

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

2SK539

HIGH SPEED, HIGH VOLTAGE SWITCHING APPLICATIONS.
SWITCHING REGULATOR AND MOTOR DRIVE APPLICATIONS.

FEATURES:

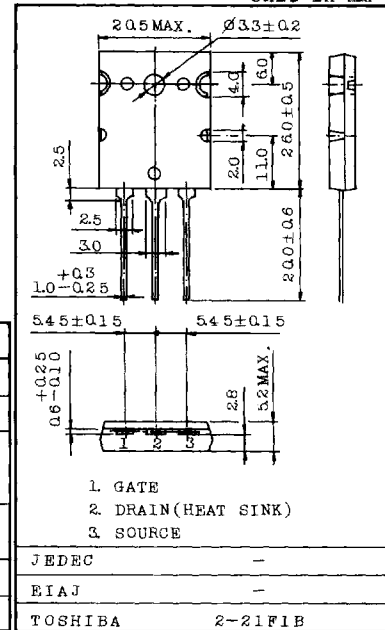
- High Breakdown Voltage : $V(BR)_{DSS}=900V$
- High Forward Transfer Admittance : $|Y_{fs}|=1.7S(Typ.)$
- Low Leakage Current : $I_{GSS}=\pm 100nA(Max.)$ ($V_{GS}=\pm 20V$)
 $I_{DSS}=300\mu A(Max.)$ ($V_{DS}=900V$)
- Enhancement-Mode : $V_{th}=1.5 \sim 3.5V$ ($I_D=1mA$)

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	V_{DSX}	900	V
Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current	DC	I_D	5
	Pulse	I_{DP}	10
Drain Power Dissipation ($T_c=25^\circ C$)	P_D	150	W
Channel Temperature	T_{ch}	150	$^\circ C$
Storage Temperature Range	T_{stg}	$-55 \sim 150$	$^\circ C$

INDUSTRIAL APPLICATIONS

Unit in mm



Weight : 9.7g

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}	$V_{DS}=900V, V_{GS}=0$	-	-	300	μA	
Drain-Source Breakdown Voltage	$V(BR)_{DSS}$	$I_D=10mA, V_{GS}=0$	900	-	-	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	1.7	-	S	
Drain-Source ON Resistance	$R_{DS(ON)}$	$I_D=3A, V_{GS}=10V$	-	2.1	2.5	Ω	
Drain-Source ON Voltage	$V_{DS(ON)}$	$I_D=5A, V_{GS}=10V$	-	11	13	V	
Input Capacitance	C_{iss}	$V_{DS}=25V, V_{GS}=0, f=1MHz$	-	1400	1900	pF	
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=25V, V_{GS}=0, f=1MHz$	-	110	200	pF	
Output Capacitance	C_{oss}	$V_{DS}=25V, V_{GS}=0, f=1MHz$	-	190	300	pF	
Switching Time	Rise Time	t_r		-	110	220	ns
	Turn-on Time	t_{on}		-	130	260	
	Fall Time	t_f		-	90	260	
	Turn-off Time	t_{off}		$V_{IN}: t_r, t_f < 5ns$ $D, U \leq 1\% (Z_{OUT}=50\Omega)$	-	480	

