

2SK1377

FIELD EFFECT TRANSISTOR SILICON N CHANNEL MOS TYPE (π -MOS)

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

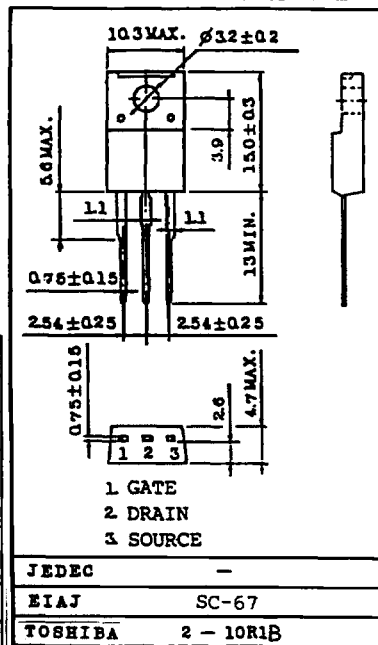
FEATURES:

- High Breakdown Voltage : $V_{(BR)DSS}=400V$
- High Forward Transfer Admittance : $|Y_{fs}|=2.5S(Typ.)$
- Low Leakage Current : $I_{DSS}=1mA(Max.) @ V_{DS}=400V$
- 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}	400	V
Gate-Source Voltage	V_{GSS}	± 30	V
Drain Current	DC	I_D	A
	Pulse	I_{DP}	
Drain Power Dissipation ($T_c=25^\circ C$)	P_D	40	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 ($T_a=25^\circ C$)

Weight: 2.0g

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I_{GSS}	$V_{GS}=\pm 25V, V_{DS}=0$	-	-	± 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} $	$V_{DS}=10V, I_D=3A$	1.0	2.5	-	S
Drain-Source ON Resistance		$R_{DS(ON)}$	$I_D=3A, V_{GS}=10V$	-	0.8	1.2	Ω
Drain-Source ON Voltage		$V_{DS(ON)}$	$I_D=8A, V_{GS}=10V$	-	10	18	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	$I_D=2A$ $V_{IN}: t_r, t_f < 5ns$ $V_{DD}=200V$ $D.U \leq 1\%$ ($Z_{OUT}=50\Omega$)	-	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 AN ELECTROSTATIC SENSITIVE DEVICE. PLEASE HANDLE WITH CAUTION.