

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

FEATURES

- Low Drain-Source ON Resistance
: $R_{DS(ON)}=3.7\Omega$ (Typ.)
- High Forward Transfer Admittance : $|Y_{fs}|=2.6S$ (Typ.)
- Low Leakage Current : $I_{DSS}=100\mu A$ (Max.) ($V_{DS}=720V$)
- Enhancement-Mode : $V_{th}=2.0\sim 4.0V$ ($V_{DS}=10V$, $I_D=1mA$)

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Drain-Source Voltage		V_{DSS}	900	V
Drain-Gate Voltage ($R_{GS}=20k\Omega$)		V_{DGR}	900	V
Gate-Source Voltage		V_{GSS}	± 30	V
Drain Current	DC	I_D	3	A
	Pulse	I_{DP}	9	
Drain Power Dissipation ($T_c=25^\circ C$)		P_D	40	W
Single Pulse Avalanche Energy **		E_{AS}	295	mJ
Avalanche Current		I_{AR}	3	A
Repetitive Avalanche Energy *		E_{AR}	4	mJ
Channel Temperature		T_{ch}	150	$^\circ C$
Storage Temperature Range		T_{stg}	$-55\sim 150$	$^\circ C$

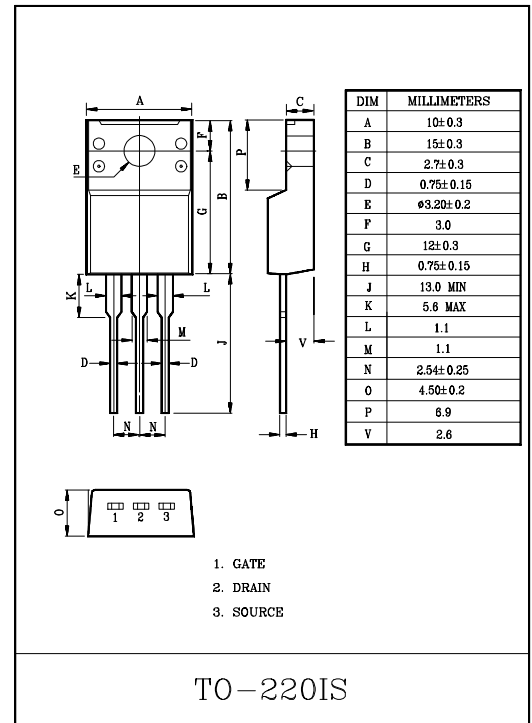
THERMAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	MAX	UNIT
Thermal Resistance, Channel to Case	$R_{th(ch-c)}$	3.125	$^\circ C/W$
Thermal Resistance, Channel to Ambient	$R_{th(ch-a)}$	62.5	$^\circ C/W$

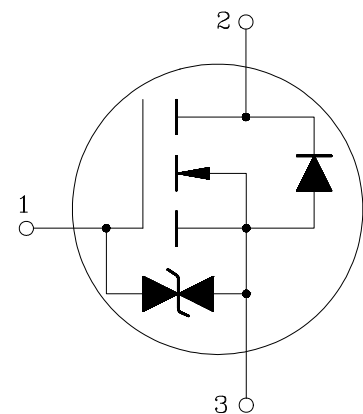
Note : * Repetitive rating ; Pulse Width Limited by Max Junction Temperature.

** $V_{DD}=90V$, $T_{ch}=25^\circ C$, $L=60.0mH$, $I_{AR}=3A$

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



EQUIVALENT CIRCUIT



KTK2700

ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I_{GSS}	$V_{GS}=\pm 30V$, $V_{DS}=0V$	-	-	± 10	μA
Gate-Source Breakdown Voltage		$V_{(BR)GSS}$	$I_G=\pm 10\mu A$, $V_{DS}=0V$	± 30	-	-	V
Drain Cut-off Current		I_{DSS}	$V_{DS}=720V$, $V_{GS}=0V$	-	-	100	μA
Drain-Source Breakdown Voltage		$V_{(BR)DSS}$	$I_D=10mA$, $V_{GS}=0V$	900	-	-	V
Gate Threshold Voltage		V_{th}	$V_{DS}=10V$, $I_D=1mA$	2.0	-	4.0	V
Drain-Source ON Resistance		$R_{DS(ON)}$	$V_{GS}=10V$, $I_D=1.5A$	-	3.7	4.3	Ω
Forward Transfer Admittance		$ Y_{fs} $	$V_{DS}=20V$, $I_D=1.5A$	0.65	2.6	-	S
Input Capacitance		C_{iss}	$V_{DS}=25V$, $V_{GS}=0V$, $f=1MHz$	-	750	-	pF
Reverse Transfer Capacitance		C_{rss}		-	10	-	
Output Capacitance		C_{oss}		-	70	-	
Switching Time	Rise Time	t_r		-	15	-	nS
	Turn-on Time	t_{on}		-	55	-	
	Fall Time	t_f		-	30	-	
	Turn-off Time	t_{off}		-	110	-	
Total Gate Charge (Gate-Source Plus Gate-Drain)		Q_g	$V_{DD} \approx 400V$, $V_{GS}=10V$, $I_D=3A$	-	25	-	nC
Gate-Source Charge		Q_{gs}		-	13	-	
Gate-Drain ("Miller") Charge		Q_{gd}		-	12	-	

SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Continuous Drain Reverse Current	I_{DR}	-	-	-	3	A
Pulse Drain Reverse Current	I_{DRP}	-	-	-	9	A
Diode Forward Voltage	V_{DSF}	$I_{DR}=3A$, $V_{GS}=0V$	-	-	-1.9	V
Reverse Recovery Time	t_{rr}	$I_{DR}=3A$, $V_{GS}=0V$ $dI_{DR}/dt=100A/\mu S$	-	1100	-	ns
Reverse Recovery Charge	Q_{rr}		-	7.2	-	μC

