



No.4285A

2SK2043

N-Channel Silicon MOSFET

Ultrahigh-Speed
Switching Applications

Features

- Low ON resistance.
- Ultrahigh-speed switching.
- High-speed diode built in ($t_{rr} = 100\text{ns}$).
- Micaless package facilitating easy mounting.

Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

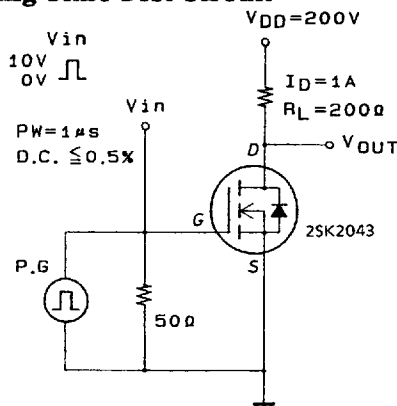
			unit	
Drain-to-Source Voltage	V_{DSS}	600	V	
Gate-to-Source Voltage	V_{GSS}	± 30	V	
Drain Current(DC)	I_D	2	A	
Drain Current(Pulse)	I_{DP}	8	A	
Allowable Power Dissipation	P_D	$T_c = 25^\circ\text{C}$	2.0	W
			25	W
Channel Temperature	T_{ch}	150	$^\circ\text{C}$	
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$	

Electrical Characteristics at $T_a = 25^\circ\text{C}$

			min	typ	max	unit
D-S Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 10\text{mA}, V_{GS} = 0$	600			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 480\text{V}, V_{GS} = 0$			1.0	mA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 30\text{V}, V_{DS} = 0$			± 100	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10\text{V}, I_D = 1\text{mA}$	2.0		3.0	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 10\text{V}, I_D = 1\text{A}$	0.8	1.5		S
Static Drain-to-Source ON-State Resistance	$R_{DS(on)}$	$I_D = 1\text{A}, V_{GS} = 10\text{V}$		3.2	4.3	Ω
Input Capacitance	C_{iss}	$V_{DS} = 20\text{V}, f = 1\text{MHz}$		400		pF
Output Capacitance	C_{oss}	$V_{DS} = 20\text{V}, f = 1\text{MHz}$		55		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 20\text{V}, f = 1\text{MHz}$		15		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		10		ns
Rise Time	t_r	"		12		ns
Turn-OFF Delay Time	$t_{d(off)}$	"		65		ns
Fall Time	t_f	"		40		ns
Diode Forward Voltage	V_{SD}	$I_S = 2\text{A}, V_{GS} = 0$			1.5	V
Diode Reverse Recovery Time	t_{rr}	$I_S = 2\text{A}, di/dt = 100\text{A}/\mu\text{s}$		100		ns

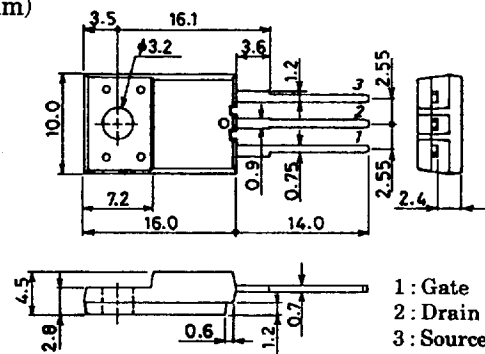
(Note) Be careful in handling the 2SK2043 because it has no protection diode between gate and source.

Switching Time Test Circuit



Package Dimensions 2078B

(unit: mm)



1: Gate
2: Drain
3: Source

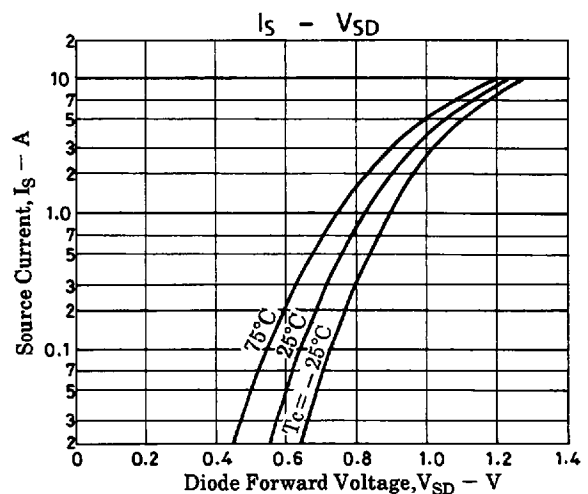
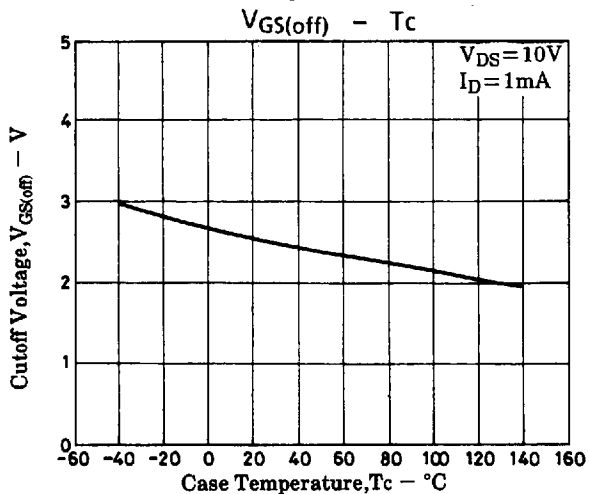
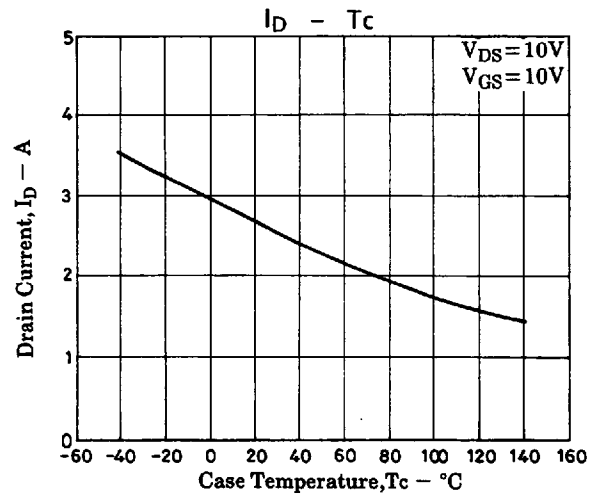
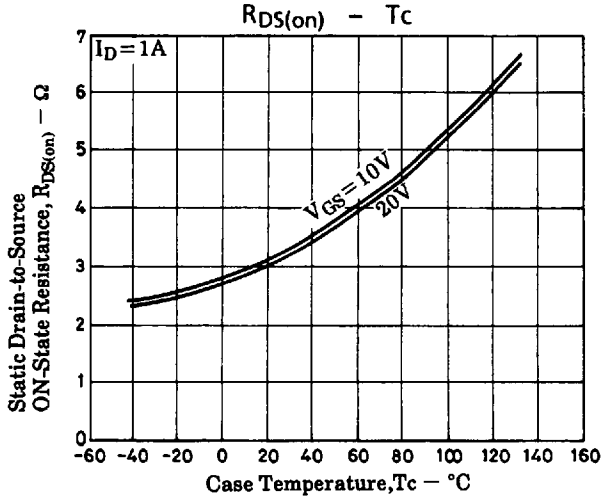
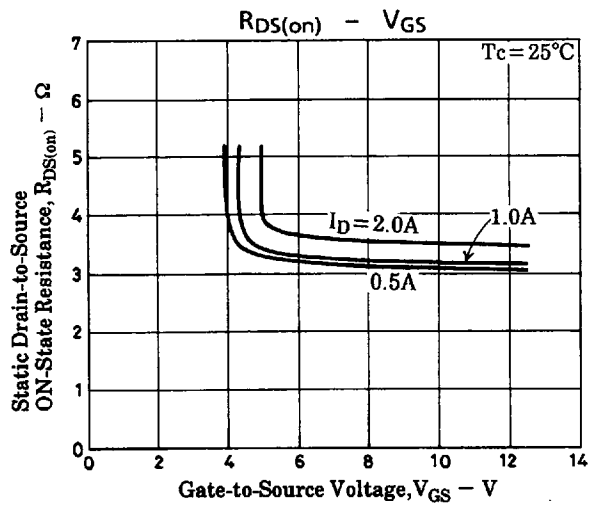
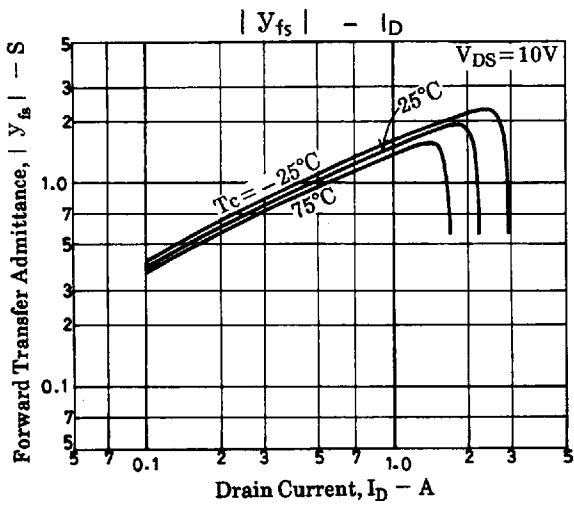
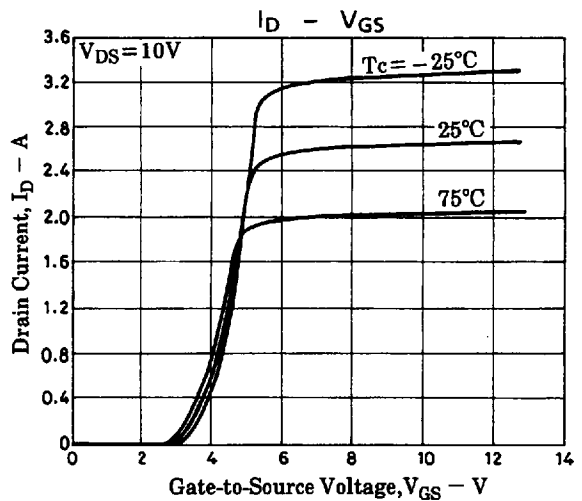
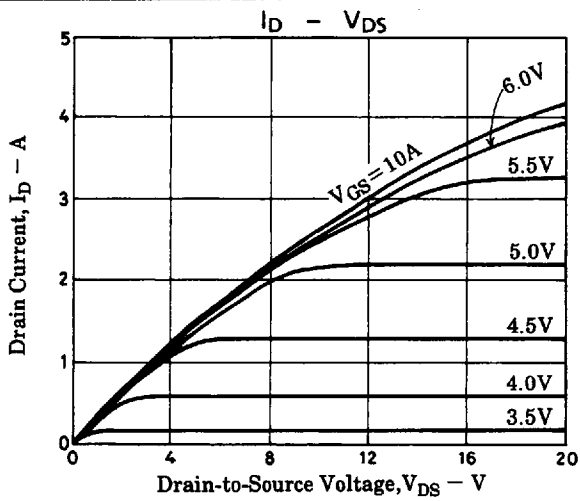
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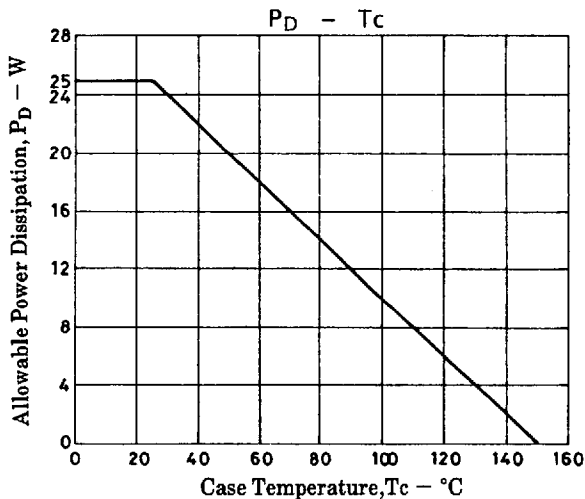
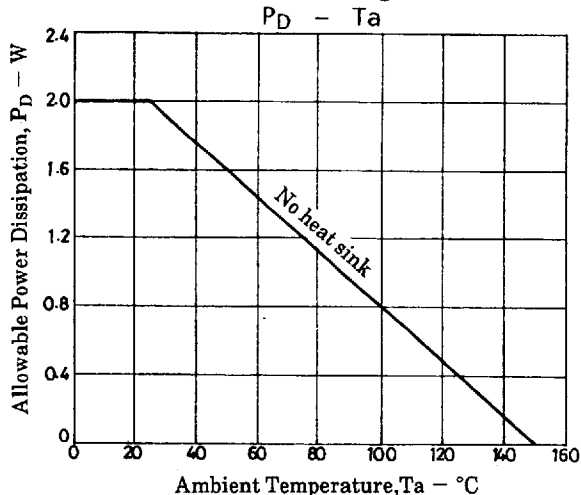
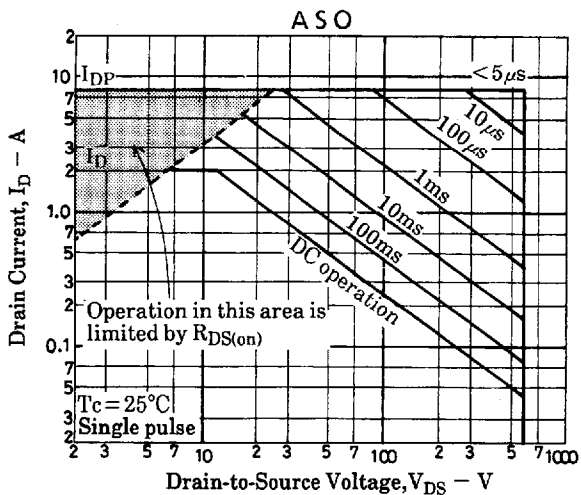
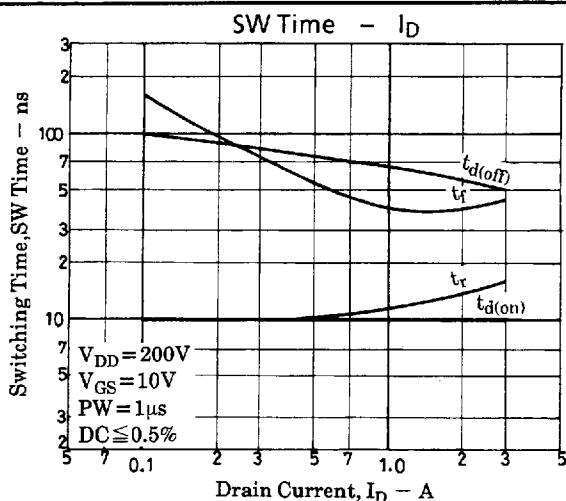
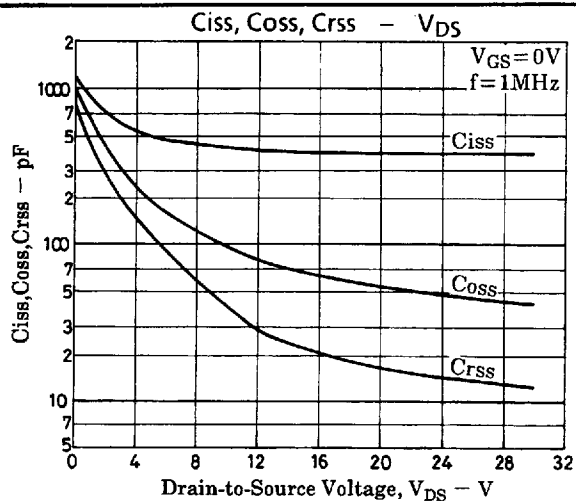
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