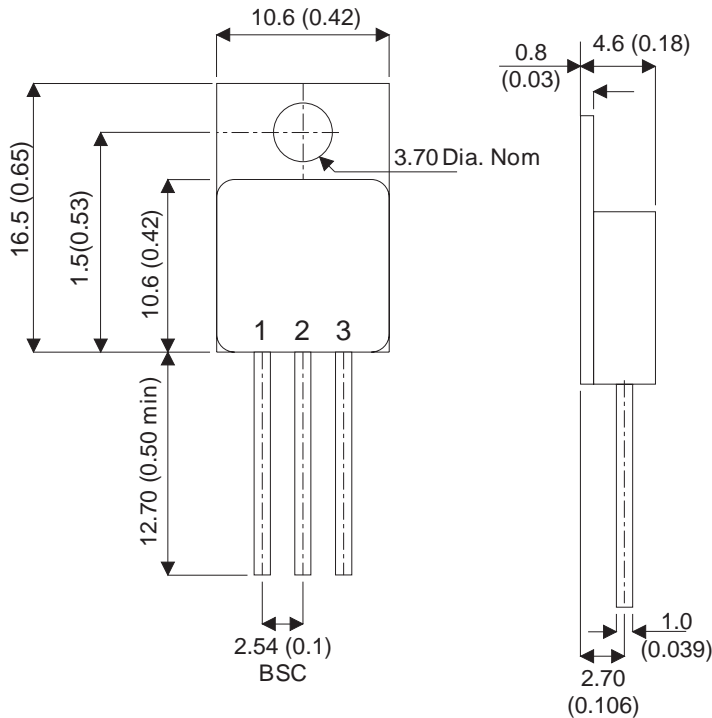




# BUZ50A-220M BUZ50B-220M

## MECHANICAL DATA

Dimensions in mm



## MOS POWER N-CHANNEL ENHANCEMENT MODE TRANSISTORS

### FEATURES

- HERMETIC TO220 ISOLATED METAL PACKAGE
- CECC SCREENING OPTIONS
- JAN LEVEL SCREENING OPTIONS

### APPLICATIONS:

Hermetically sealed version for high reliability power linear and switching applications

**TO220M (TO-257AB)- Isolated Metal Package**

**Pin 1 – Gate    Pin 2 – Drain    Pin 3 – Source**

<b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_{case} = 25^{\circ}C$ unless otherwise stated)		<b>BUZ50A</b>	<b>BUZ50B</b>
$V_{DS}$	Drain – Source Voltage	1000V	1000V
$V_{GS}$	Gate – Source Voltage	$\pm 20V$	$\pm 20V$
$I_D$	Continuous Drain Current	1.0A	1.5A
$I_{DM}$	Maximum Pulsed Drain Current	4.0A	4.5A
$P_D$	Total Power Dissipation at $T_{case} \leq 25^{\circ}C$	75W	
$T_{stg}$	Storage Temperature Range	$-65^{\circ}C$ To $200^{\circ}C$	
$T_j$	Operating Junction Temperature Range	200°C	

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# BUZ50A–220M BUZ50B–220M

## ELECTRICAL CHARACTERISTICS ( $T_C = 25^\circ\text{C}$ unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$BV_{DSS}$ Drain – Source Breakdown Voltage	$V_{GS} = 0$ $I_D = 5.0\text{mA}$	1000			V
$I_{DSS}$ Zero Gate Voltage Drain Current	$V_{DS} = 1000\text{V}$ $V_{GS} = 0\text{V}$ $T_J = 100^\circ\text{C}$			0.25	mA
				2.5	
$I_{GSS}$ Gate – Body Leakage Current	$V_{GS} = 20\text{V}$ $V_{DS} = 0$			500	nA
$V_{GS(th)}$ * Gate Threshold Voltage	$V_{DS} = V_{GS}$ $I_D = 1.0\text{mA}$ $T_J = 100^\circ\text{C}$	2.0		4.5	V
		1.5		4.0	
$V_{DS(on)}$ * Drain Source On Voltage	$V_{GS} = 10\text{V}$ $I_D = 0.5\text{A}$ $T_J = 100^\circ\text{C}$			5.0	V
				10	
				12	
$g_{fs}$ * Forward Transconductance	$V_{DS} = 15\text{V}$ $I_D = 0.5\text{A}$			0.5	S
$R_{DS(on)}$ * Drain – Source On–State Resistance*	$V_{GS} = 10\text{V}$ $I_D = 0.5\text{A}$			10	$\Omega$
$C_{iss}$ Input Capacitance	$V_{GS} = 0$			1200	pF
$C_{oss}$ Output Capacitance	$V_{DS} = 25\text{V}$			300	
$C_{rss}$ Reverse Transfer Capacitance	$f = 1\text{MHz}$			80	
$t_{d(on)}$ * Turn–On Delay Time	$T_J = 100^\circ\text{C}$ $I_D = 0.5\text{A}$ $V_{DS} = 125\text{V}$ $R_{gen} = 50\Omega$			50	ns
$t_r$ * Rise Time				150	
$t_{d(off)}$ * Turn–Off Delay Time				200	
$t_f$ * Fall Time				100	
<b>SOURCE – DRAIN DIODE CHARACTERISTICS</b>					
$V_{SD}$ * Diode Forward Voltage	$I_S = 1.0\text{A}$ $V_{GS} = 0\text{V}$			1.0	V
$t_{on}$ Forward Turn On Time				250	ns
$t_{rr}$ Reverse Recovery Time				420	

**NOTE:** \*Pulsed : Pulse duration = 300  $\mu\text{s}$  , duty cycle  $\leq 2\%$

## THERMAL DATA

$R_{\theta JC}$ Thermal Resistance Junction – Case			1.67	$^\circ\text{C/W}$
$R_{\theta JA}$ Thermal Resistance Junction – Ambient			75	

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