

**2SJ381**

Ultrahigh-Speed Switching Applications

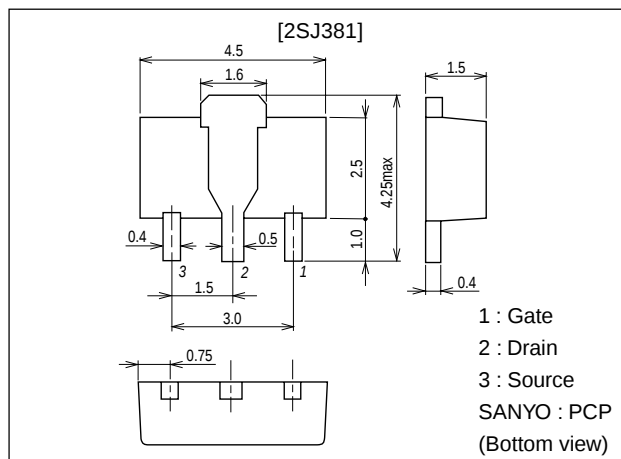
Features

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

Package Dimensions

unit:mm

2062A



Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		-12	V
Gate-to-Source Voltage	V_{GSS}		±10	V
Drain Current (DC)	I_D		-2	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	-8	A
Allowable Power Dissipation	P_D	$T_c = 25^\circ C$	3.5	W
		Mounted on ceramic board (250mm ² × 0.8mm)	1.5	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	$V_{(BR)DSS}$	$I_D = -1mA$, $V_{GS} = 0$	-12			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -10V$, $V_{GS} = 0$			-100	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 8V$, $V_{DS} = 0$			±10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = -6V$, $I_D = -1mA$	-0.5		-1.5	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = -6V$, $I_D = -1A$	1.6	2.4		S
Static Drain-to-Source ON-State Resistance	$R_{DS(on)}$	$I_D = -1A$, $V_{GS} = -4V$		280	400	mΩ
	$R_{DS(on)}$	$I_D = -500mA$, $V_{GS} = -2.5V$		400	700	mΩ

Marking : JI

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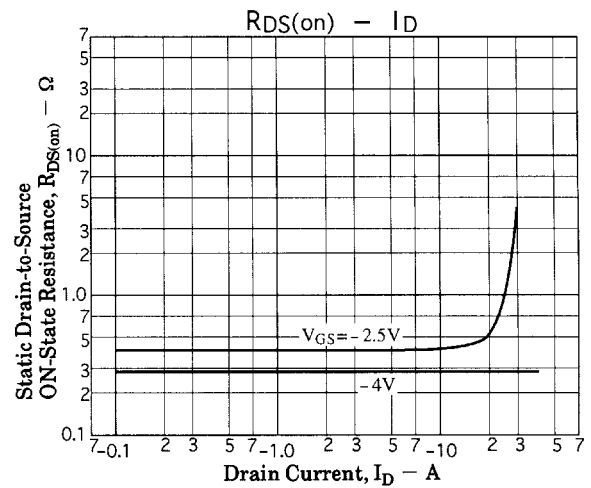
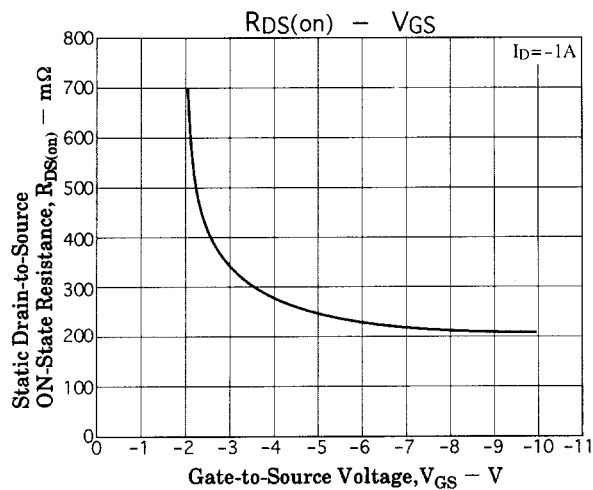
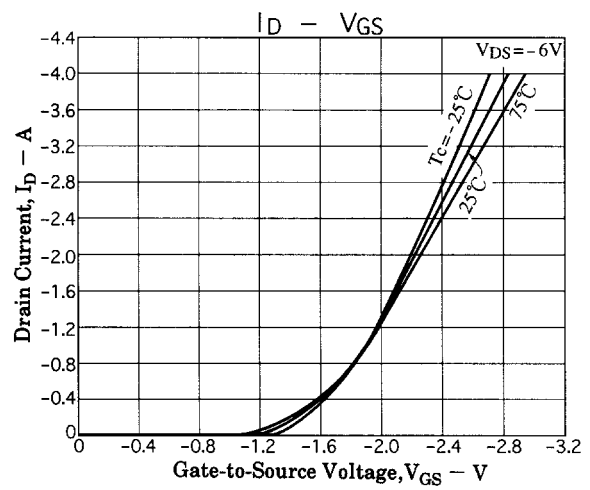
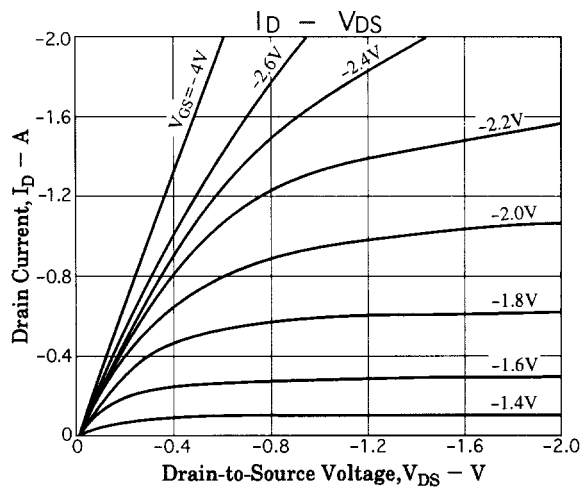
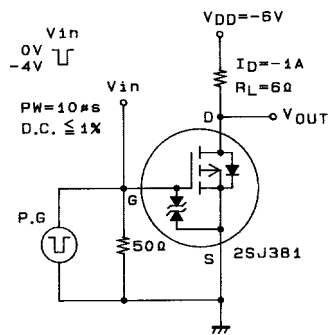
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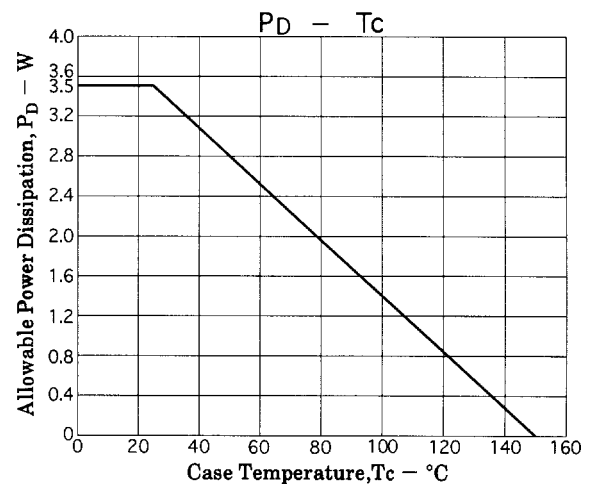
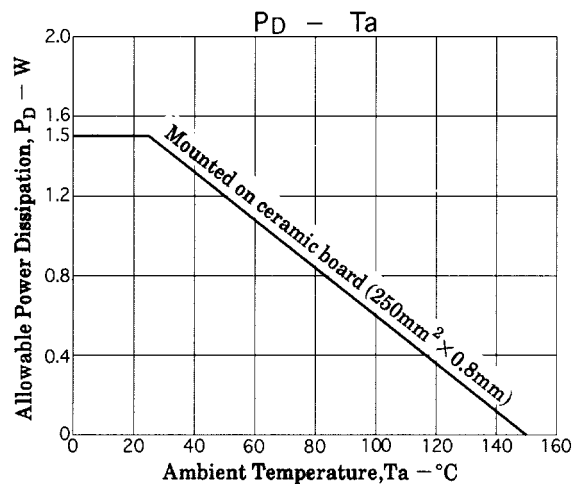
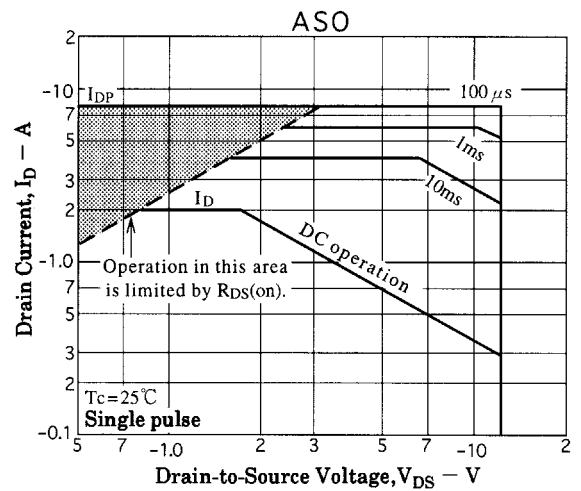
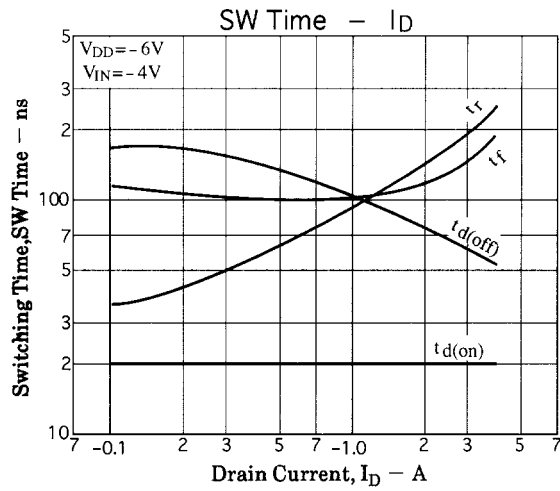
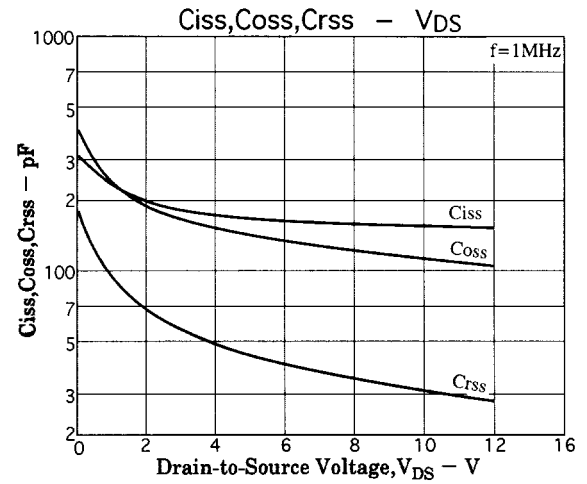
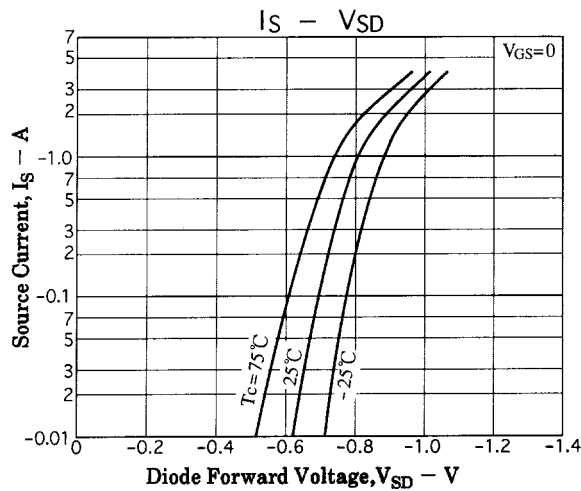
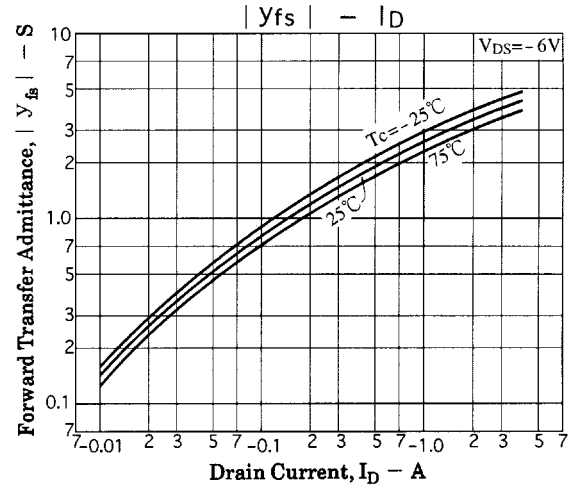
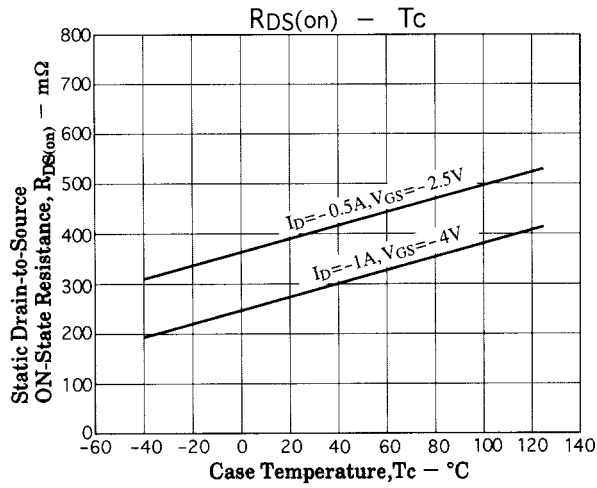
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	C_{iss}	$V_{DS} = -6V, f = 1MHz$		170		pF
Output Capacitance	C_{oss}	$V_{DS} = -6V, f = 1MHz$		140		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = -6V, f = 1MHz$		40		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		20		ns
Rise Time	t_r	See specified Test Circuit		90		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		100		ns
Fall Time	t_f	See specified Test Circuit		100		ns
Diode Forward Voltage	V_{SD}	$I_S = -2A, V_{GS} = 0$		-1.0	-1.2	V

Switching Time Test Circuit





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