2SK1377

FIELD EFFECT TRANSISTOR

SILICON N CHANNEL MOS TYPE (π-MOS)

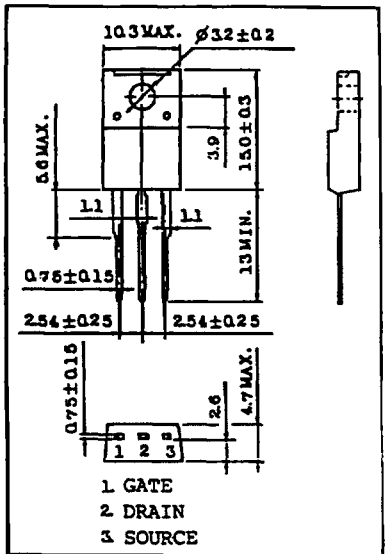
HIGH SPEED, HIGH VOLTAGE SWITCHING APPLICATIONS.
SWITCHING REGULATOR, DC-DC CONVERTER AND MOTOR DRIVE APPLICATIONS.

INDUSTRIAL APPLICATIONS

Unit in mm

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}=1.5～3.5V @ I_D=1mA



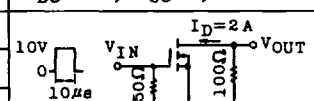
JEDEC	—
EIAJ	SC-67
TOSHIBA	2 − 10R1B

Weight: 2.0g

MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Drain-Source Voltage		V_{DSX}	400	V
Gate-Source Voltage		V_{GSS}	± 30	V
Drain Current	DC	I_D	5.5	A
	Pulse	I_{DP}	22	
Drain Power Dissipation (Tc=25°C)		P_D	40	W
Channel Temperature		T_{ch}	150	°C
Storage Temperature Range		T_{stg}	-55～150	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I_{GSS}	V_{GS}=±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		-	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.