Ordering number : EN7712B

ON Semiconductor®

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DATA SHEET

P-Channel Silicon MOSFET

2SJ655 — General-Purpose Switching Device Applications

Features

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

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		−100	V
Gate-to-Source Voltage	V_{GSS}		±20	V
Drain Current (DC)	I_D		−12	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	−48	A
Allowable Power Dissipation	P_D		2.0	W
		Tc=25°C	25	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		−55 to +150	°C
Avalanche Energy (Single Pulse) *1	E_{AS}		144	mJ
Avalanche Current *2	I_{AV}		−12	A

Note : *1 V_{DD}=−50V, L=1mH, I_{AV}=−12A

*2 L≤1mH, Single pulse

Marking : J655

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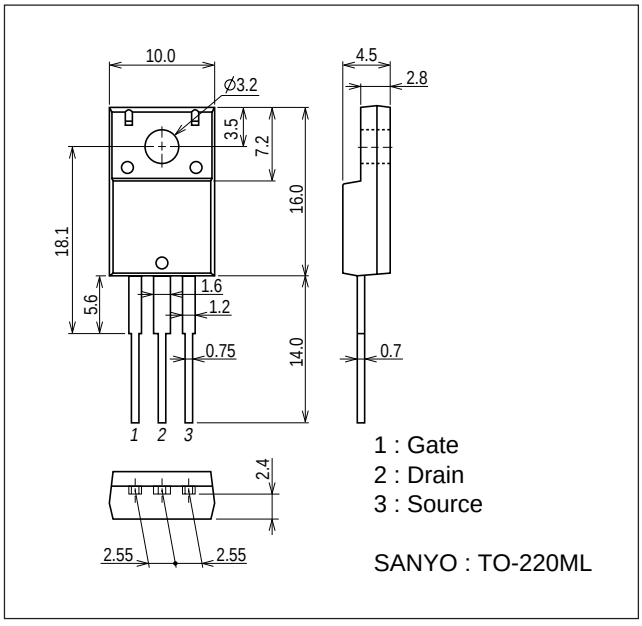
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	I_D=–1mA, V_{GS}=0V	–100			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=–100V, V_{GS}=0V			–1	μA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}= ±16V, V_{DS}=0V			±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=–6A	9	13		S
Static Drain-to-Source On-State Resistance	R_{DS}(on)1	I_D=–6A, V_{GS}=–10V		100	136	mΩ
	R_{DS}(on)2	I_D=–6A, V_{GS}=–4V		136	190	mΩ
Input Capacitance	Ciss	V_{DS}=–20V, f=1MHz		2090		pF
Output Capacitance	Coss	V_{DS}=–20V, f=1MHz		155		pF
Reverse Transfer Capacitance	Crss	V_{DS}=–20V, f=1MHz		108		pF
Turn-ON Delay Time	t_d(on)	See specified Test Circuit.		17		ns
Rise Time	t_r	See specified Test Circuit.		95		ns
Turn-OFF Delay Time	t_d(off)	See specified Test Circuit.		187		ns
Fall Time	t_f	See specified Test Circuit.		95		ns
Total Gate Charge	Qg	V_{DS}=–50V, V_{GS}=–10V, I_D=–12A		41		nC
Gate-to-Source Charge	Qgs	V_{DS}=–50V, V_{GS}=–10V, I_D=–12A		7		nC
Gate-to-Drain “Miller” Charge	Qgd	V_{DS}=–50V, V_{GS}=–10V, I_D=–12A		9		nC
Diode Forward Voltage	V_{SD}	I_S=–12A, V_{GS}=0V		–0.88	–1.2	V

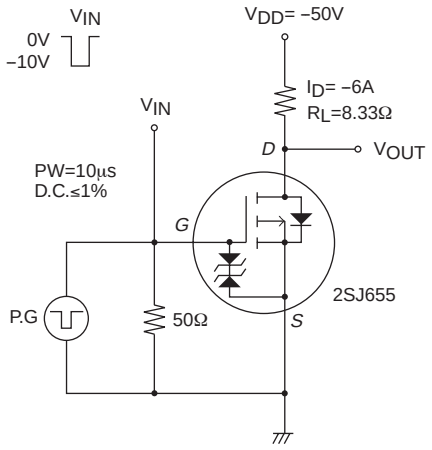
Package Dimensions

unit : mm (typ)

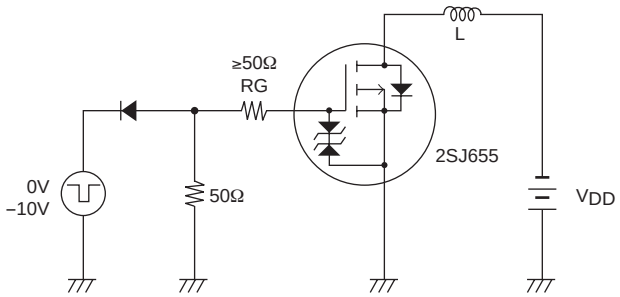
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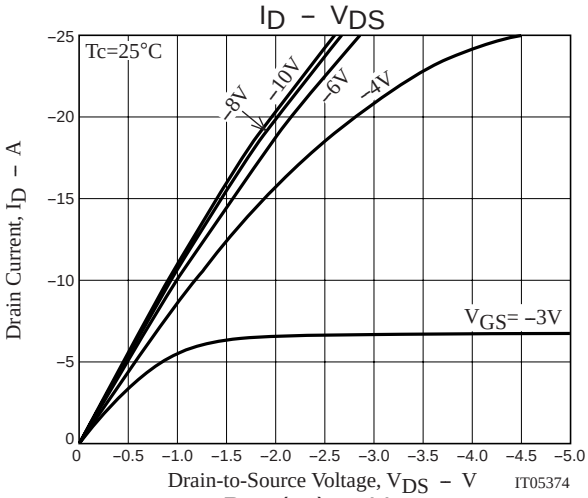
Switching Time Test Circuit

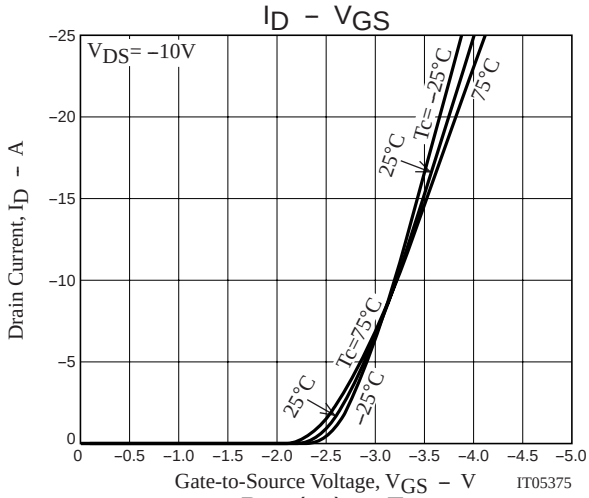


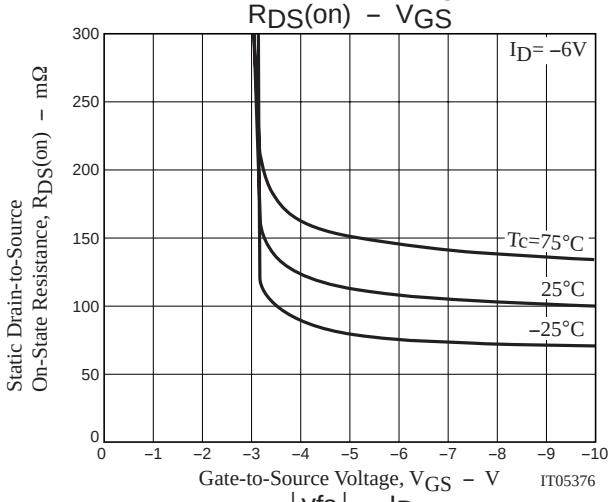
Avalanche Resistance Test Circuit

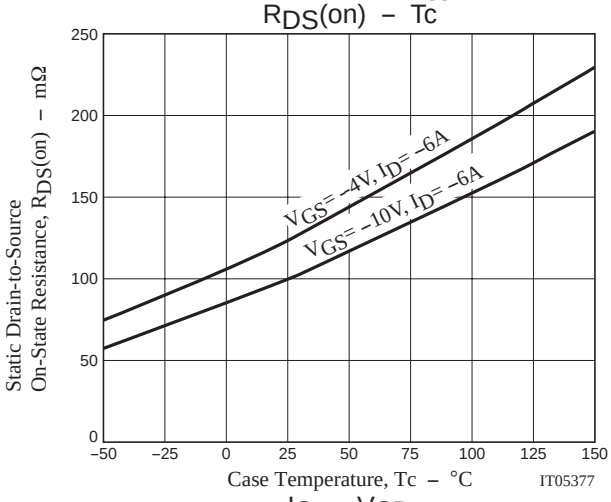


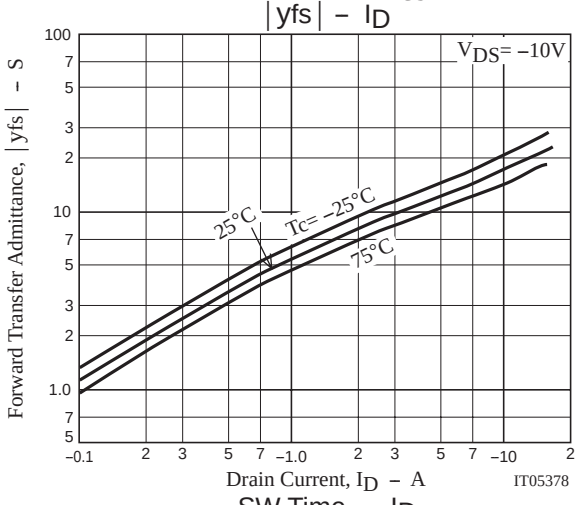
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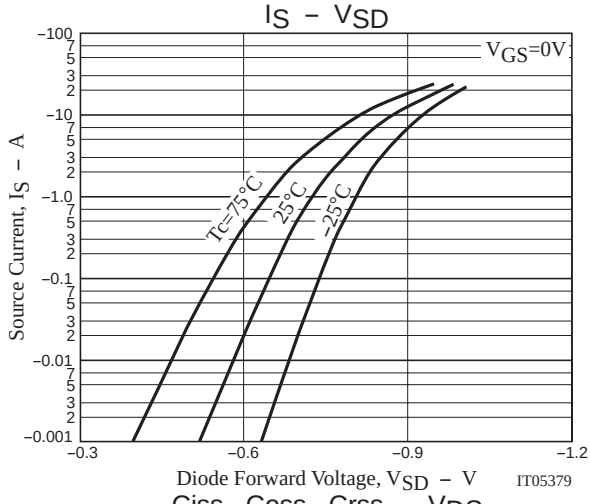


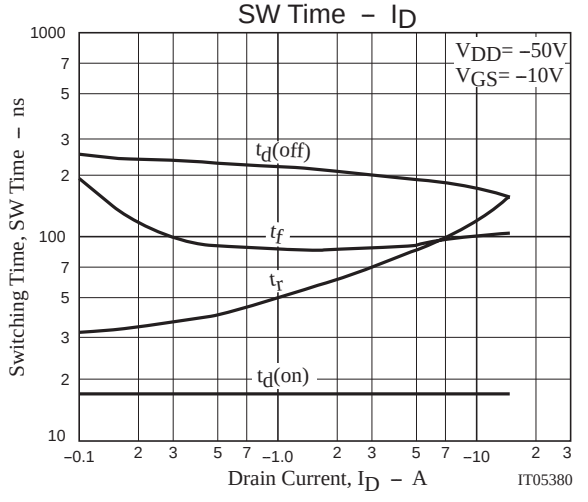


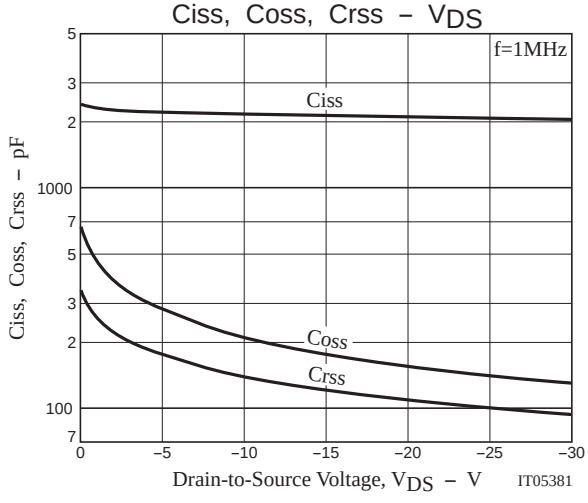




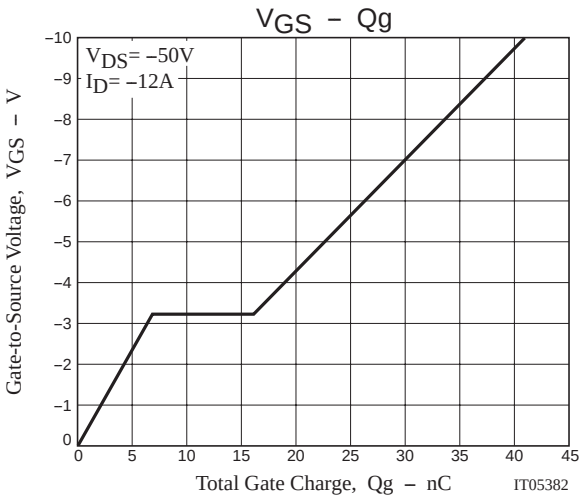


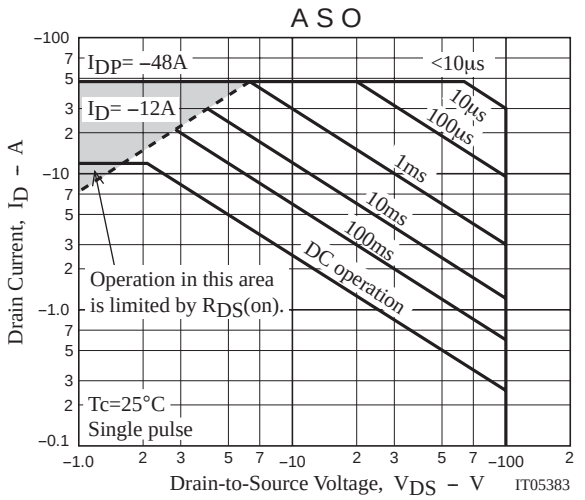


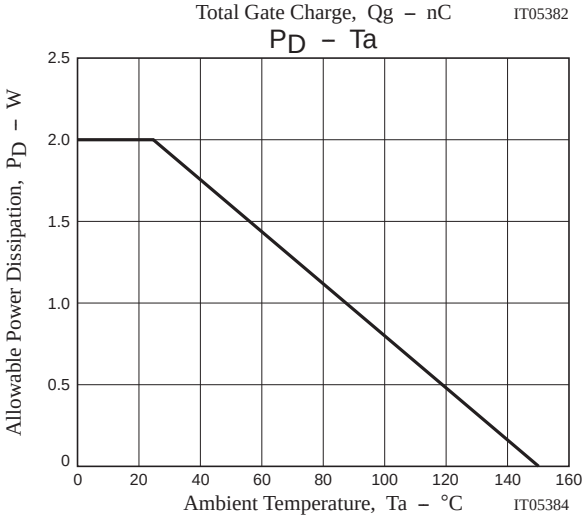


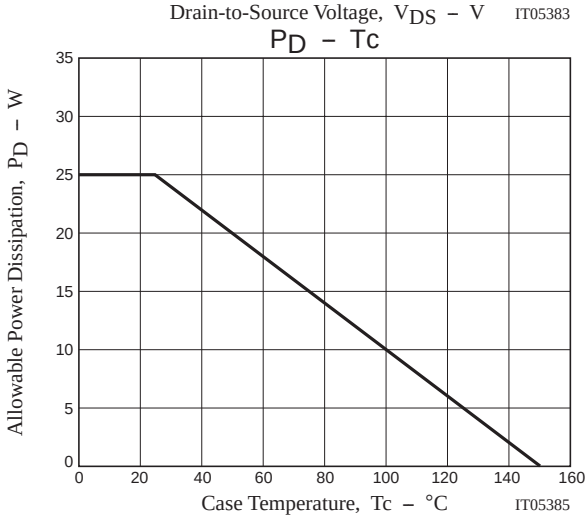


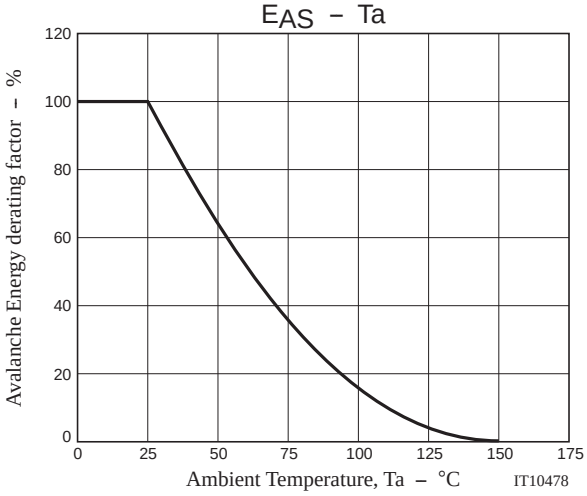
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