

2SK421

SILICON N CHANNEL MOS TYPE (π -MOS)

HIGH SPEED, HIGH VOLTAGE SWITCHING APPLICATIONS.

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

FEATURES:

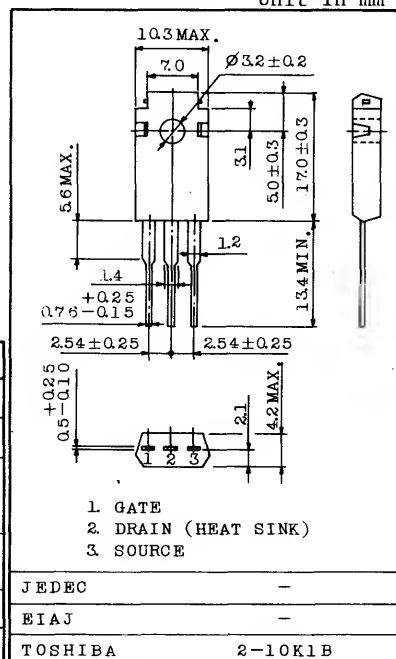
- High Breakdown Voltage : $V_{(BR)DSS}=450V$
- High Forward Transfer Admittance : $|Y_{fs}|=2.5S$ (Typ.)
- Low Leakage Current : $I_{GSS}=\pm 100nA$ (Max.) @ $V_{GS}=\pm 20V$
 $I_{DSS}=1mA$ (Max.) @ $V_{DS}=450V$
- Enhancement-Mode : $V_{th}=1.5 \sim 3.5V$ @ $I_D=1mA$

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Drain-Source Voltage		V_{DSX}	450	V
Gate-Source Voltage		V_{GSS}	± 20	V
Drain Current	DC	I_D	5	A
	Pulse	I_{DP}	8	
Drain Power Dissipation ($T_c=25^\circ C$)		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



Weight : 2.0g

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}	$V_{DS}=450V, V_{GS}=0$	-	-	1.0	mA
Drain-Source Breakdown Voltage		$V_{(BR)DSS}$	$I_D=10mA, V_{GS}=0$	450	-	-	V
Gate Threshold Voltage		V_{th}	$V_{DS}=10V, I_D=1mA$	1.5	-	3.5	V
Forward Transfer Admittance		$ Y_{fs} $	$V_{DS}=10V, I_D=3A$	1.0	2.5	-	S
Drain-Source ON Resistance		$R_{DS(ON)}$	$I_D=3A, V_{GS}=10V$	-	1.1	1.6	Ω
Drain-Source ON Voltage		$V_{DS(ON)}$	$I_D=8A, V_{GS}=10V$	-	12	22	V
Input Capacitance		C_{iss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	670	900	pF
Reverse Transfer Capacitance		C_{rss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	50	90	pF
Output Capacitance		C_{oss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	180	250	pF
Switching Time	Rise Time	t_r		-	25	50	ns
	Turn-on Time	t_{on}		-	40	80	ns
	Fall Time	t_f		-	35	70	ns
	Turn-off Time	t_{off}		-	140	280	ns

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

TOSHIBA CORPORATION