

9097250 TOSHIBA (DISCRETE/OPTO)

5bC 08007 D T-39-11

SILICON N CHANNEL MOS TYPE (π -MOS)

2SK420

HIGH SPEED, HIGH VOLTAGE SWITCHING APPLICATIONS.

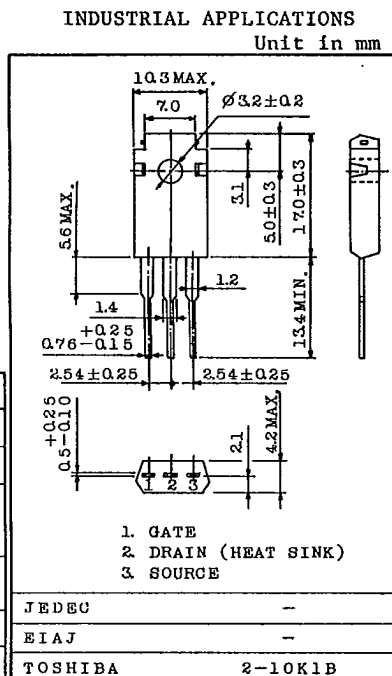
SWITCHING REGULATOR, DC-DC CONVERTER AND MOTOR
DRIVE APPLICATIONS.

FEATURES:

- . High Breakdown Voltage : $V_{(BR)DSS}=400V$
- . High Forward Transfer Admittance : $|Y_{fs}|=2.5S$ (Typ.)
- . Low Leakage Current : $I_{GSS}=\pm 100nA$ (Max.) @ $V_{GS}=\pm 20V$
 $I_{DSS}=1mA$ (Max.) @ $V_{DS}=400V$
- . Enhancement-Mode : $V_{th}=1.5 \sim 3.5V$ @ $I_D=1mA$

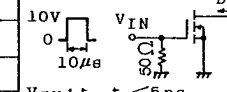
MAXIMUM RATINGS (T_a=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Drain-Source Voltage		V_{DSX}	400	V
Gate-Source Voltage		V_{GSS}	± 20	V
Drain Current	DC	I_D	5	A
	Pulse	I_{DP}	8	
Drain Power Dissipation ($T_c=25^{\circ}\text{C}$)		P_D	60	W
Channel Temperature		T_{ch}	150	$^{\circ}\text{C}$
Storage Temperature Range		T_{stg}	$-55 \sim 150$	$^{\circ}\text{C}$



Weight : 2.0g

ELECTRICAL CHARACTERISTICS (T_a=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		IGSS	VGS=±20V, VDS=0	-	-	±100	nA
Drain Cut-off Current		IDSS	VDS=400V, VGS=0	-	-	1.0	mA
Drain-Source Breakdown Voltage		V(BR)DSS	ID=10mA, VGS=0	400	-	-	V
Gate Threshold Voltage		Vth	VDS=10V, ID=1mA	1.5	-	3.5	V
Forward Transfer Admittance		Yfs	VDS=10V, ID=3A	1.0	2.5	-	S
Drain-Source ON Resistance		RDS(ON)	ID=3A, VGS=10V	-	1.0	1.4	Ω
Drain-Source ON Voltage		VDS(ON)	ID=8A, VGS=10V	-	10	18	V
Input Capacitance		Ciss	VDS=10V, VGS=0, f=1MHz	-	670	900	pF
Reverse Transfer Capacitance		Crss	VDS=10V, VGS=0, f=1MHz	-	50	90	pF
Output Capacitance		Coss	VDS=10V, VGS=0, f=1MHz	-	180	250	pF
Switching Time	Rise Time	tr	 $V_{IN}: t_r, t_f < 5\text{ns}$ $V_{DD} = 200\text{V}$ $D, U \leq 1\%$ ($Z_{OUT} = 50\Omega$)	-	25	50	ns
	Turn-on Time	ton		-	40	80	ns
	Fall Time	tf		-	35	70	ns
	Turn-off Time	toff		-	140	280	ns

THIS TRANSISTOR IS THE ELECTROSTATIC SENSITIVE DEVICE. PLEASE HANDLE WITH CAUTION.

TOSHIBA CORPORATION