

**2SJ255**

Ultrahigh-Speed Switching Applications

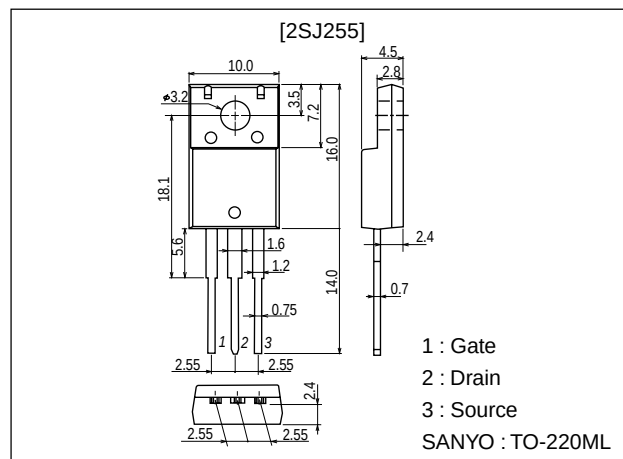
Features

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

Package Dimensions

unit:mm

2063A



Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		-30	V
Gate-to-Source Voltage	V_{GS}		± 20	V
Drain Current (DC)	I_D		-10	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	-40	A
Allowable Power Dissipation	P_D		2.0	W
		$T_c = 25^\circ\text{C}$	25	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	$V_{(BR)DS}$	$I_D = -1\text{mA}$, $V_{GS} = 0$	-30			V
Gate-to-Source Breakdown Voltage	$V_{(BR)GS}$	$I_G = \pm 100\mu A$, $V_{DS} = 0$	± 20			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -30\text{V}$, $V_{GS} = 0$			-100	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 16\text{V}$, $V_{DS} = 0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = -10\text{V}$, $I_D = -1\text{mA}$	-1.0		-2.0	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = -10\text{V}$, $I_D = -6\text{A}$	5	8		S
Static Drain-to-Source ON-State Resistance	$R_{DS(on)}$	$I_D = -6\text{A}$, $V_{GS} = -10\text{V}$		0.07	0.095	Ω
	$R_{DS(on)}$	$I_D = -6\text{A}$, $V_{GS} = -4\text{V}$		0.095	0.13	Ω

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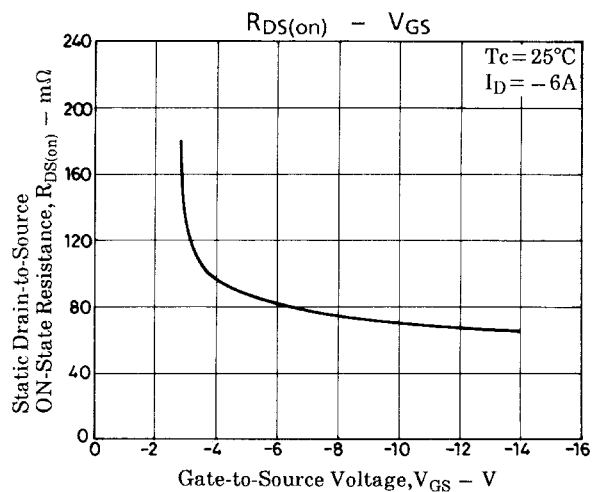
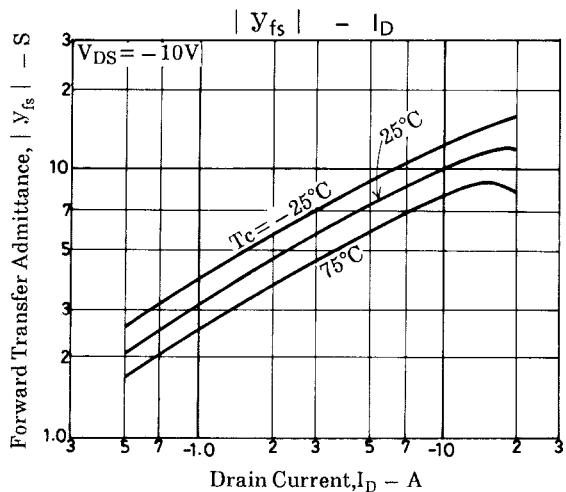
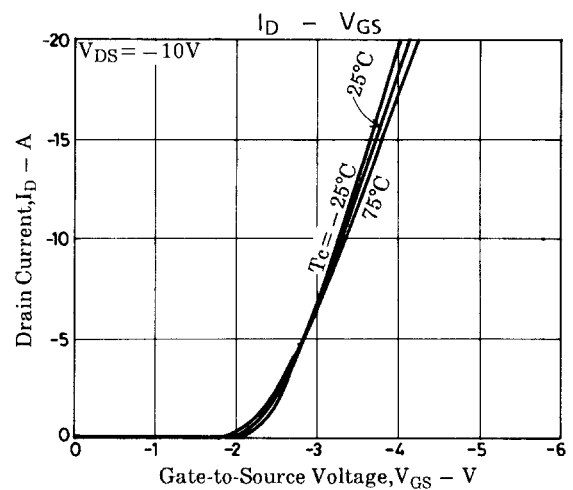
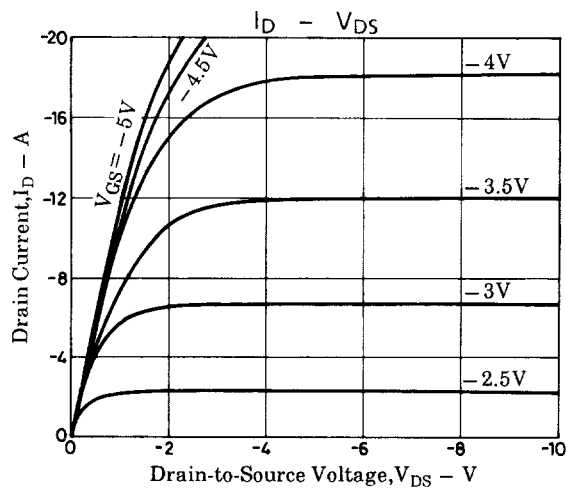
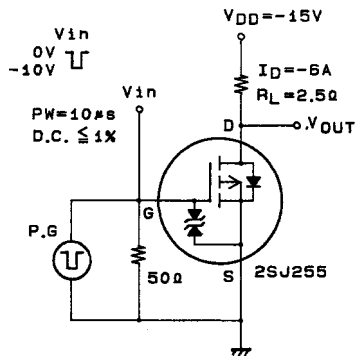
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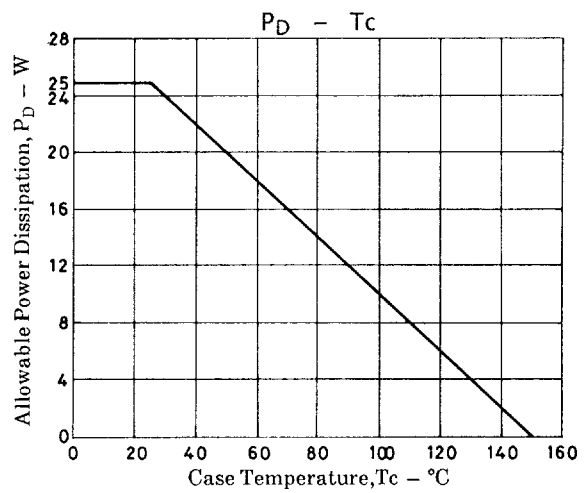
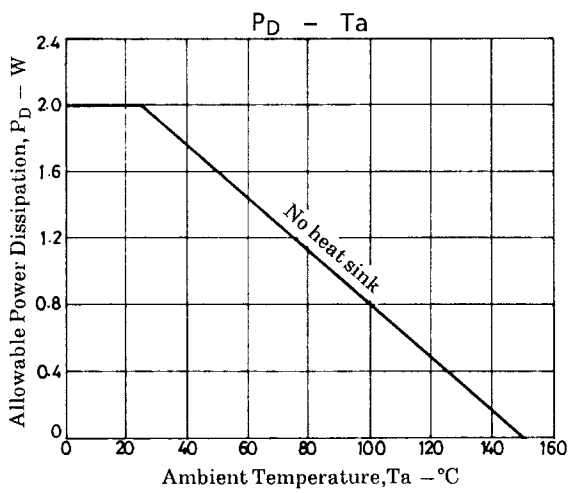
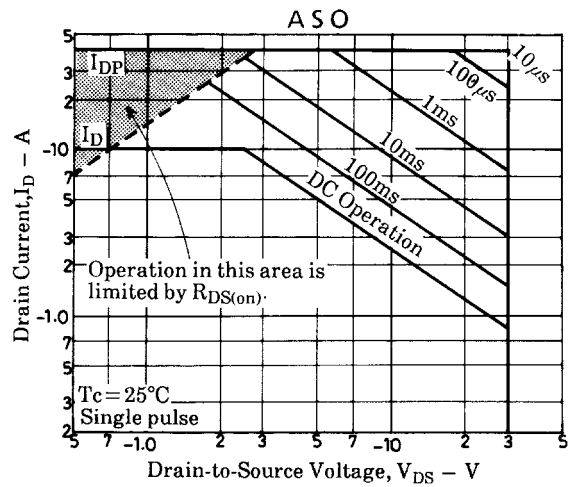
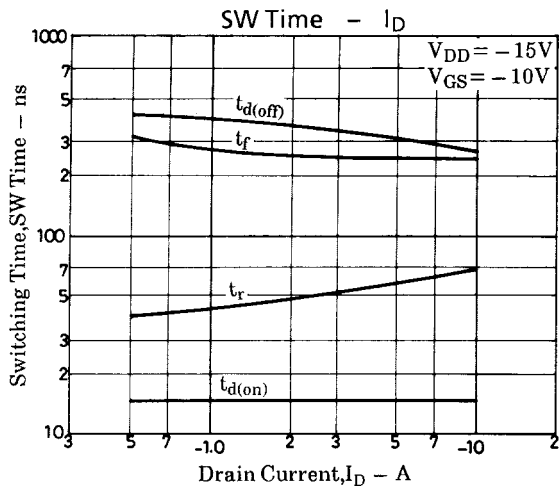
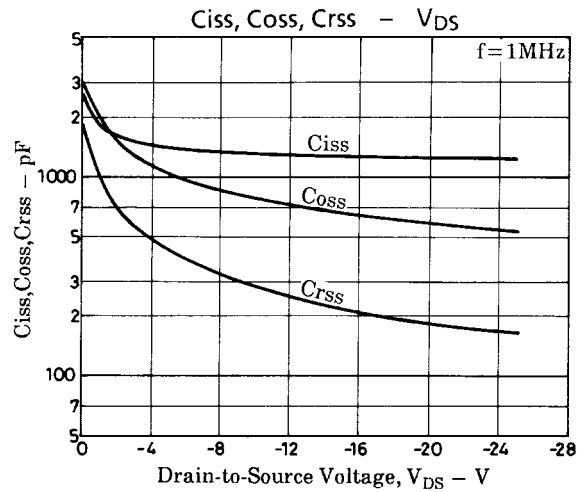
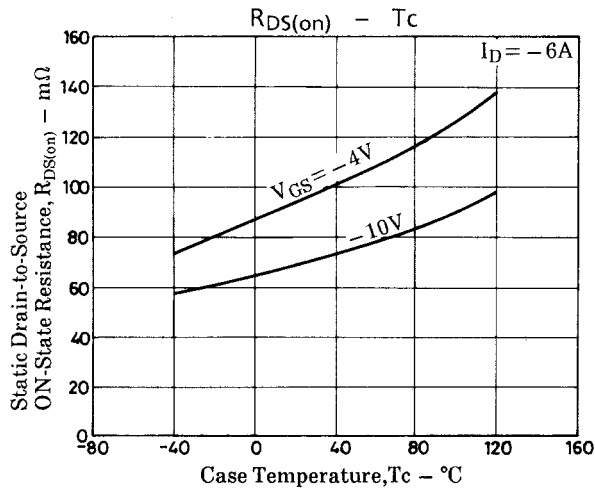
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	C_{iss}	$V_{DS} = -10V, f = 1MHz$		1300		pF
Output Capacitance	C_{oss}	$V_{DS} = -10V, f = 1MHz$		780		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = -10V, f = 1MHz$		290		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		16		ns
Rise Time	t_r	See specified Test Circuit		60		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		300		ns
Fall Time	t_f	See specified Test Circuit		250		ns
Diode Forward Voltage	V_{SD}	$I_S = -10A, V_{GS} = 0$		-1.0	-1.5	V

Switching Time Test Circuit





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