

9097250 TOSHIBA (DISCRETE/OPTO)

56C 08005 D T-39-11

SILICON N CHANNEL MOS TYPE (π -MOS)

2SK418

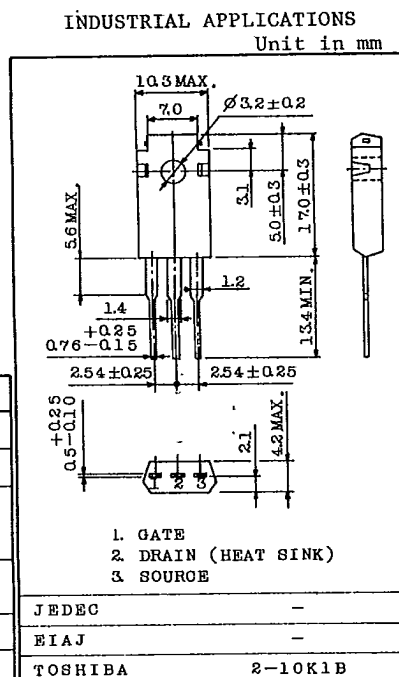
HIGH SPEED, HIGH VOLTAGE SWITCHING APPLICATIONS.
SWITCHING REGULATOR, DC-DC CONVERTER AND MOTOR
DRIVE APPLICATIONS.

FEATURES:

- . High Breakdown Voltage : $V_{(BR)DSS}=400V$
- . High Forward Transfer Admittance : $|Y_{fs}|=1.2S$ (Typ.)
- . Low Leakage Current : $I_{GSS}=\pm 100nA$ (Max.) @ $V_{GS}=\pm 20V$
 $I_{DSS}=1mA$ (Max.) @ $V_{DS}=400V$
- . Enhancement-Mode : $V_{th}=1.5 \sim 3.5V$ @ $I_D=1mA$

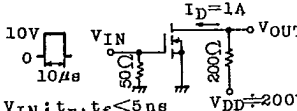
MAXIMUM RATINGS (T_a=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Drain-Source Voltage		V_{DSX}	400	V
Gate-Source Voltage		V_{GSS}	± 20	V
Drain Current	DC	I_D	2	A
	Pulse	I_{DP}	4	
Drain Power Dissipation ($T_c=25^\circ\text{C}$)		P_D	50	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 ($T_a=25^{\circ}\text{C}$).

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0$	-	-	± 100	nA
Drain Cut-off Current		I_{DSS}	$V_{DS}=400V, V_{GS}=0$	-	-	1.0	mA
Drain-Source Breakdown Voltage		$V_{(BR)DSS}$	$I_D=10mA, V_{GS}=0$	400	-	-	V
Gate Threshold Voltage		V_{th}	$V_{DS}=10V, I_D=1mA$	1.5	-	3.5	V
Forward Transfer Admittance		$ Y_{fs} $	$V_{DS}=10V, I_D=1A$	0.6	1.2	-	S
Drain-Source ON Resistance		$R_{DS(ON)}$	$I_D=1A, V_{GS}=10V$	-	1.6	2.2	Ω
Drain-Source ON Voltage		$V_{DS(ON)}$	$I_D=4A, V_{GS}=10V$	-	8.5	12	V
Input Capacitance		C_{iss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	410	600	pF
Reverse Transfer Capacitance		C_{rss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	35	70	pF
Output Capacitance		C_{oss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	115	170	pF
Switching Time	Rise Time	t_r	 $V_{IN}: t_r, t_f < 5ns$ $V_{GS}=10V, I_D=1A, V_{DS}=200V$ $D, U \leq 1\%$ ($Z_{OUT}=50\Omega$)	-	15	30	ns
	Turn-on Time	t_{on}		-	30	60	ns
	Fall Time	t_f		-	30	60	ns
	Turn-off Time	t_{off}		-	100	200	ns

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

TOSHIBA CORPORATION