

**2SJ656****General-Purpose Switching Device**

An ON Semiconductor Company

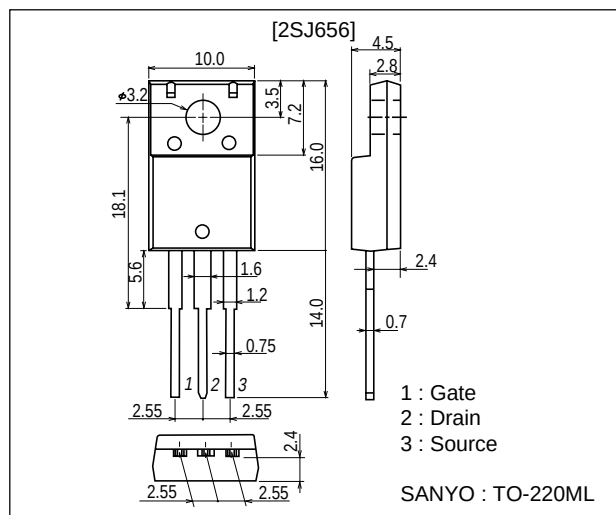
Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 4V drive.
- Motor drive, DC / DC converter.

Package Dimensions

unit : mm

2063A

**Specifications****Absolute Maximum Ratings** at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		-100	V
Gate-to-Source Voltage	V_{GS}		±20	V
Drain Current (DC)	I_D		-18	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	-72	A
Allowable Power Dissipation	P_D		2.0	W
		Tc=25°C	30	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = -1mA, V_{GS} = 0$	-100			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -100V, V_{GS} = 0$			-1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 16V, V_{DS} = 0$			±10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = -10V, I_D = -1mA$	-1.2		-2.6	V
Forward Transfer Admittance	yfs	$V_{DS} = -10V, I_D = -9A$	14	20		S

Marking : J656

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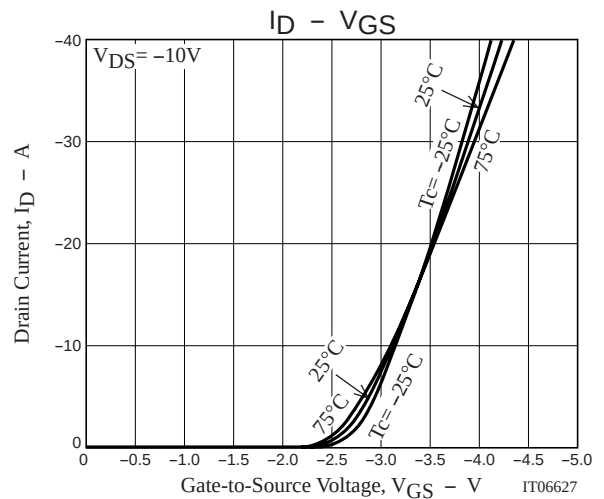
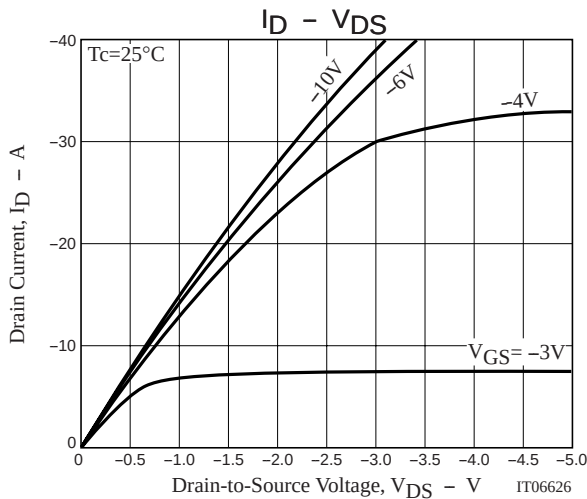
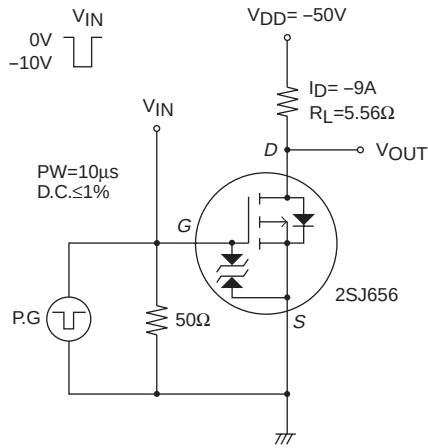
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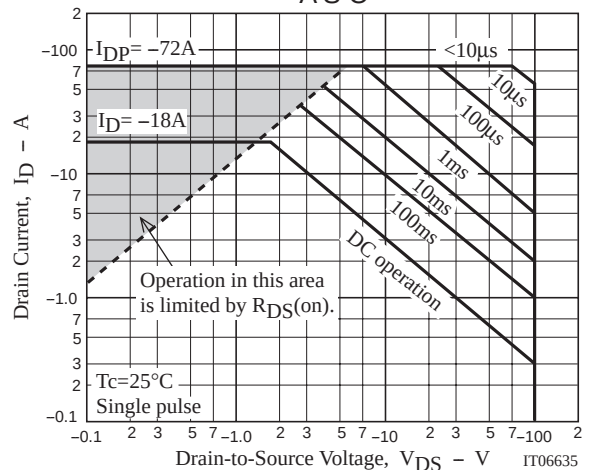
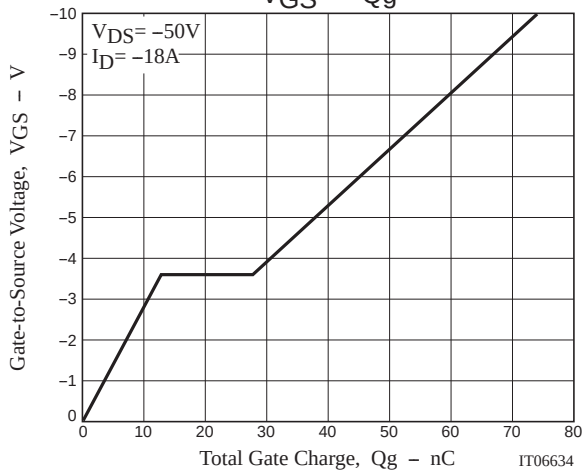
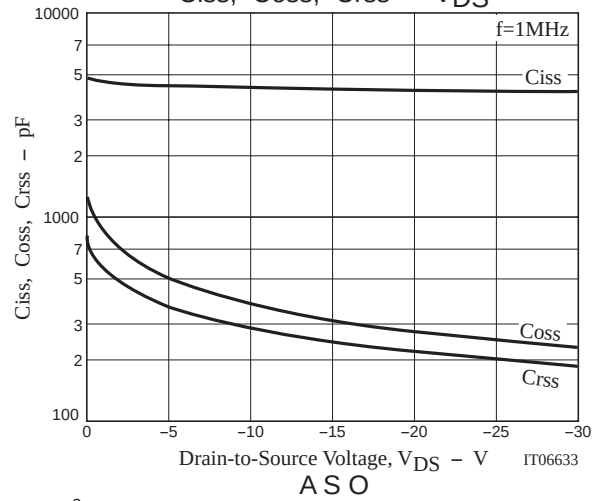
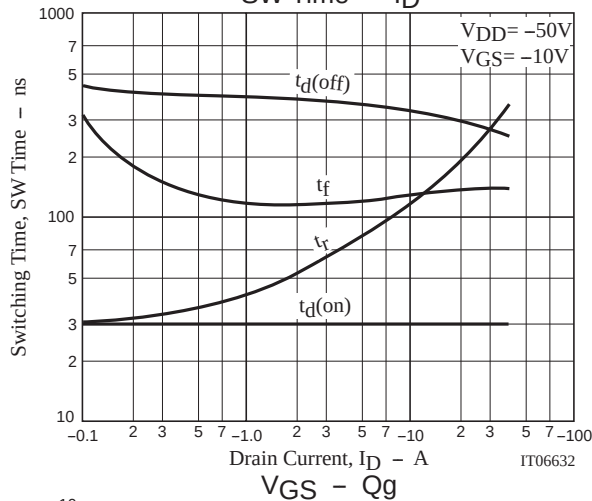
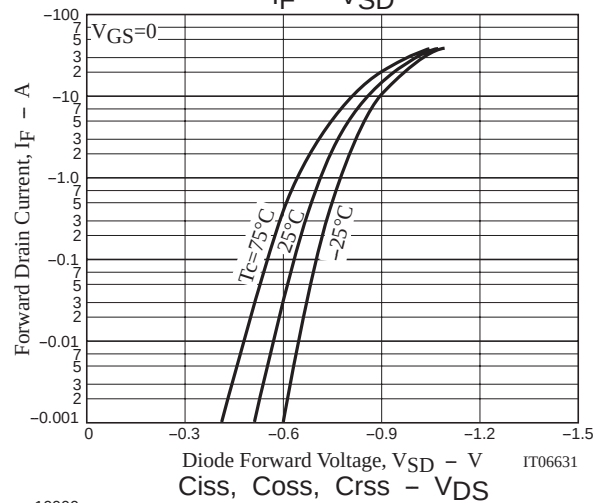
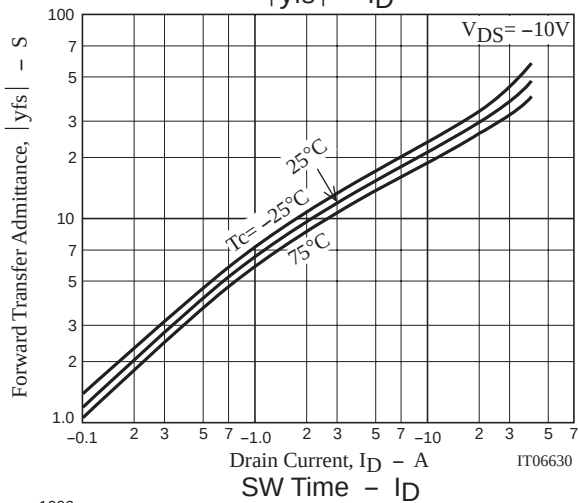
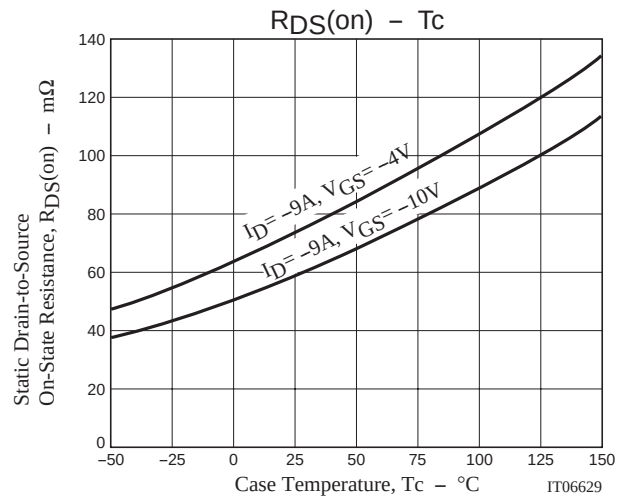
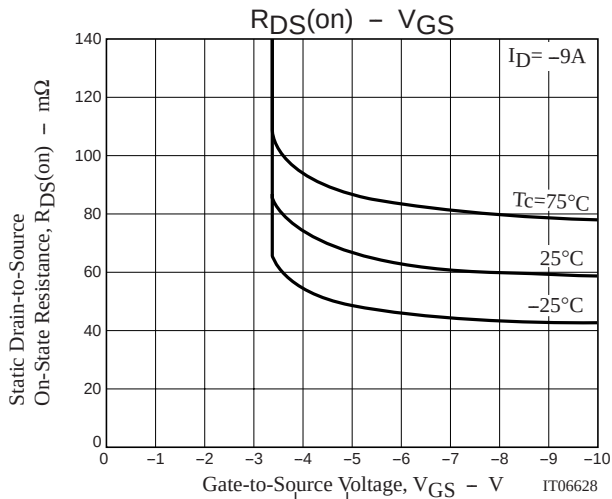
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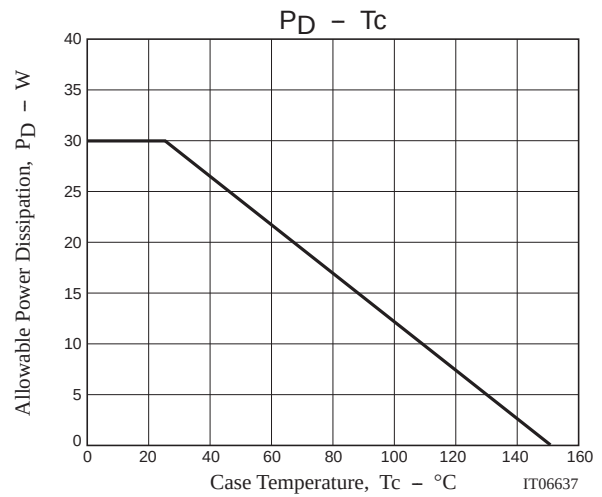
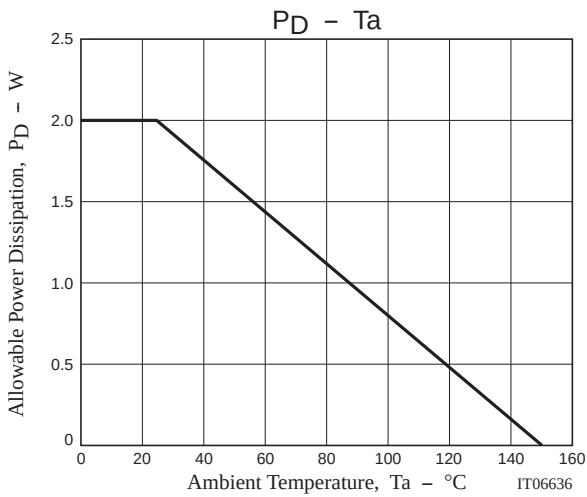
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = -9A, V_{GS} = -10V$		58	75.5	$m\Omega$
	$R_{DS(on)2}$	$I_D = -9A, V_{GS} = -4V$		74	104	$m\Omega$
Input Capacitance	C_{iss}	$V_{DS} = -20V, f = 1MHz$		4200		pF
Output Capacitance	C_{oss}	$V_{DS} = -20V, f = 1MHz$		280		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = -20V, f = 1MHz$		220		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		30		ns
Rise Time	t_r	See specified Test Circuit.		110		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		340		ns
Fall Time	t_f	See specified Test Circuit.		128		ns
Total Gate Charge	Q_g	$V_{DS} = -50V, V_{GS} = -10V, I_D = -18A$		74		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS} = -50V, V_{GS} = -10V, I_D = -18A$		12.8		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS} = -50V, V_{GS} = -10V, I_D = -18A$		14.7		nC
Diode Forward Voltage	V_{SD}	$I_S = -18A, V_{GS} = 0$		-0.93	-1.2	V

Switching Time Test Circuit



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