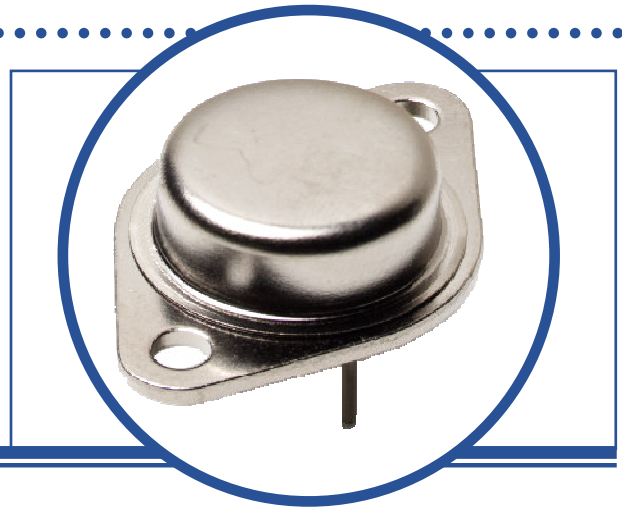


# FAST SWITCHING NPN POWER TRANSISTOR

## BUV62A

- Fast Switching Times
- Low Switching Losses
- Low Saturation Voltage
- Hermetic TO3 Metal package.
- Ideally suited for Motor Control, Switching and Linear Applications
- High Reliability Screening Options Available



### ABSOLUTE MAXIMUM RATINGS ( $T_C = 25^\circ\text{C}$ unless otherwise stated)

$V_{CEV}$	Collector – Emitter Voltage	$V_{BE} = -1.5V$	400V
$V_{CEO}$	Collector – Emitter Voltage		300V
$V_{EBO}$	Emitter – Base Voltage		7V
$I_C$	Continuous Collector Current		40A
$I_{CM}$	Peak Collector Current		60A
$I_B$	Base Current		8A
$I_{BM}$	Base Peak Current		12A
$P_D$	Total Power Dissipation at	$T_C = 25^\circ\text{C}$	250W
		Derate Above $25^\circ\text{C}$	1.43W/ $^\circ\text{C}$
$T_J$	Junction Temperature Range		-55 to $+200^\circ\text{C}$
$T_{stg}$	Storage Temperature Range		-65 to $+200^\circ\text{C}$

### THERMAL PROPERTIES

Symbols	Parameters	Min.	Typ.	Max.	Units
$R_{\theta JC}$	Thermal Resistance, Junction To Case			0.70	$^\circ\text{C/W}$

Semelab Ltd reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing an order.



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# FAST SWITCHING NPN POWER TRANSISTOR BUV62A

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

Symbols	Parameters	Test Conditions	Min.	Typ.	Max.	Units
$V_{(BR)CEO}^{(1)}$	Collector-Emitter Breakdown Voltage	$I_C = 10\text{mA}$ $I_B = 0$	300			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 50\text{mA}$ $I_C = 0$	7			
$I_{CEX}$	Collector Cut-Off Current	$V_{CE} = 400\text{V}$ $V_{BE} = -1.5\text{V}$ $T_j = 100^\circ\text{C}$			1.0	mA
					4.0	
$I_{CER}$	Collector Cut-Off Current	$V_{CE} = 400\text{V}$ $R_{BE} = 10\Omega$ $T_j = 100^\circ\text{C}$			1.0	
					5.0	
$I_{EBO}$	Emitter Cut-Off Current	$V_{EB} = 5\text{V}$ $I_C = 0$			1.0	
$V_{CE(sat)}^{(1)}$	Collector-Emitter Saturation Voltage	$I_C = 15\text{A}$ $I_B = 1.5\text{A}$ $T_j = 100^\circ\text{C}$			0.9	V
					1.9	
$V_{BE(sat)}^{(1)}$	Base-Emitter Saturation Voltage	$I_C = 15\text{A}$ $I_B = 1.5\text{A}$ $T_j = 100^\circ\text{C}$			1.3	
					1.3	

### Notes

(1) Pulse Width  $\leq 300\mu\text{s}$ ,  $\delta \leq 2\%$

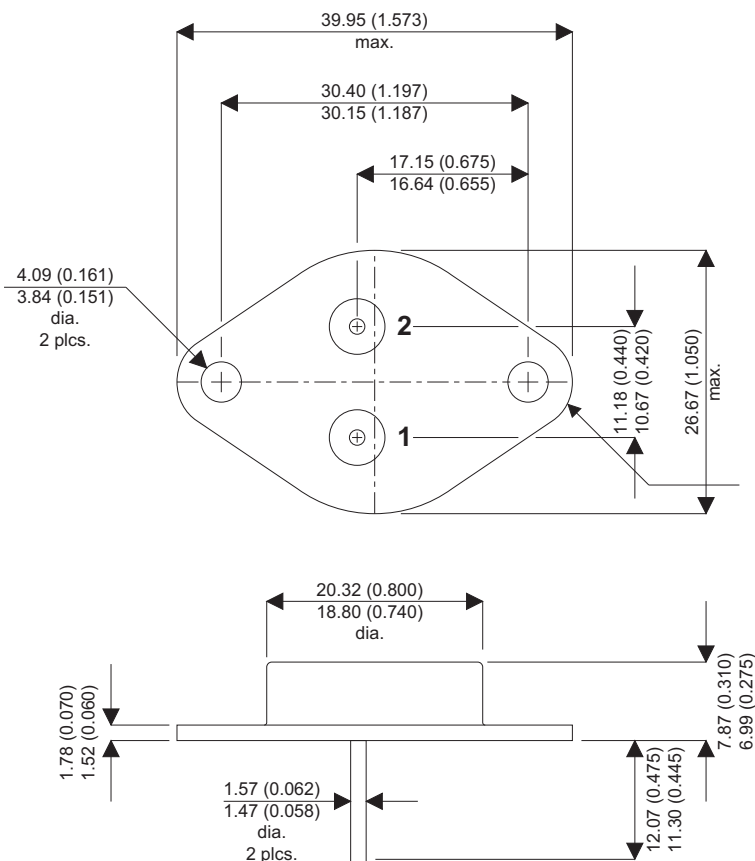
## DYNAMIC CHARACTERISTICS (Inductive Load)

Symbols	Parameters	Test Conditions	Min.	Typ.	Max.	Units
$t_s$	Storage Time	$V_{CC} = 250\text{V}$ $V_{clamp} = 300\text{V}$ $I_C = 15\text{A}$ $I_B = 1.5\text{A}$ $V_{BB} = -5\text{V}$ $R_{B2} = 1.6\Omega$ $L_C = 0.83\text{mH}$ $T_j = 100^\circ\text{C}$		2.2		$\mu\text{s}$
$t_f$	Fall Time			0.2		
$t_c$	Crossover Time			0.3		
$V_{CEW}$	Maximum Collector Emitter Voltage without Snubber	$V_{CC} = 50\text{V}$ $I_{C\text{Woff}} = 22\text{A}$ $V_{BB} = -5\text{V}$ $I_{B1} = 1.5\text{A}$ $L_C = 0.83\text{mH}$ $R_{BB} = 1.6\Omega$ $T_j = 125^\circ\text{C}$	300			V

# FAST SWITCHING NPN POWER TRANSISTOR BUV62A

## MECHANICAL DATA

Dimensions in mm (inches)



### TO3 (TO-204AE)

Pin 1 - Base

Pin 2 - Emitter

Case - Collector