

2SK417

SILICON N CHANNEL MOS TYPE (π -MOS)

HIGH SPEED SWITCHING APPLICATIONS.

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

FEATURES:

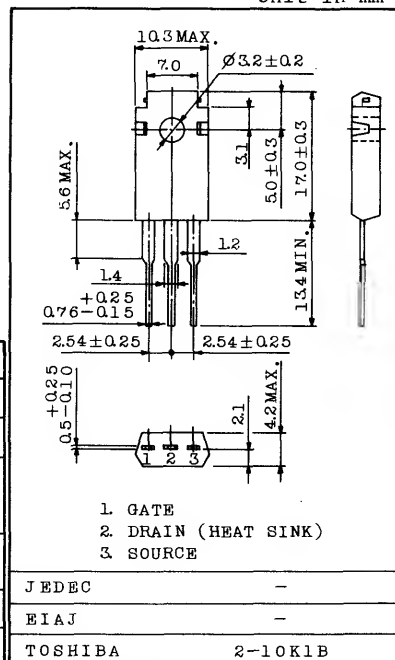
- Low Drain-Source ON Resistance : $R_{DS(ON)}=0.1\Omega$ (Typ.)
- High Forward Transfer Admittance : $|Y_{fs}|=4S$ (Typ.)
- Low Leakage Current : $I_{GSS}=\pm 100nA$ (Max.) @ $V_{GS}=\pm 20V$
 $I_{DSS}=1mA$ (Max.) @ $V_{DS}=60V$
- Enhancement-Mode : $V_{th}=1.5\sim 3.5V$ @ $I_D=1mA$

MAXIMUM RATINGS ($T_a=25^\circ C$)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Drain-Source Voltage		V_{DSX}	60	V
Gate-Source Voltage		V_{GSS}	± 20	V
Drain Current	DC	I_D	10	A
	Pulse	I_{DP}	15	
Drain Power Dissipation ($T_c=25^\circ C$)		P_D	60	W
Channel Temperature		T_{ch}	150	$^\circ C$
Storage Temperature Range		T_{stg}	$-55\sim 150$	$^\circ C$

INDUSTRIAL APPLICATIONS

Unit in mm



ELECTRICAL CHARACTERISTICS ($T_a=25^\circ C$)

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}	$V_{DS}=60V, V_{GS}=0$	-	-	1.0	mA
Drain-Source Breakdown Voltage		$V_{(BR)DSS}$	$I_D=10mA, V_{GS}=0$	60	-	-	V
Gate Threshold Voltage		V_{th}	$V_{DS}=10V, I_D=1mA$	1.5	-	3.5	V
Forward Transfer Admittance		Y_{fs}	$V_{DS}=10V, I_D=5A$	2	4	-	S
Drain-Source ON Resistance		$R_{DS(ON)}$	$I_D=5A, V_{GS}=10V$	-	0.10	0.14	Ω
Drain-Source ON Voltage		$V_{DS(ON)}$	$I_D=10A, V_{GS}=10V$	-	1.0	1.5	V
Input Capacitance		C_{iss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	850	1100	pF
Reverse Transfer Capacitance		C_{rss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	370	600	pF
Output Capacitance		C_{oss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	800	1100	pF
Switching Time	Rise Time	t_r		-	100	200	ns
	Turn-on Time	t_{on}		-	120	240	ns
	Fall Time	t_f		-	85	170	ns
	Turn-off Time	t_{off}		-	160	320	ns

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

TOSHIBA CORPORATION