Ordering number : ENN6898

P-Channel Silicon MOSFET

2SJ569LS

Ultrahigh-Speed Switching Applications

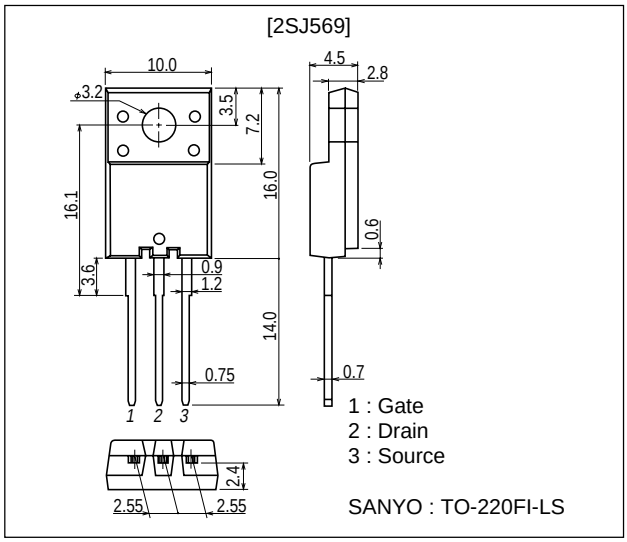
Features

- Low ON-resistance.
- Ultrahigh-speed switching.

Package Dimensions

unit : mm

2078B



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		-300	V
Gate-to-Source Voltage	V_{GSS}		±30	V
Drain Current (DC)	I_D		-5	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	-20	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	-300			V
Gate-to-Source Breakdown Voltage	$V_{(BR)GSS}$	I_G=±100μA, V_{DS}=0	±30			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=-300V, V_{GS}=0			-100	μA
Gate-to-Sourse Leakage Current	I_{GSS}	V_{GS}=±25V, V_{DS}=0			±10	μA
Cutoff Voltage	V_{GS}(off)	V_{DS}=-10V, I_D=-1mA	-1.5		-2.5	V

Continued on next page.

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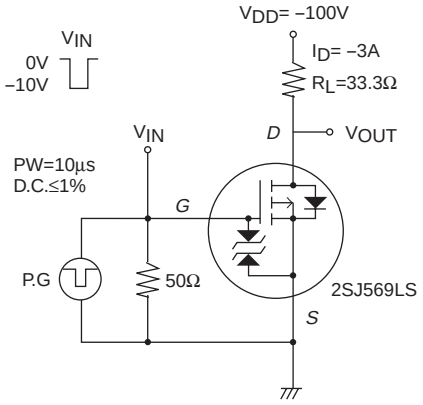
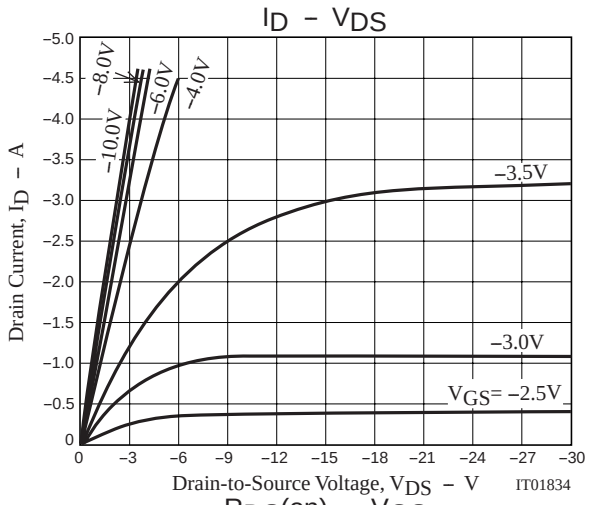
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

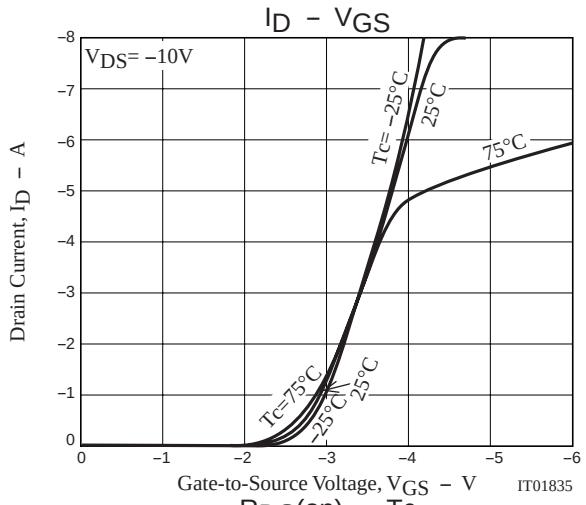
Continued from preceding page.

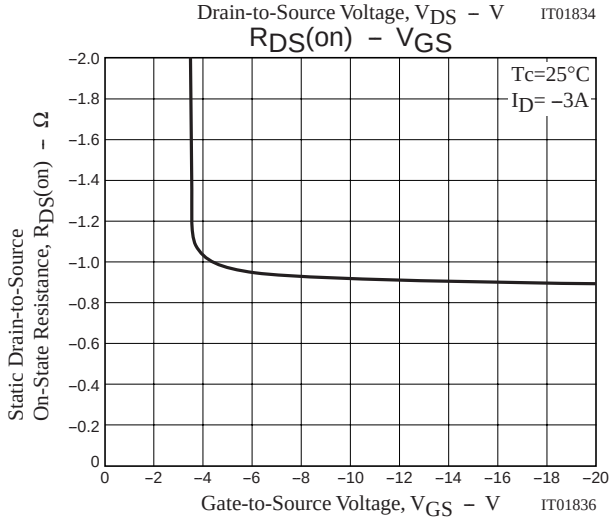
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Forward Transfer Admittance	| yfs |	V_{DS}=–10V, I_D=–3A	3	5		S
Static Drain-to-Sourse On-State Resistance	R_{DS}(on)	I_D=–3A, V_{GS}=–10V		0.95	1.25	Ω
Input Capacitance	Ciss	V_{DS}=–20V, f=1MHz		750		pF
Output Capacitance	Coss	V_{DS}=–20V, f=1MHz		170		pF
Reverse Transfer Capacitance	Crss	V_{DS}=–20V, f=1MHz		76		pF
Turn-ON Delay Time	t_d(on)	See specified Test Circuit		24		ns
Rise Time	t_r	See specified Test Circui		37		ns
Turn-OFF Delay Time	t_d(off)	See specified Test Circuit		230		ns
Fall Time	t_f	See specified Test Circuit		110		ns
Diode Forward Voltage	V_{SD}	I_S=–5A, V_{GS}=0		–1.0	–1.5	V

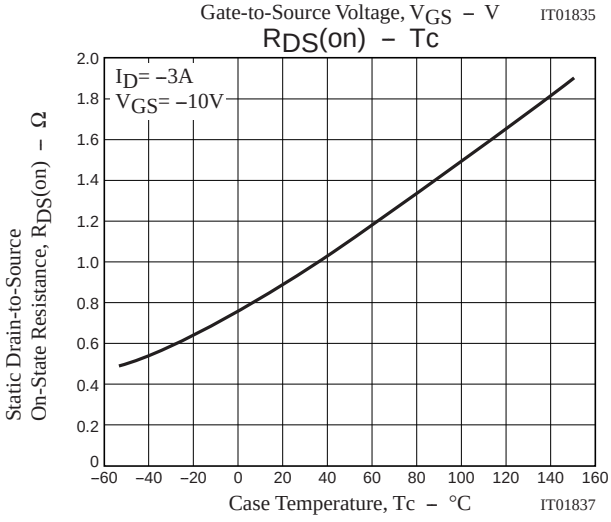
Switching Time Test Circuit

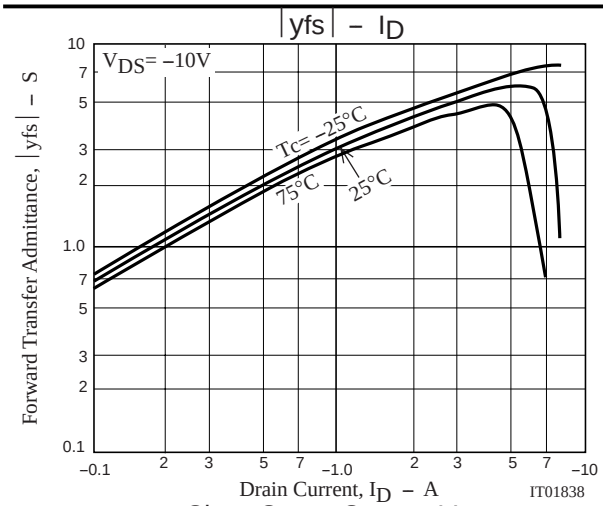


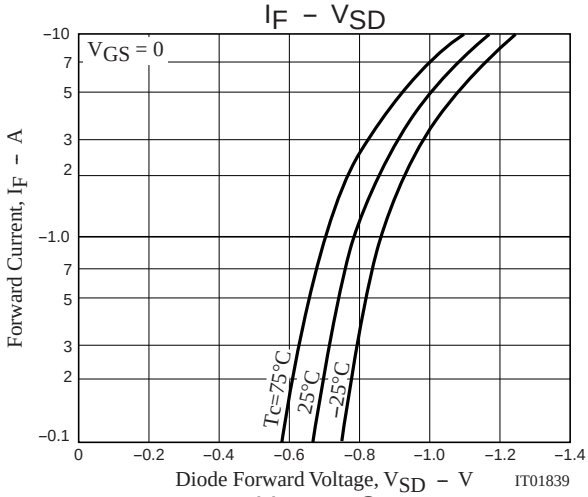


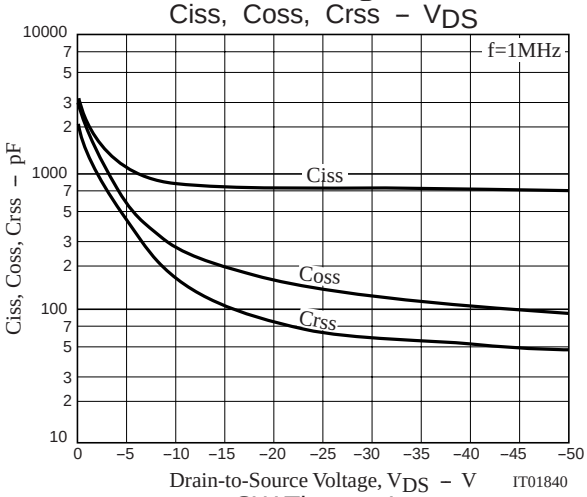


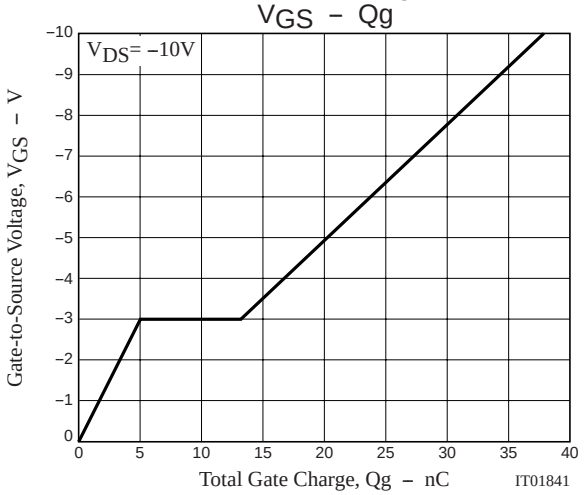


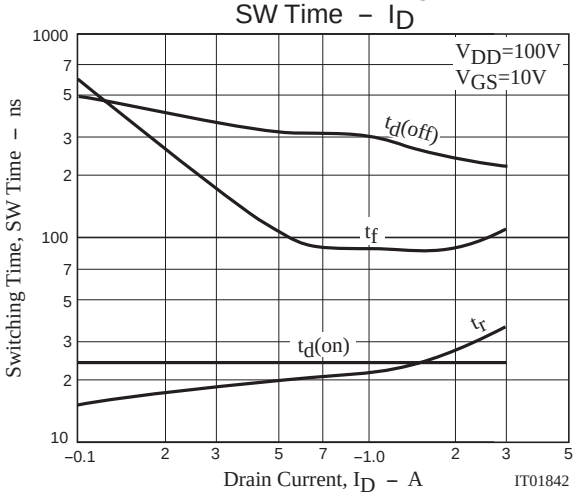


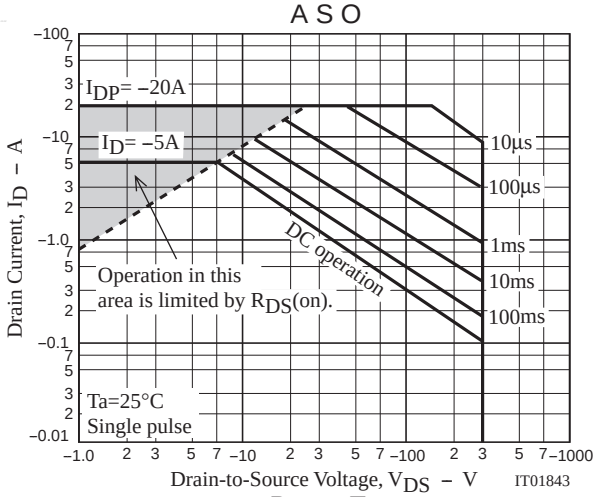

|yfs| – ID
VDS= –10V
Tc= –25°C
75°C
25°C
Forward Transfer Admittance, |yfs| – S
Drain Current, ID – A
IT01838

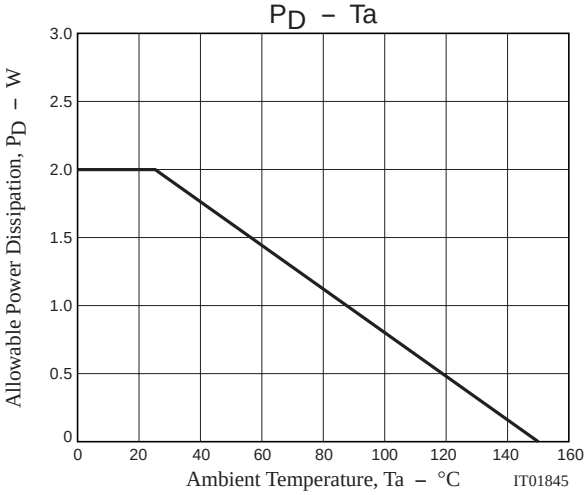

IF – VSD
VGS = 0
Tc=75°C
25°C
–25°C
Forward Current, IF – A
Diode Forward Voltage, VSD – V
IT01839

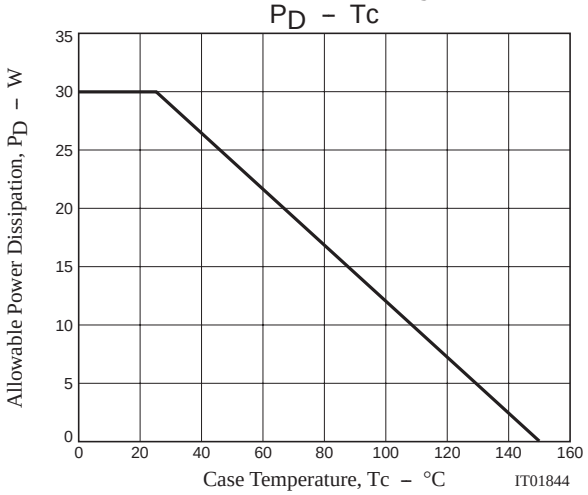

Ciss, Coss, Crss – VDS
f=1MHz
Ciss
Coss
Crss
Ciss, Coss, Crss – pF
Drain-to-Source Voltage, VDS – V
IT01840


VGS – Qg
VDS= –10V
Gate-to-Source Voltage, VGS – V
Total Gate Charge, Qg – nC
IT01841


SW Time – ID
VDD=100V
VGS=10V
td(off)
tf
tr
td(on)
Switching Time, SW Time – ns
Drain Current, ID – A
IT01842


A S O
IDP= –20A
ID= –5A
10μs
100μs
1ms
10ms
100ms
DC operation
Operation in this
area is limited by RDS(on).
Ta=25°C
Single pulse
Drain Current, ID – A
Drain-to-Source Voltage, VDS – V
IT01843


PD – Ta
Allowable Power Dissipation, PD – W
Ambient Temperature, Ta – °C
IT01845


PD – Tc
Allowable Power Dissipation, PD – W
Case Temperature, Tc – °C
IT01844