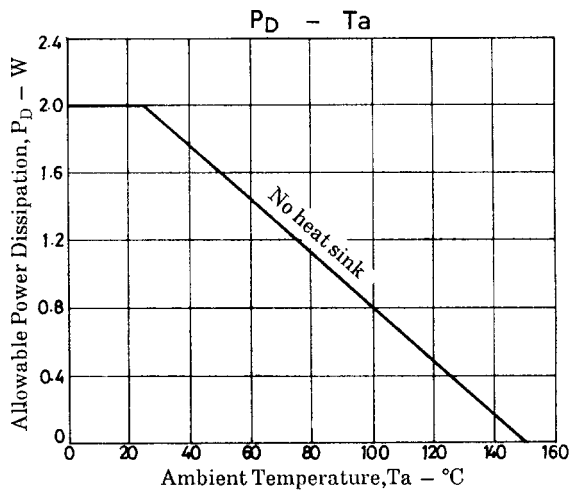
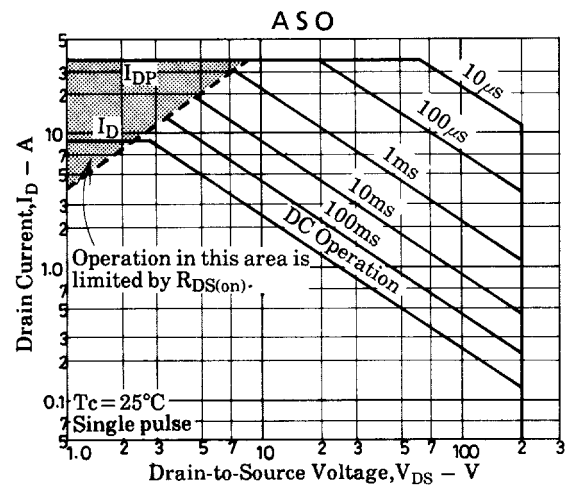
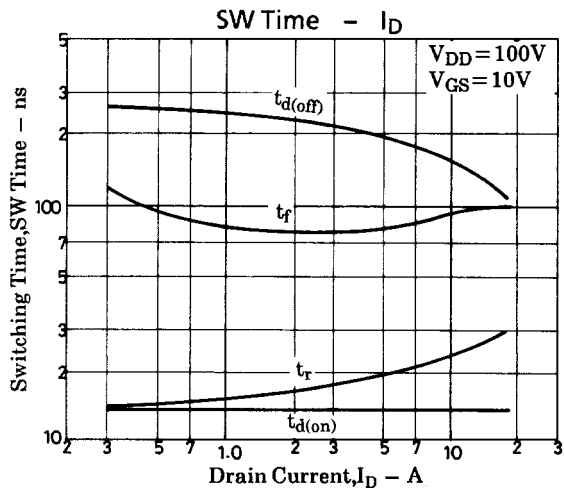
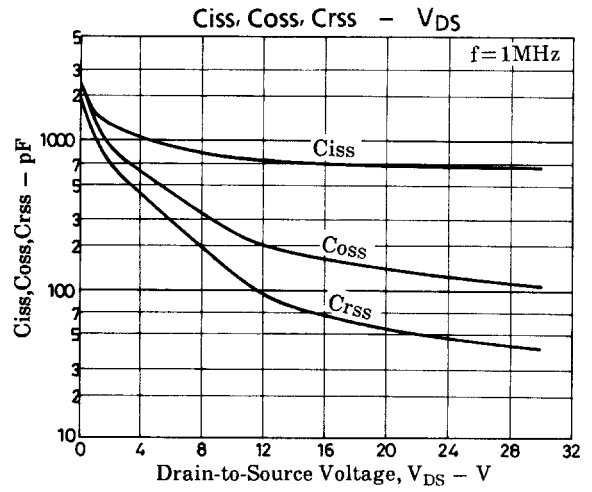
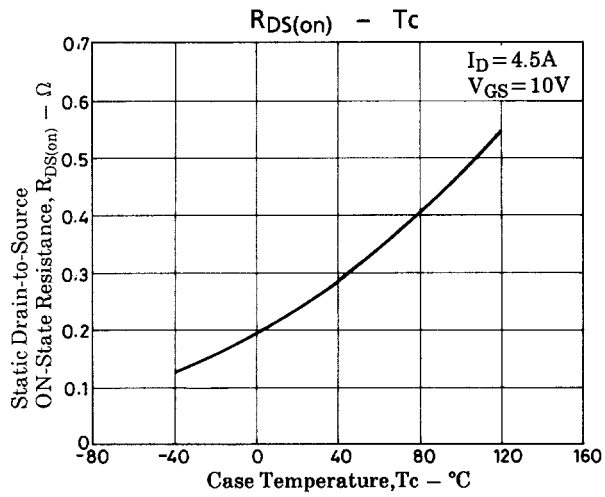
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	C_{iss}	$V_{DS}=20V, f=1MHz$		700		pF
Output Capacitance	C_{oss}	$V_{DS}=20V, f=1MHz$		140		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=20V, f=1MHz$		55		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		14		ns
Rise Time	t_r	See specified Test Circuit		19		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		200		ns
Fall Time	t_f	See specified Test Circuit		80		ns
Diode Forward Voltage	V_{SD}	$I_S=9A, V_{GS}=0$		1.0	1.5	V

Switching Time Test Circuit



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