Ordering number:ENN4285A

N-Channel Silicon MOSFET

2SK2043

Ultrahigh-Speed Switching Applications

Features

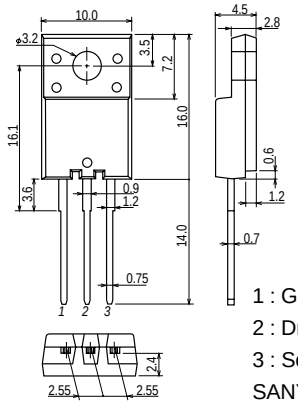
- Low ON resistance.
- Ultrahigh-speed switching.
- High-speed diode built in (trr=100ns).
- Micaless package facilitating easy mounting.

Package Dimensions

unit:mm

2078B

[2SK2043]



1 : Gate
2 : Drain
3 : Source
SANYO : TO-220FI (LS)

Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		600	V
Gate-to-Source Voltage	V_{GSS}		±30	V
Drain Current (DC)	I_D		2	A
Drain Current (pulse)	I_{DP}		8	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

Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	I_D=10mA, V_{GS}=0	600			V
Zero-Gate Votlage Drain Current	I_{DSS}	V_{DS}=480V, V_{GS}=0			1.0	mA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=±30V, V_{DS}=0			±100	nA
Cutoff Voltage	$V_{GS(off)}$	V_{DS}=10V, I_D=1mA	2.0		3.0	V
Forward Transfer Admittance	| yfs |	V_{DS}=10V, I_D=1A	0.8	1.5		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	I_D=1A, V_{GS}=10V		3.2	4.3	Ω

(Note) Be careful in handling the 2SK2043 because it has no protection diode between gate and source.

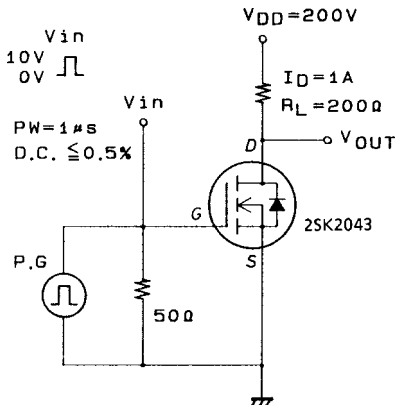
Continued on next page.

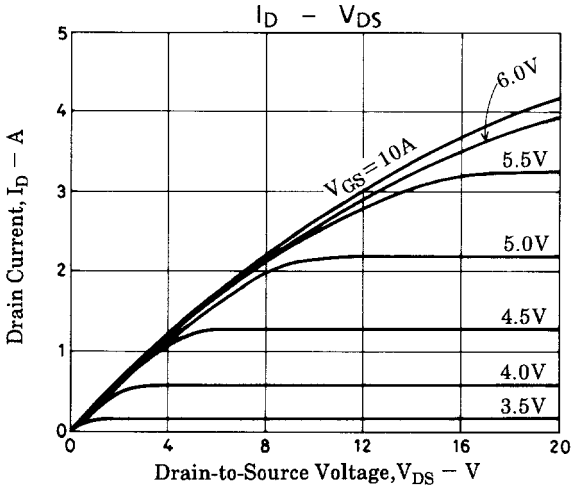
SANYO Electric Co.,Ltd. Semiconductor Company
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

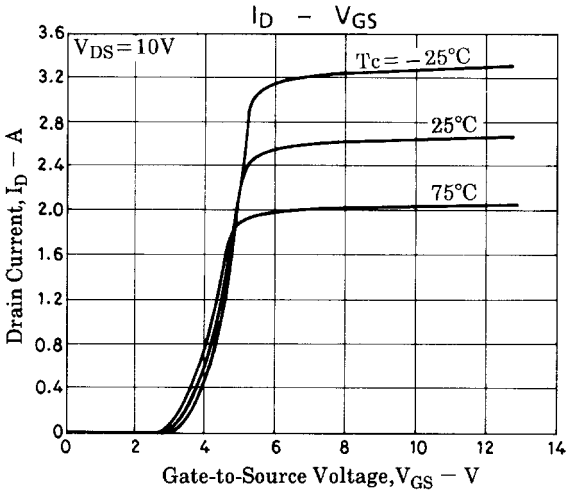
Continued from preceding page.

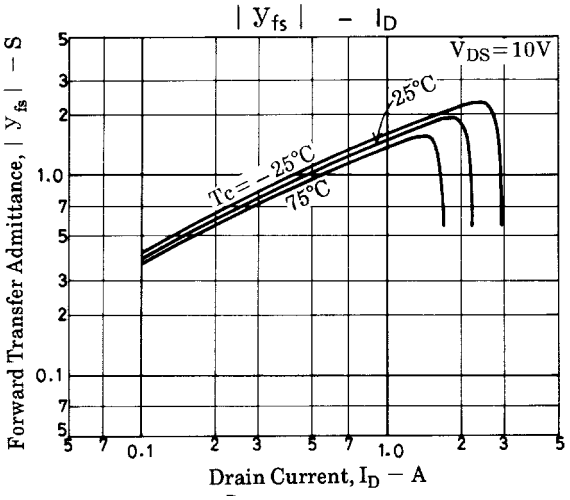
Parameter	Symbol	Conditions	Ratings			Unit
Input Capacitance	Ciss	V_{DS}=20V, f=1MHz		400		pF
Output Capacitance	Coss	V_{DS}=20V, f=1MHz		55		pF
Reverse Transfer Capacitance	Crss	V_{DS}=20V, f=1MHz		15		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		10		ns
Rise Time	t_r	See specified Test Circuit.		12		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		65		ns
Fall Time	t_f	See specified Test Circuit.		40		ns
Diode Forward Voltage	V_{SD}	I_S=2A, V_{GS}=0			1.5	V
Diode Reverse Recovery Time	trr	I_S=2A, di/dt=100A/μs		100		ns

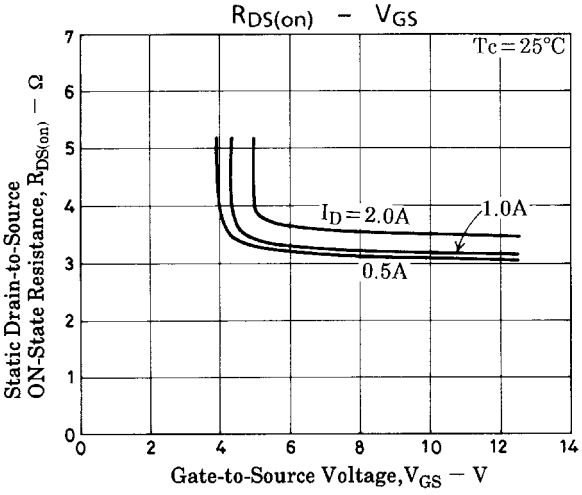
Switching Time Test Circuit



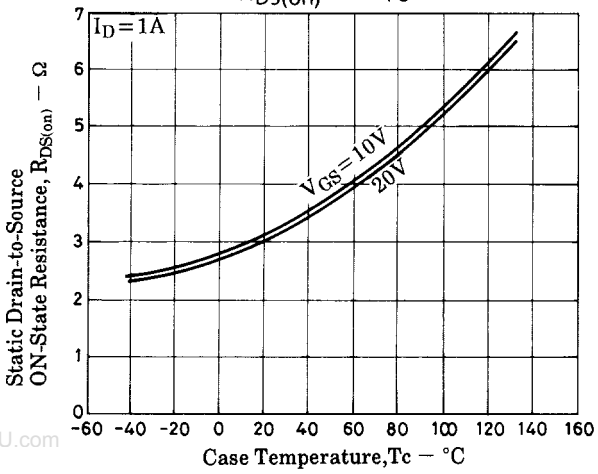




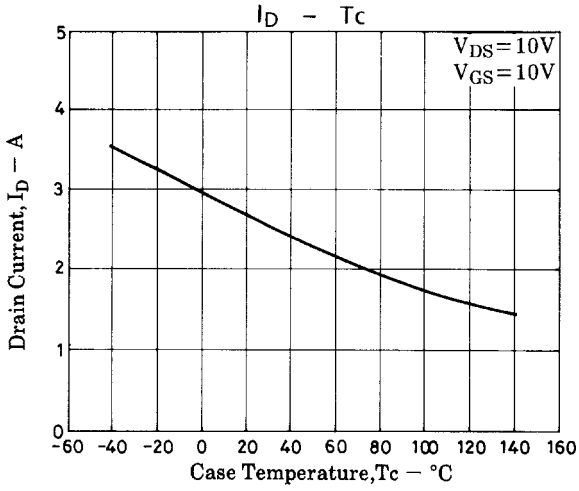




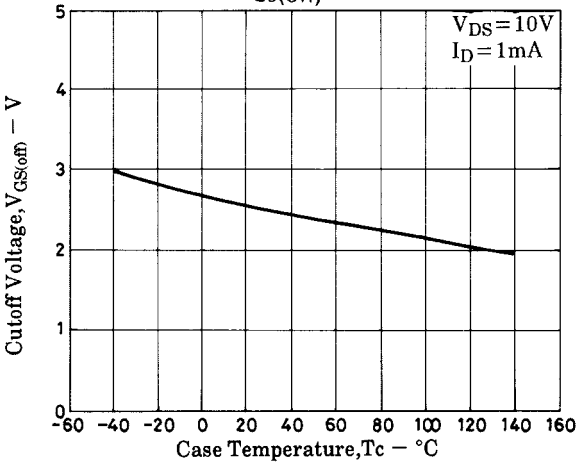
$R_{DS(on)}$ – Tc



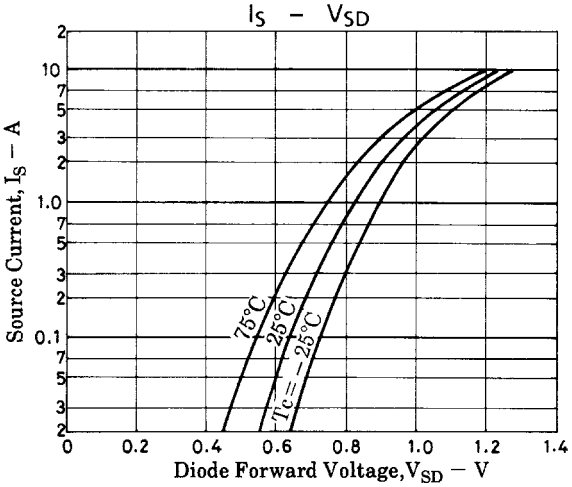
I_D – Tc



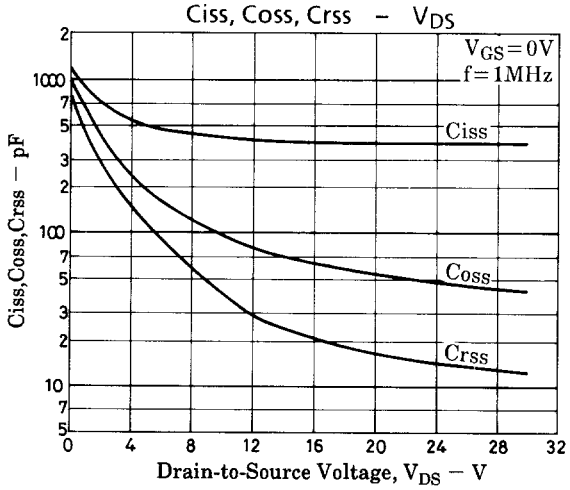
$V_{GS(off)}$ – Tc



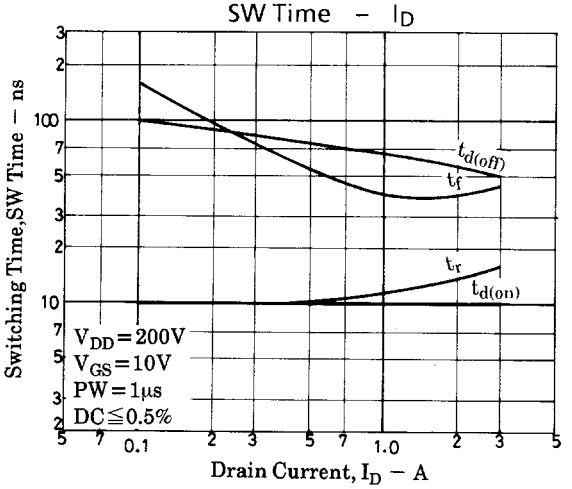
I_S – V_{SD}



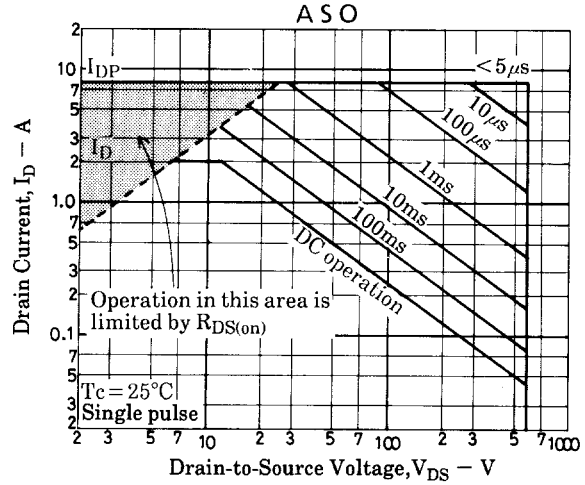
Ciss, Coss, Crss – V_{DS}



SW Time – I_D



A S O



P_D – Ta