



Features

- Low ON resistance.
- Ultrahigh-speed switching.
- High-speed diode built in ($t_{rr} = 140\text{ns}$).
- Micaless package facilitating easy mounting.

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

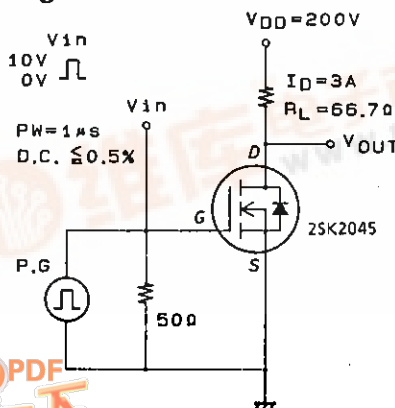
Parameter	Symbol	Value	unit
Drain-to-Source Voltage	V_{DSS}	600	V
Gate-to-Source Voltage	V_{GSS}	± 30	V
Drain Current(DC)	I_D	5.5	A
Drain Current(Pulse)	I_{DP}	22	A
Allowable Power Dissipation	P_D	2.0	W
		$T_c = 25^\circ\text{C}$	
Channel Temperature	T_{ch}	35	W
Storage Temperature	T_{stg}	150	$^\circ\text{C}$
		-55 to +150	$^\circ\text{C}$

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}	$V_{GS} = \pm 30\text{V}, V_{DS} = 0$			± 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} $	$V_{DS} = 10\text{V}, I_D = 3\text{A}$	2.3	4.5		S
Static Drain-to-Source ON-State Resistance	$R_{DS(on)}$	$I_D = 3\text{A}, V_{GS} = 10\text{V}$		1.1	1.5	Ω
Input Capacitance	C_{iss}	$V_{DS} = 20\text{V}, f = 1\text{MHz}$		1100		pF
Output Capacitance	C_{oss}	$V_{DS} = 20\text{V}, f = 1\text{MHz}$		150		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 20\text{V}, f = 1\text{MHz}$		45		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		18		ns
Rise Time	t_r	"		25		ns
Turn-OFF Delay Time	$t_{d(off)}$	"		240		ns
Fall Time	t_f	"		60		ns
Diode Forward Voltage	V_{SD}	$I_S = 5.5\text{A}, V_{GS} = 0$			1.5	V
Diode Reverse Recovery Time	t_{rr}	$I_S = 5.5\text{A}, di/dt = 100\text{A}/\mu\text{s}$		140		ns

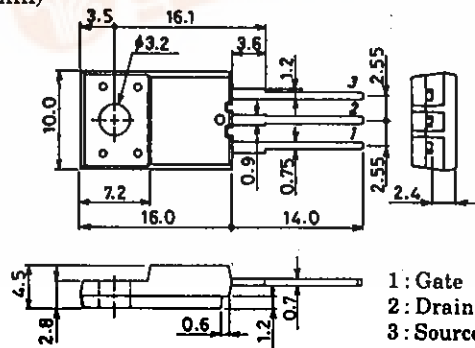
(Note) Be careful in handling the 2SK2045 because it has no protection diode between gate and source.

Switching Time Test Circuit



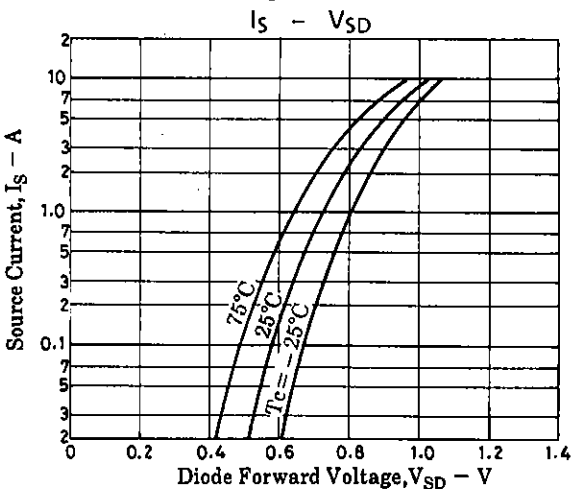
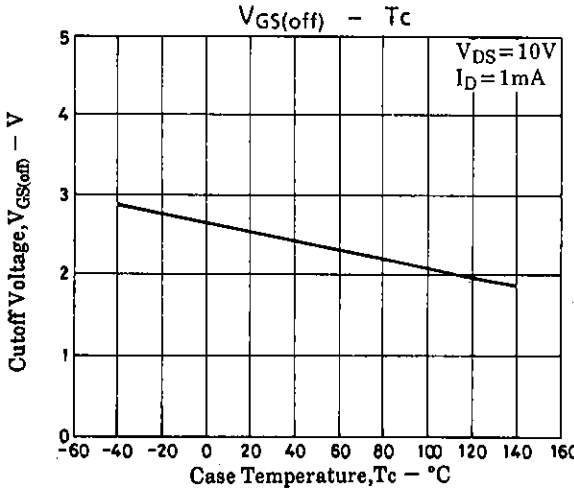
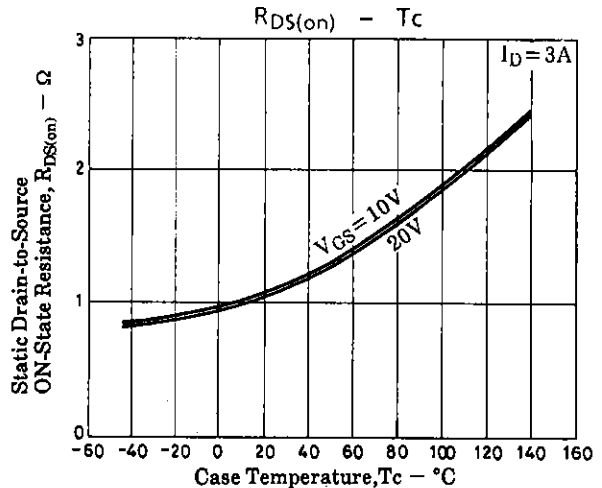
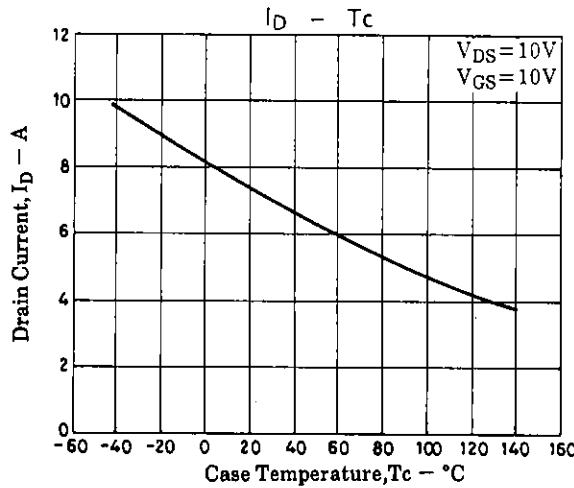
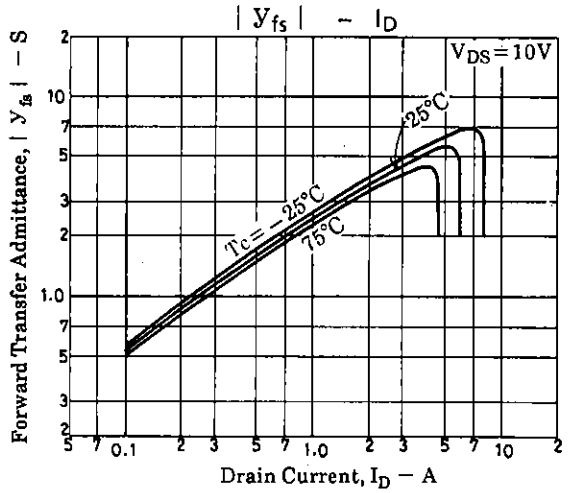
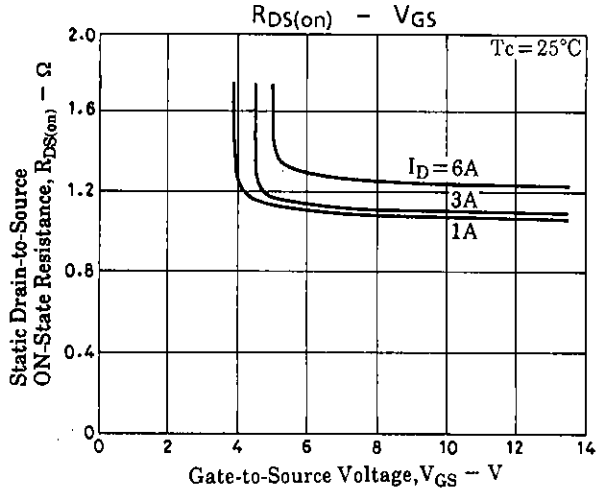
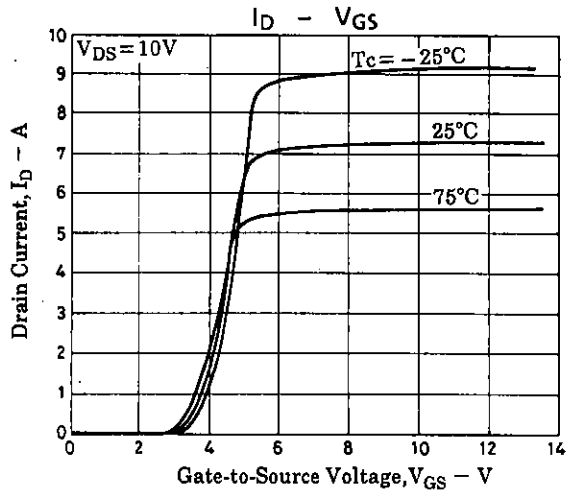
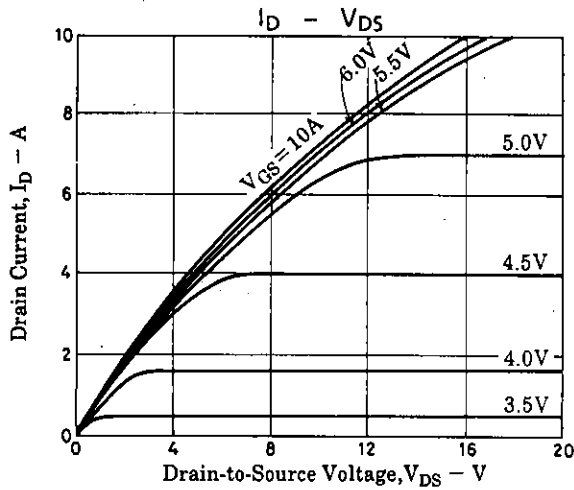
Package Dimensions 2078B

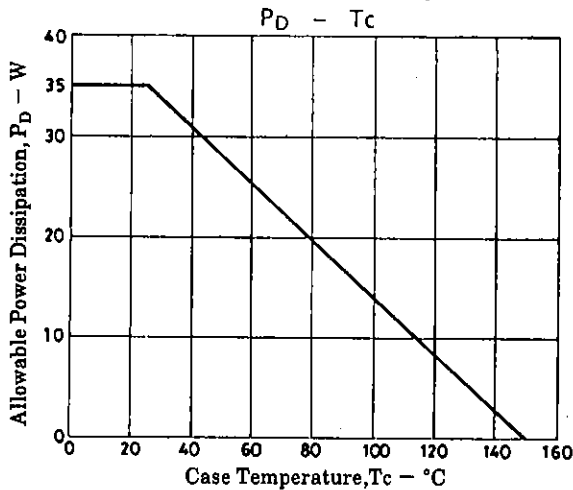
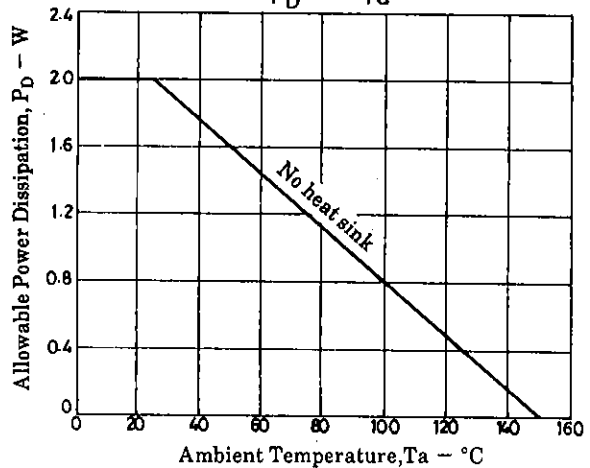
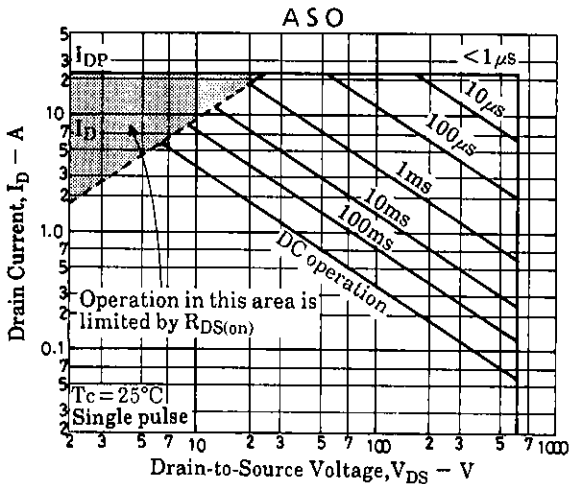
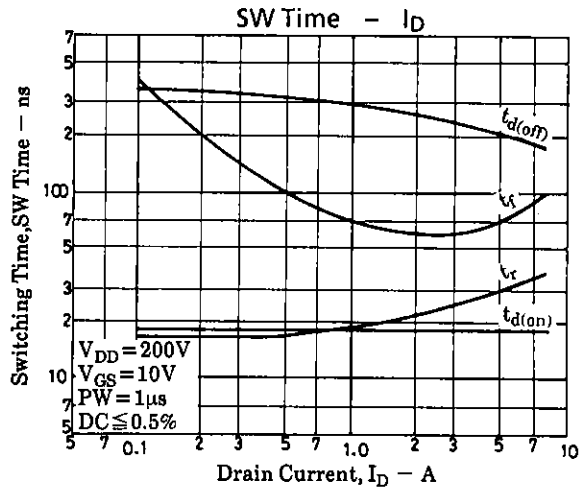
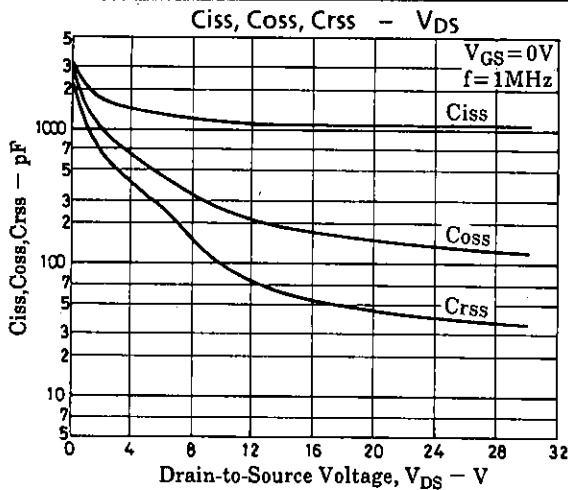
(unit : mm)



- 1: Gate
- 2: Drain
- 3: Source

SANYO : TO-220FI(LS)





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