

	No.3439	2SK1052 N-Channel MOS Silicon FET Very High-Speed Switching Applications
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Features

- Low ON-state resistance.
- Very high-speed switching.

Absolute Maximum Ratings at Ta = 25°C

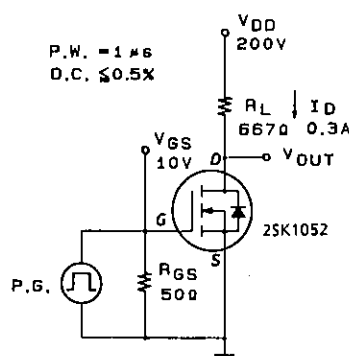
			unit
Drain to Source Voltage	V_{DS}	450	V
Gate to Source Voltage	V_{GS}	± 30	V
Drain Current(DC)	I_D	0.5	A
Drain Current(Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	2.0
Allowable Power Dissipation	P_D	$T_c = 25^\circ C$	30
			1.75
Channel Temperature	T_{ch}		150
Storage Temperature	T_{stg}		-55 to +150
			$^\circ C$

Electrical Characteristics at Ta = 25°C

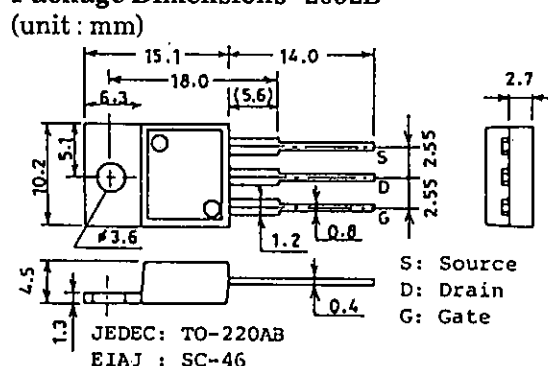
			min	typ	max	unit
D-S Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 1mA, V_{GS} = 0$	450			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 450V, V_{GS} = 0$			1.0	mA
Gate to Source Leakage Current	I_{GSS}	$V_{GS} = \pm 30V, V_{DS} = 0$			± 100	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10V, I_D = 1mA$	2.0		3.0	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 10V, I_D = 0.3A$	0.4	0.8		S
Static Drain to Source on State Resistance	$R_{DS(on)}$	$I_D = 0.3A, V_{GS} = 10V$		5.5	7.0	Ω
Input Capacitance	C_{iss}	$V_{DS} = 20V, f = 1MHz$		160		pF
Output Capacitance	C_{oss}	$V_{DS} = 20V, f = 1MHz$		25		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 20V, f = 1MHz$		5.0		pF
Turn-ON Delay Time	$t_{d(on)}$	$I_D = 0.3A, V_{GS} = 10V$ $V_{DD} = 200V, R_{GS} = 50\Omega$		10		ns
Rise Time	t_r			8		ns
Turn-OFF Delay Time	$t_{d(off)}$			30		ns
Fall Time	t_f			70		ns
Diode Forward Voltage	V_{SD}	$I_S = 0.5A, V_{GS} = 0$			1.8	V

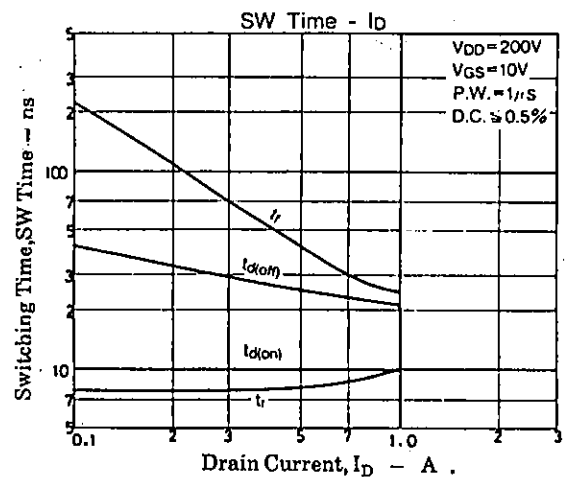
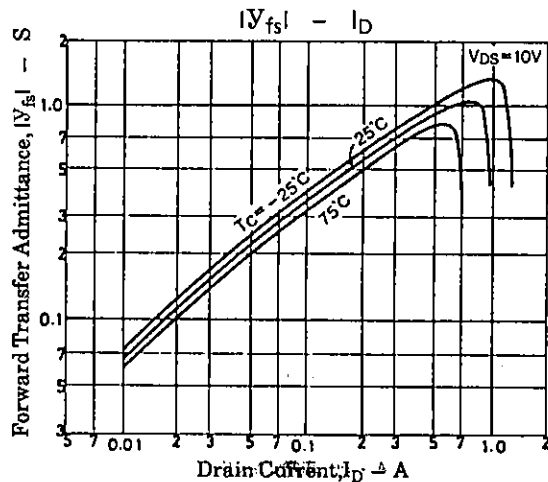
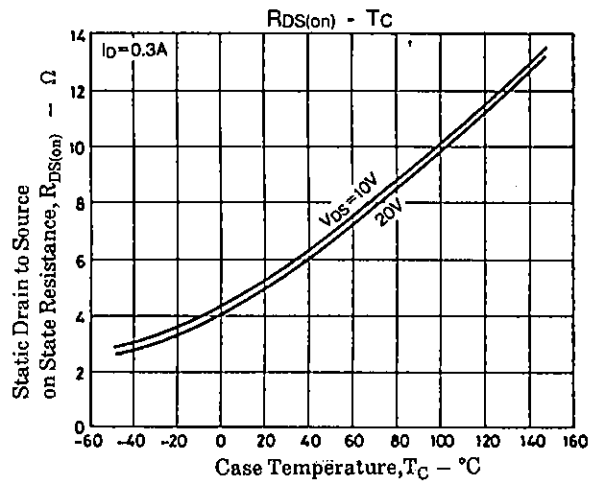
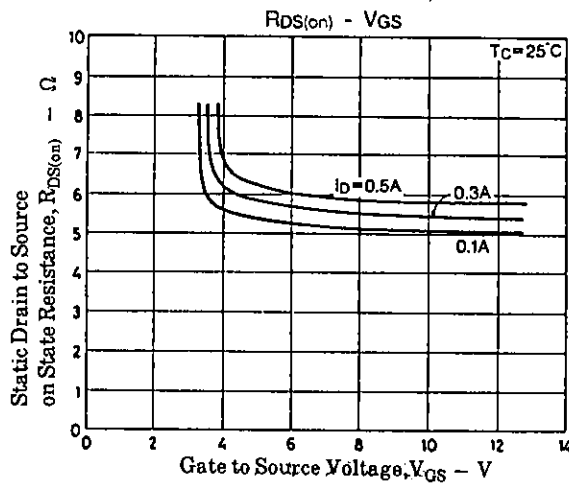
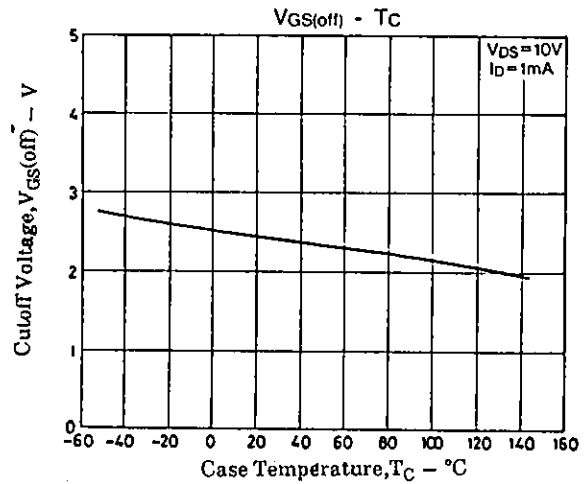
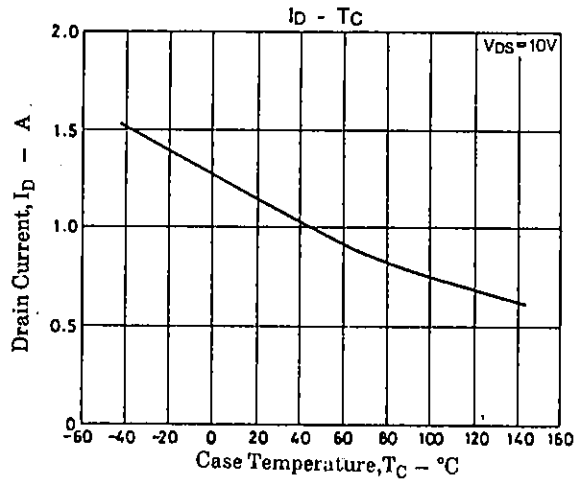
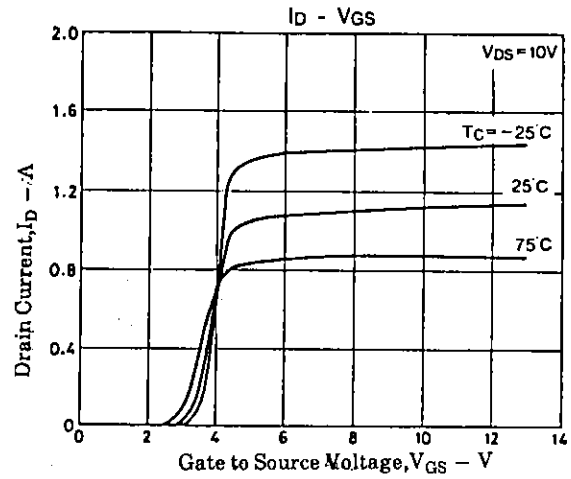
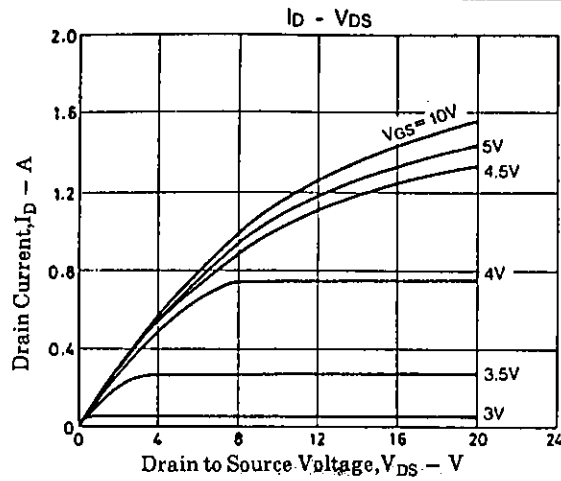
(Note) Be careful in handling the 2SK1052 because it has no protection diode between gate and source.

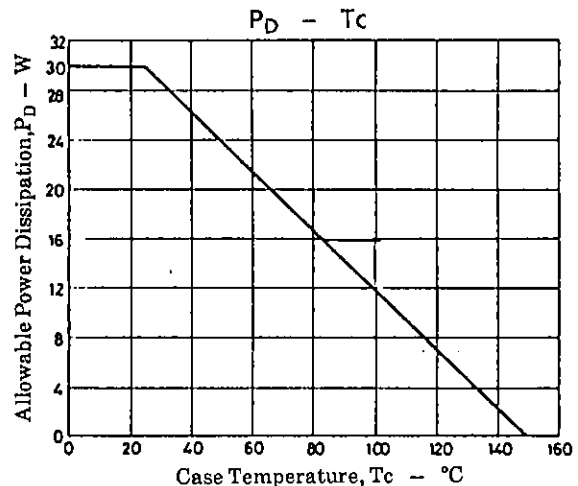
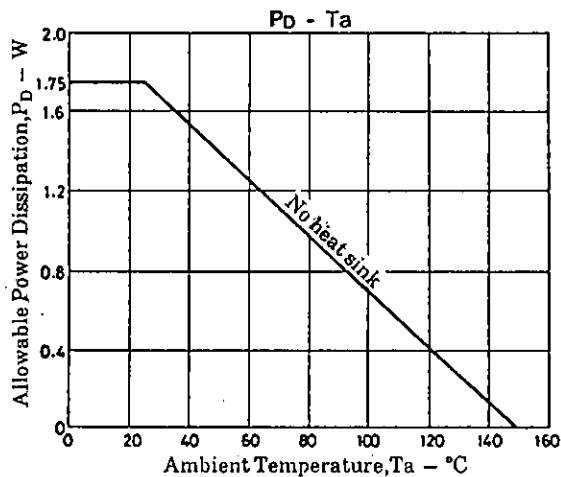
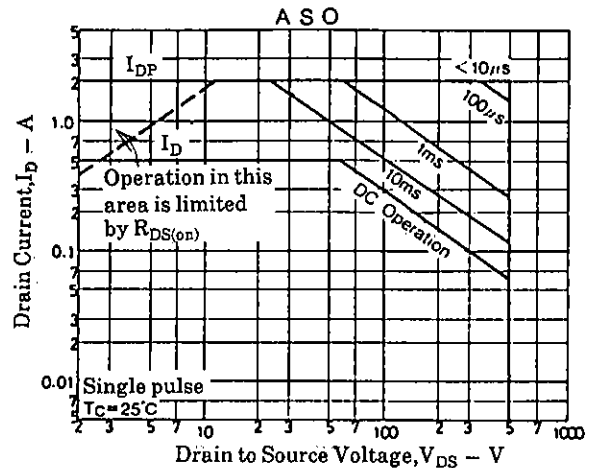
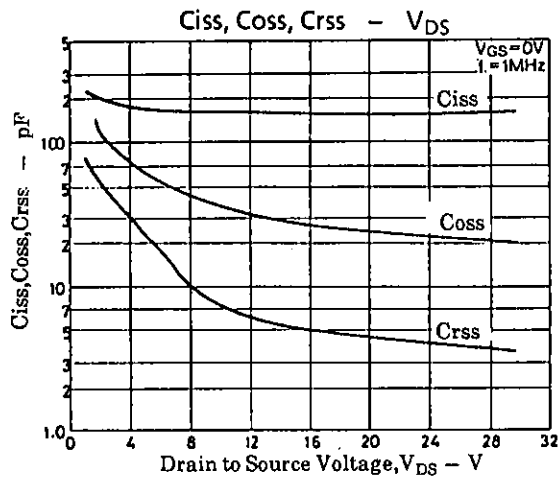
Switching Time Test Circuit



Package Dimensions 2052B







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