Ordering number:ENN6396

P-Channel Silicon MOSFET

2SJ339

Ultrahigh-Speed Switching Applications

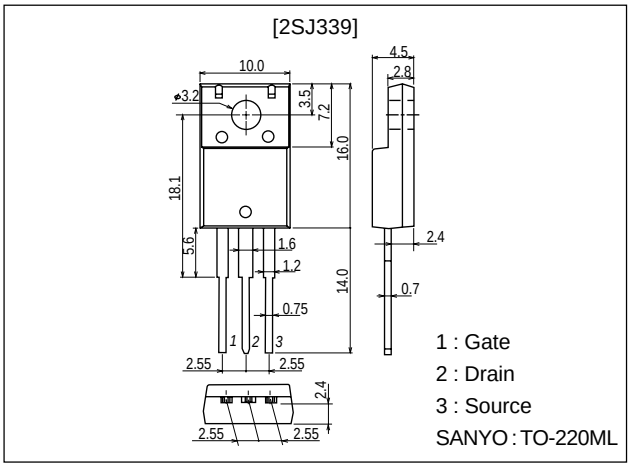
Features

- Low ON resistance.
- Ultrahigh-speed switching.
- 4V drive.
- Micaless package facilitating mounting.

Package Dimensions

unit:mm

2063A



Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		–60	V
Gate-to-Source Voltage	V_{GSS}		±20	V
Drain Current (DC)	I_D		–25	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	–100	A
Allowable Power Dissipation	P_D		2	W
		Tc=25˚C	40	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	–60			V
Gate-to-Source Breakdown Voltage	$V_{(BR)GSS}$	I_G=±100μA, V_{DS}=0	±20			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=–60V, V_{GS}=0			–100	μA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=±16V, V_{DS}=0			±10	μA
Cutoff Voltage	$V_{GS}(off)$	V_{DS}=–10V, I_D=–1mA	–1.0		–2.0	V
Forward Transfer Admittance	| yfs |	V_{DS}=–10V, I_D=–15A	15	25		S
Static Drain-to-Source On-State Resistance	$R_{DS}(on)$	I_D=–15A, V_{GS}=–10V		30	40	mΩ
		I_D=–15A, V_{GS}=–4V		40	55	mΩ

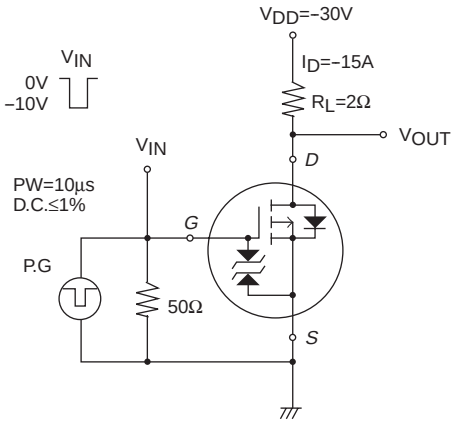
Continued on next page.

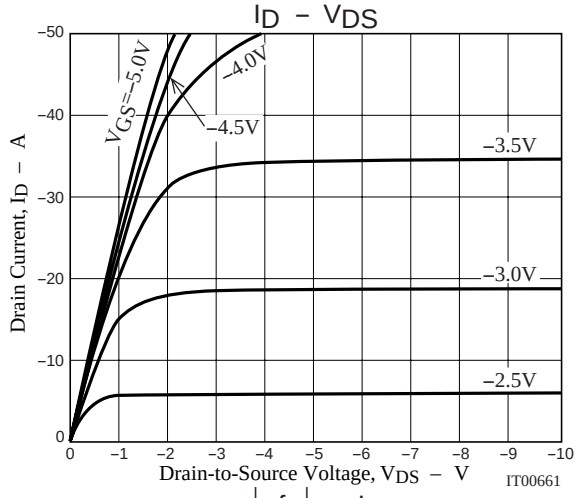
SANYO Electric Co.,Ltd. Semiconductor Company
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

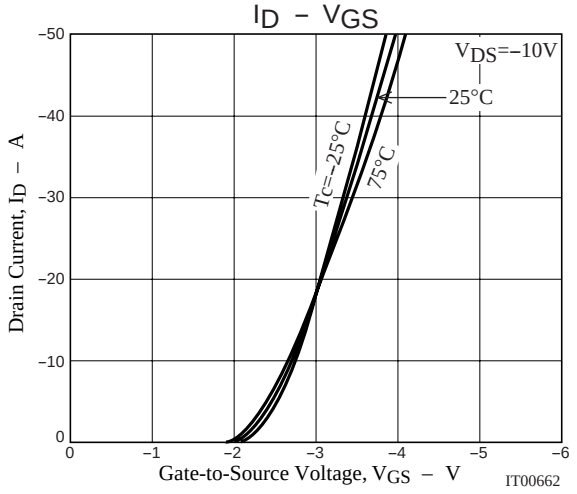
Continued from preceding page.

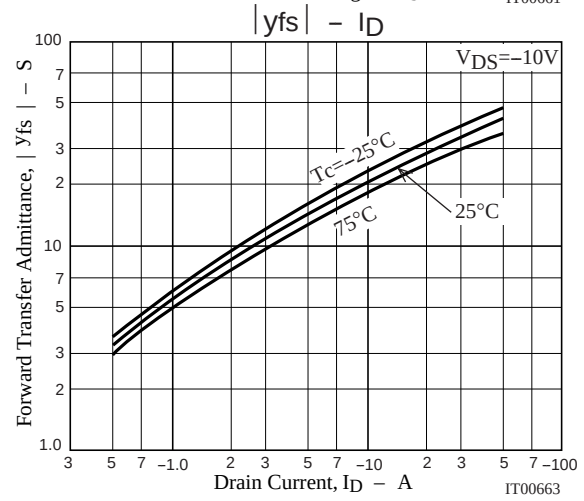
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V_{DS}=–20V, f=1MHz		3800		pF
Output Capacitance	Coss	V_{DS}=–20V, f=1MHz		1200		pF
Reverse Transfer Capacitance	Crss	V_{DS}=–20V, f=1MHz		300		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		30		ns
Rise Time	t_r	See specified Test Circuit		150		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		450		ns
Fall Time	t_f	See specified Test Circuit		220		ns
Diode Forward Voltage	V_{SD}	I_S=–25A, V_{GS}=0		–1.0	–1.5	V

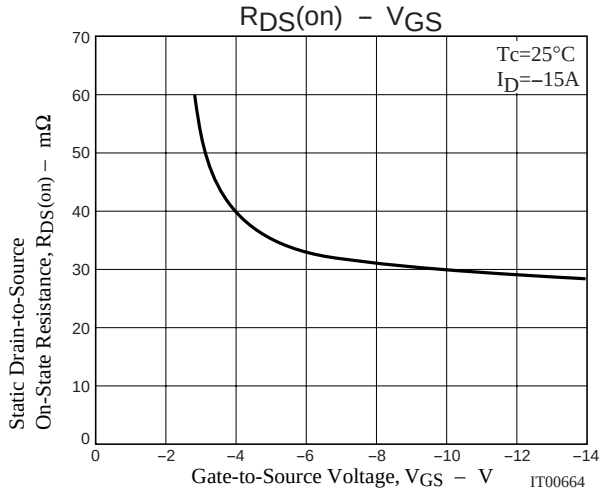
Switching Time Test Circuit

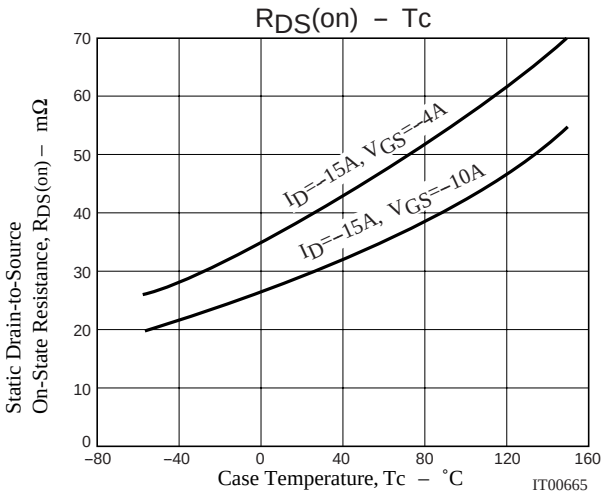


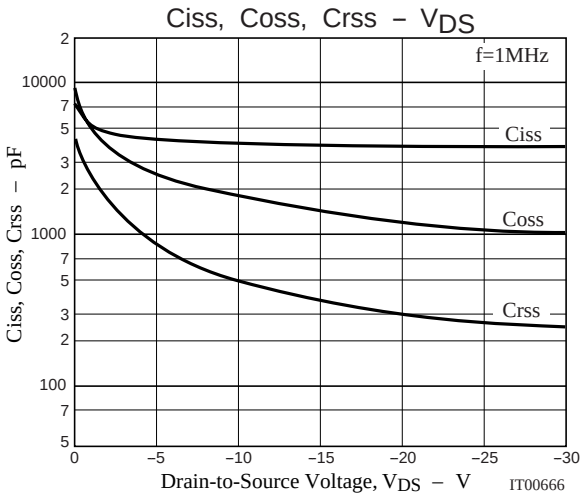


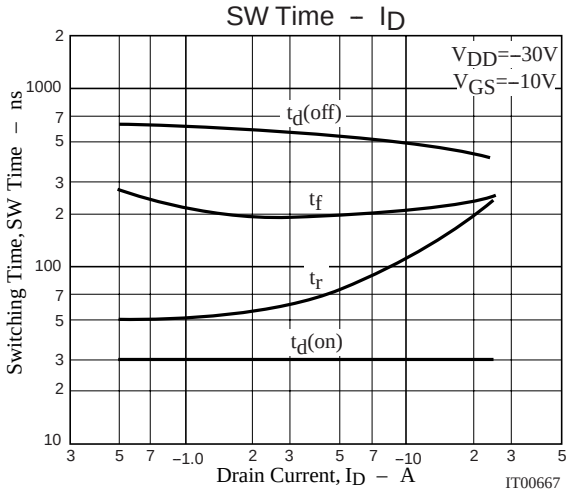


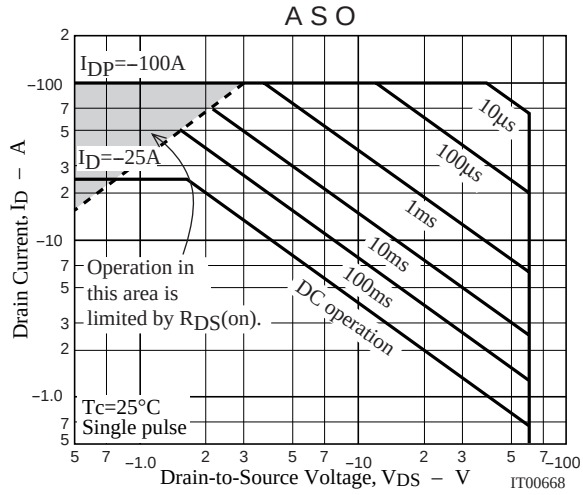


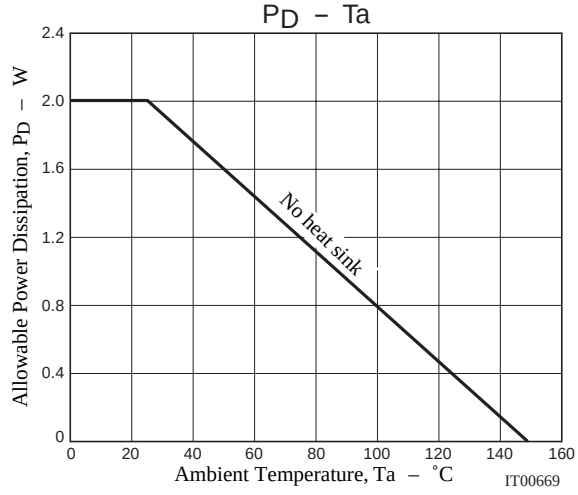


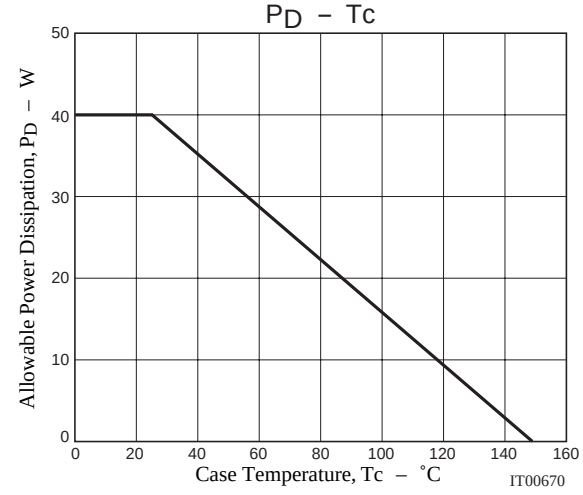

RDS(on) – Tc
Static Drain-to-Source On-State Resistance, RDS(on) – mΩ
ID=–15A, VGS=–4A
ID=–15A, VGS=–10A
Case Temperature, Tc – ˚C
IT00665


Ciss, Coss, Crss – VDS
f=1MHz
Ciss
Coss
Crss
Ciss, Coss, Crss – pF
Drain-to-Source Voltage, VDS – V
IT00666


SW Time – ID
VDD=–30V
VGS=–10V
td(off)
tf
tr
td(on)
Switching Time, SW Time – ns
Drain Current, ID – A
IT00667


A S O
IDP=–100A
ID=–25A
10µs
100µs
1ms
10ms
100ms
DC operation
Operation in this area is limited by RDS(on).
Tc=25°C
Single pulse
Drain Current, ID – A
Drain-to-Source Voltage, VDS – V
IT00668


PD – Ta
No heat sink
Allowable Power Dissipation, PD – W
Ambient Temperature, Ta – ˚C
IT00669


PD – Tc
Allowable Power Dissipation, PD – W
Case Temperature, Tc – ˚C
IT00670