

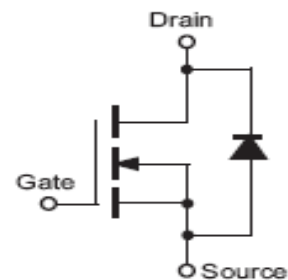
## BUZ73A

### N CHANNEL ENHANCEMENT MODE POWER MOS TRANSISTORS

#### FEATURE

This is an N-channel enhancement mode silicon gate power field effect transistor designed for applications such as switching regulators, switching converters, motor drivers, relay drivers, and drivers for high power bipolar switching transistors requiring high speed and low gate drive power.

This type can be operated directly from integrated circuits and housed in a TO-220 envelope.



#### ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings	Value	Unit
$V_{DS}$	Drain-Source Voltage	200	V
$V_{SD}$	Drain-Source diode Voltage	<1.7	V
$I_{DS}$	Continuous Drain Current $T_C= 37^\circ\text{C}$	5.5	A
$I_{DM}$	Pulsed Drain Current $T_C= 25^\circ\text{C}$	22	A
$V_{GS}$	Gate-Source Voltage	20	V
$R_{DS(on)}$	Drain-Source on Resistance	0.6	$\Omega$
$P_T$	Power Dissipation at Case Temperature $T_C= 25^\circ\text{C}$	40	Watts
$t_J$	Operating Temperature	-55 to +150	°C
$t_{stg}$	Storage Temperature range	-55 to +150	
$t_L$	Lead Temperature 1.6 mm from case for 10 seconde	300	



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### THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
$R_{thJC}$	Thermal Resistance, chip case	<3.1	°C/W
$R_{thJA}$	Thermal Resistance, chip to ambient	<75	

### ELECTRICAL CHARACTERISTICS

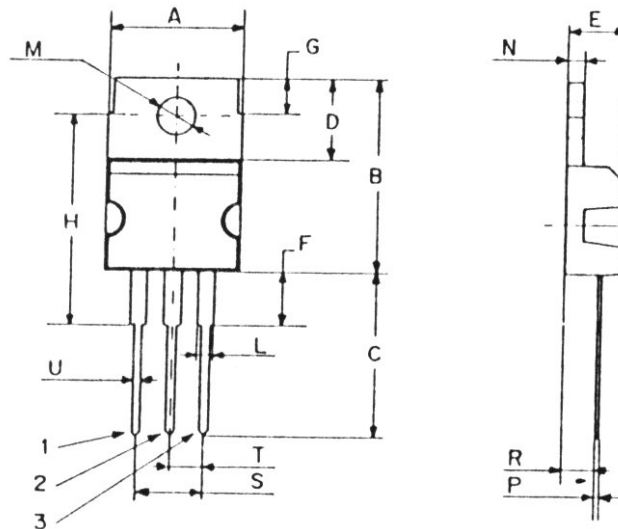
TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit
$V_{DSS}$	Drain-Source Breakdown Voltage	$I_D=250 \mu A, V_{GS}=0 V$	200	-	-	V
$V_{GS(th)}$	Gate-threshold Voltage	$I_D=1 mA, V_{GS}=V_{DS}$	2.1	3	4	V
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS}=200 V, V_{GS}=0 V$ $T_j=25 \text{ }^\circ C$	-	0.1	1	$\mu A$
		$V_{DS}=200 V, V_{GS}=0 V$ $T_j=125 \text{ }^\circ C$	-	1	100	
$I_{GSS}$	Gate-Source leakage Current	$V_{GS}=20 V, V_{DS}=0 V$	-	10	100	nA
$R_{DS(on)}$	Drain-Source on Resistance	$I_D=4.5 A, V_{GS}=10 V$	-	0.5	0.6	$\Omega$
$g_{fs}$	Transconductance	$V_{DS} > 2 * I_D * R_{DS(on)max}$ $I_D=4.5 A$	3	4.2	-	S
$C_{ISS}$	Input Capacitance	$V_{GS}=0 V, V_{DS}=25 V$ $f=1 MHz$	-	400	530	pF
$C_{OSS}$	Output Capacitance		-	85	130	
$C_{RSS}$	Reverse transfer Capacitance		-	45	70	
$t_{d(on)}$	Turn-on Delay Time	$V_{DD}=30 V, V_{GS}=10 V$ $I_D=3 A$ $R_{GS}=50 \Omega$	-	10	15	ns
$t_r$	Rise time		-	40	60	
$t_{d(off)}$	Turn-off Delay Time		-	55	75	
$t_f$	Fall Time		-	30	40	

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### MECHANICAL DATA CASE TO-220

DIMENSIONS (mm)		
	Min.	Max.
A	9,90	10,30
B	15,65	15,90
C	13,20	13,40
D	6,45	6,65
E	4,30	4,50
F	2,70	3,15
G	2,60	3,00
H	15,75	17,15
L	1,15	1,40
M	3,50	3,70
N	-	1,37
P	0,46	0,55
R	2,50	2,70
S	4,98	5,08
T	2,49	2,54
U	0,70	0,90



Pin 1 :	Gate
Pin 2 :	Drain
Pin 3 :	Source

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