Ordering number:ENN6314

N-Channel Silicon MOSFET

2SK2969

Ultrahigh-Speed Switching Applications

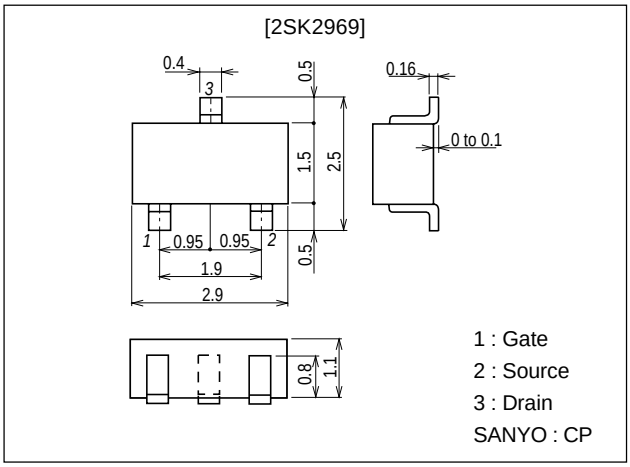
Features

- Low ON resistance.
- Ultrahigh-speed switching.
- 2.5V drive.

Package Dimensions

unit:mm

2091A



Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		30	V
Gate-to-Source Voltage	V_{GSS}		±10	V
Drain Current (DC)	I_D		0.8	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	3.2	A
Allowable Power Dissipation	P_D		0.25	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	30			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=30V, V_{GS}=0			10	μA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=±8V, V_{DS}=0			±10	μA
Cutoff Voltage	$V_{GS(off)}$	V_{DS}=10V, I_D=1mA	0.4		1.3	V
Forward Transfer Admittance	| yfs |	V_{DS}=10V, I_D=400mA	1.1	1.6		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)}1$	I_D=400mA, V_{GS}=4V		280	370	mΩ
	$R_{DS(on)}2$	I_D=100mA, V_{GS}=2.5V		340	520	mΩ

Marking : GK

Continued on next page.

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

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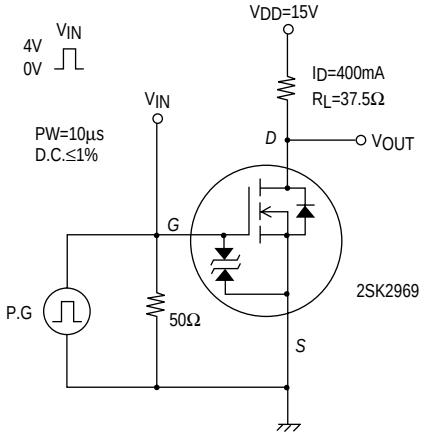
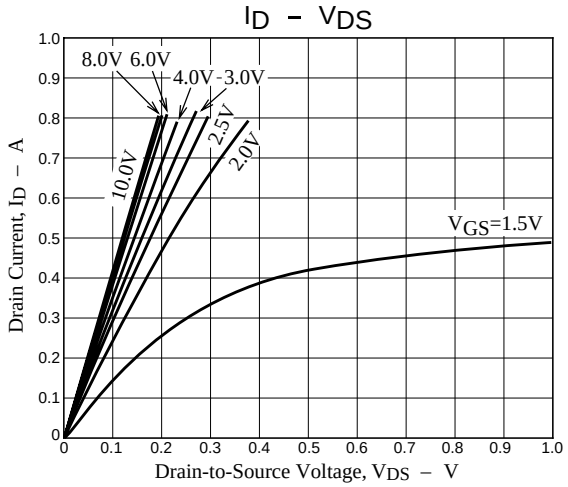
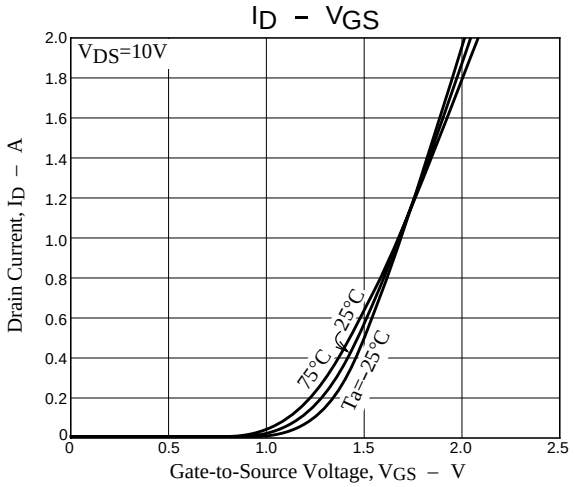
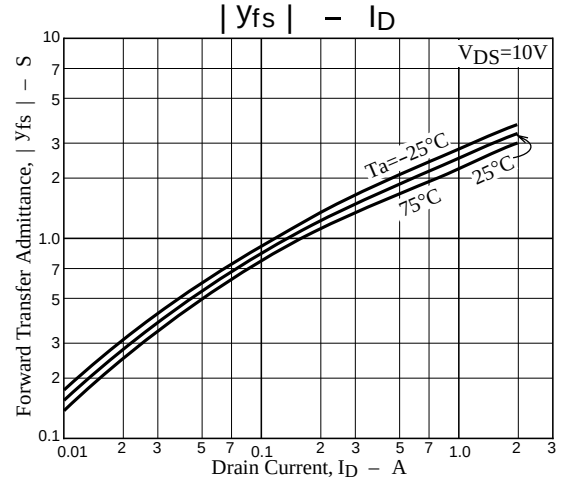
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V_{DS}=10V, f=1MHz		90		pF
Output Capacitance	Coss	V_{DS}=10V, f=1MHz		50		pF
Reverse Transfer Capacitance	Crss	V_{DS}=10V, f=1MHz		20		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		10		ns
Rise Time	t_r	See specified Test Circuit		10		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		30		ns
Fall Time	t_f	See specified Test Circuit		20		ns
Total Gate Charge	Qg	V_{DS}=10V, V_{GS}=10V, I_D=800mA		6		nC
Gate-to-Source Charge	Qgs	V_{DS}=10V, V_{GS}=10V, I_D=800mA		1		nC
Gate-to-Drain "Miller" Charge	Qgd	V_{DS}=10V, V_{GS}=10V, I_D=800mA		2		nC
Diode Forward Voltage	V_{SD}	I_S=800mA, V_{GS}=0		0.8	1.2	V

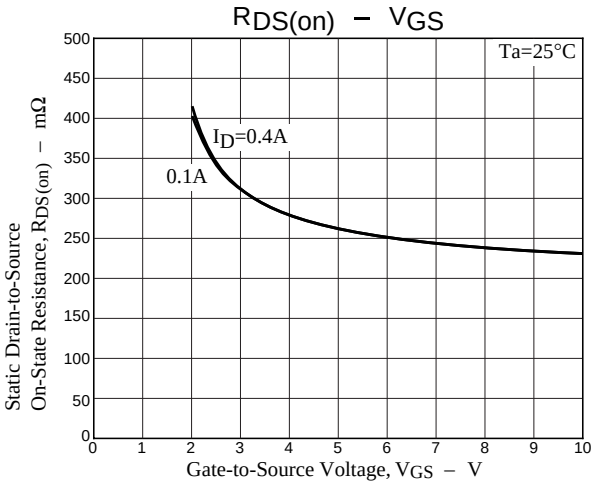
Switching Time Test Circuit



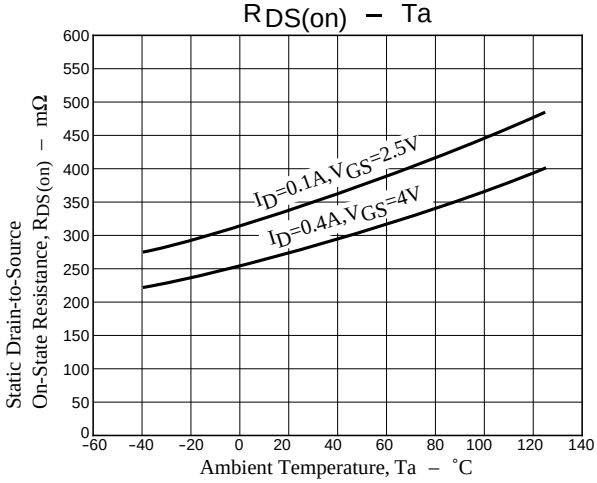




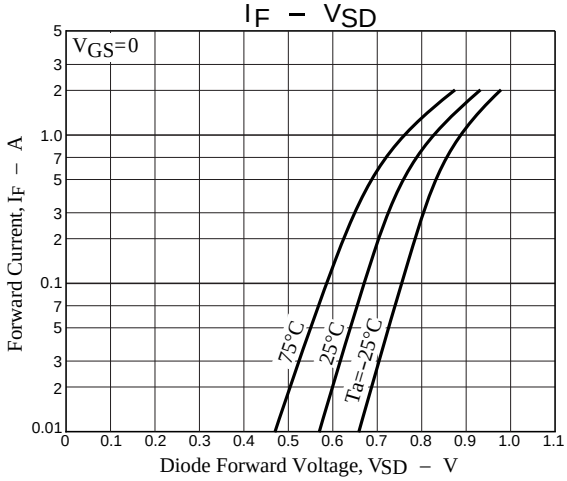




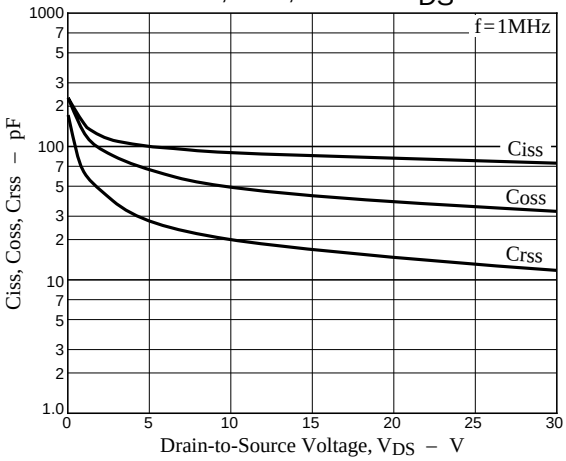
$R_{DS(on)}$ – Ta



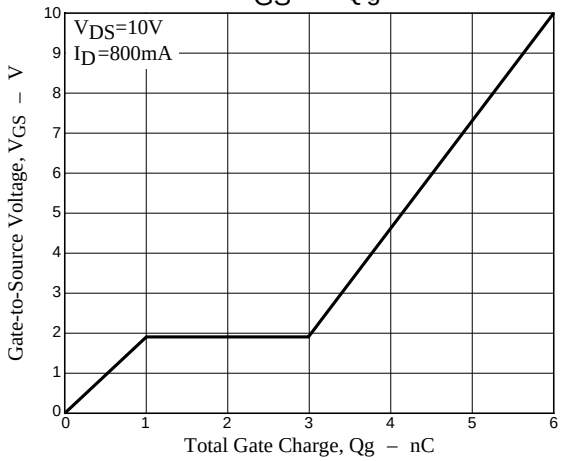
I_F – V_{SD}



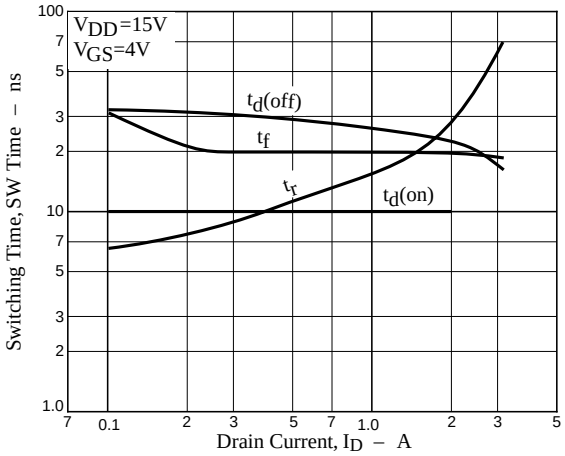
Ciss,Coss,Crss – V_{DS}



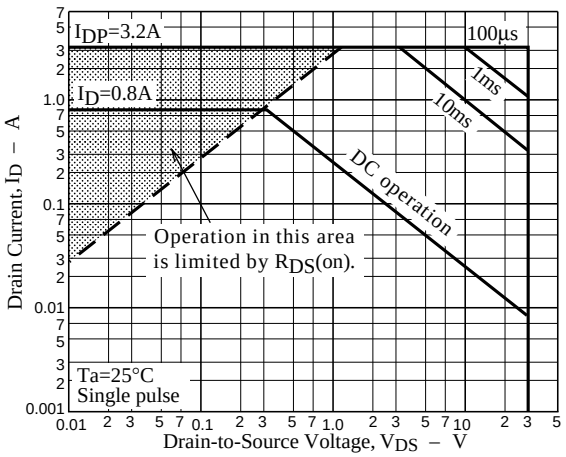
V_{GS} – Qg



SW Time – I_D



A S O



P_D – Ta