

### 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 $T_a = 25^\circ\text{C}$

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

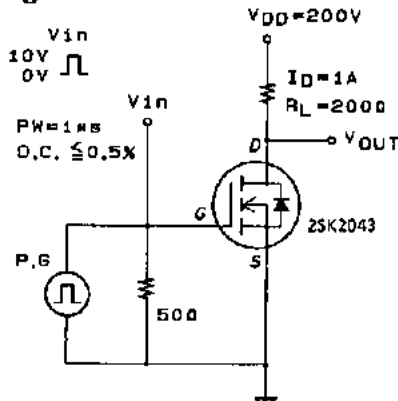
$T_c = 25^\circ\text{C}$

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

Parameter	Symbol	Test Conditions	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	$I_{GSS}$	$V_{GS} = \pm 30\text{V}, V_{DS} = 0$			$\pm 100$	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	$\Omega$
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

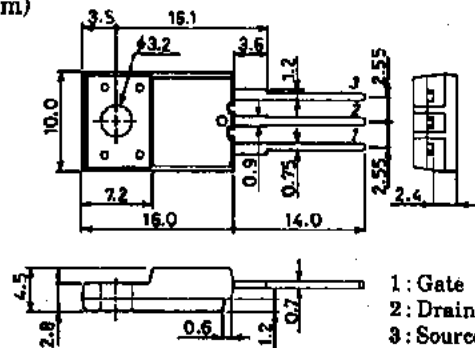
(Note) Be careful in handling the 2SK2043 because it has no protection diode between gate and source.

### Switching Time Test Circuit



### Package Dimensions 2078B

(unit: mm)



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