C O M S E T
S E M I
C O N D U C T O R S

BUZ76

SIPMOS® POWER TRANSISTORS

FEATURE

- Nchannel
- Enhancement mode
- Avalanche-rated
- TO-220 envelope
- Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings	Value	Unit
V_{DS}	Drain-Source Voltage	400	V
I_{DS}	Continuous Drain Current T_C= 37℃	3	A
I_{DM}	Pulsed Drain Current T_C= 25℃	12	
I_{AR}	Avalanche Current, Limited by T_{jmax}	3	
E_{AR}	Avalanche Energy, Periodic Limited by T_{jmax}	5	mJ
E_{AS}	Avalanche Energy, Single pulse I_D = 3 A, V_{DD} = 50 V, R_{GS} = 25 Ω L = 35 mH, T_j = 25℃	180	
V_{GS}	Gate-Source Voltage	20	V
$R_{DS(on)}$	Drain-Source on Resistance	1.8	Ω
P_T	Power Dissipation at Case Temperature T_C= 25℃	40	W
t_J	Operating Temperature	-55 to +150	℃
t_{stg}	Storage Temperature range	-55 to +150	

THERMAL CHARACTERISTICS

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

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ELECTRICAL CHARACTERISTICS

TC=25℃ unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit
V_{DSS}	Drain-Source Breakdown Voltage	I_D= 250 µA, V_{GS}= 0 V	400	-	-	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}= 400 V, V_{GS}= 0 V T_j= 25 ℃	-	0.1	1	µA
		V_{DS}= 400 V, V_{GS}= 0 V T_j= 125 ℃	-	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= 2 A, V_{GS}= 10 V	-	1.4	1.8	Ω

DYNAMIC CHARACTERISTICS

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit
g_{fs}	Transconductance	V_{DS} >2 * I_D * $R_{DS(on)max}$ I_D= 2 A	2.1	3	-	S
C_{ISS}	Input Capacitance	V_{GS}= 0 V, V_{DS}= 25 V f= 1MHz	-	430	650	pF
C_{OSS}	Output Capacitance		-	65	100	
C_{RSS}	Reverse transfer Capacitance		-	25	40	
$t_{d(on)}$	Turn-on Delay Time	V_{DD}= 30 V, V_{GS}= 10 V I_D= 2.5 A, R_{GS}= 50 Ω	-	8	12	ns
t_r	Rise time		-	30	45	
$t_{d(off)}$	Turn-off Delay Time		-	55	75	
t_f	Fall Time		-	30	40	

REVERSE DIODE

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit
I_S	Inverse Diode Continuous Forward Current.	T_C = 25℃	-	-	3	A
I_{SM}	Inverse diode direct current, pulsed.	T_C = 25℃	-	-	12	
V_{SD}	Inverse Diode Forward voltage	V_{GS} = 0 V, I_F = 6 A	-	1	1.4	V
T_{rr}	Reverse Recovery Time	V_R = 100 V, I_F = I_S di_F/dt = 100 A/µs	-	300	-	ns
Q_{rr}	Reverse Recovery Charge		-	2.5	-	µC

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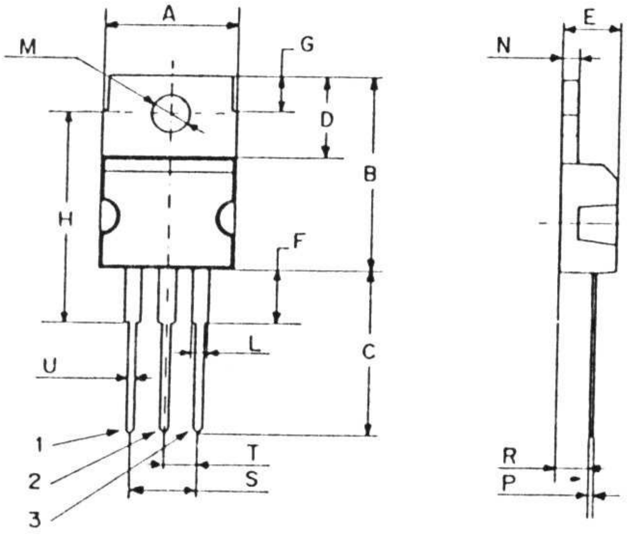
MECHANICAL DATA CASE TO-220

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

Revised October 2014