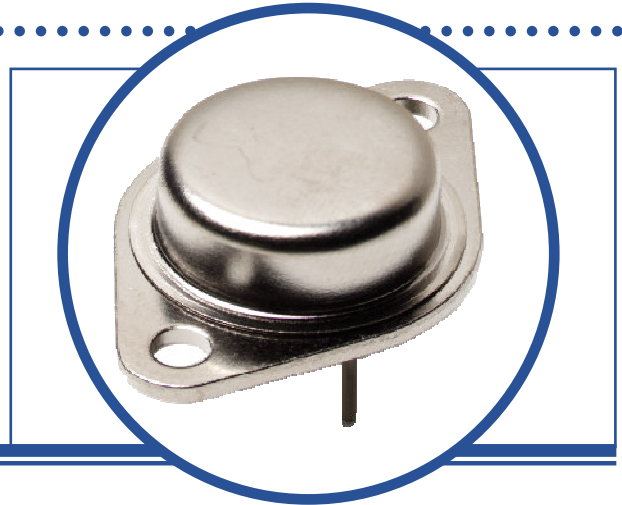


FAST SWITCHING NPN POWER TRANSISTOR

BUV62

- 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	$V_{BE} = -1.5V$	350V
V_{CEO}	Collector – Emitter Voltage		250V
V_{EBO}	Emitter – Base Voltage		7V
I_C	Continuous Collector Current		40A
I_{CM}	Peak Collector Current		60A
I_B	Base Current		7A
I_{BM}	Base Peak Current		12A
P_D	Total Power Dissipation at	$T_C = 25^\circ\text{C}$	250W
		Derate Above 25°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			0.7	$^\circ\text{C/W}$

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 BUV62

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	$I_C = 10\text{mA}$ $I_B = 0$	250			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 50\text{mA}$ $I_C = 0$	7			
I_{CEX}	Collector Cut-Off Current	$V_{CE} = 350\text{V}$ $V_{BE} = -1.5\text{V}$			1.0	mA
		$T_C = 100^\circ\text{C}$			4.0	
I_{CER}	Collector Cut-Off Current	$V_{CE} = 350\text{V}$ $R_{BE} = 10\Omega$			1.0	
		$T_C = 100^\circ\text{C}$			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	$I_C = 8\text{A}$ $I_B = 0.53\text{A}$			0.9	V
		$T_C = 100^\circ\text{C}$			1.2	
		$I_C = 16\text{A}$ $I_B = 1.6\text{A}$			0.9	
		$T_C = 100^\circ\text{C}$			1.5	
$V_{BE(sat)}^{(1)}$	Base-Emitter Saturation Voltage	$I_C = 24\text{A}$ $I_B = 3\text{A}$			1.2	
		$T_C = 100^\circ\text{C}$			1.9	
		$I_C = 16\text{A}$ $I_B = 1.6\text{A}$			1.3	
		$T_C = 100^\circ\text{C}$			1.3	
$I_C = 24\text{A}$ $I_B = 3\text{A}$	$T_C = 100^\circ\text{C}$				1.5	
					1.5	

Notes

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

FAST SWITCHING NPN POWER TRANSISTOR BUV62

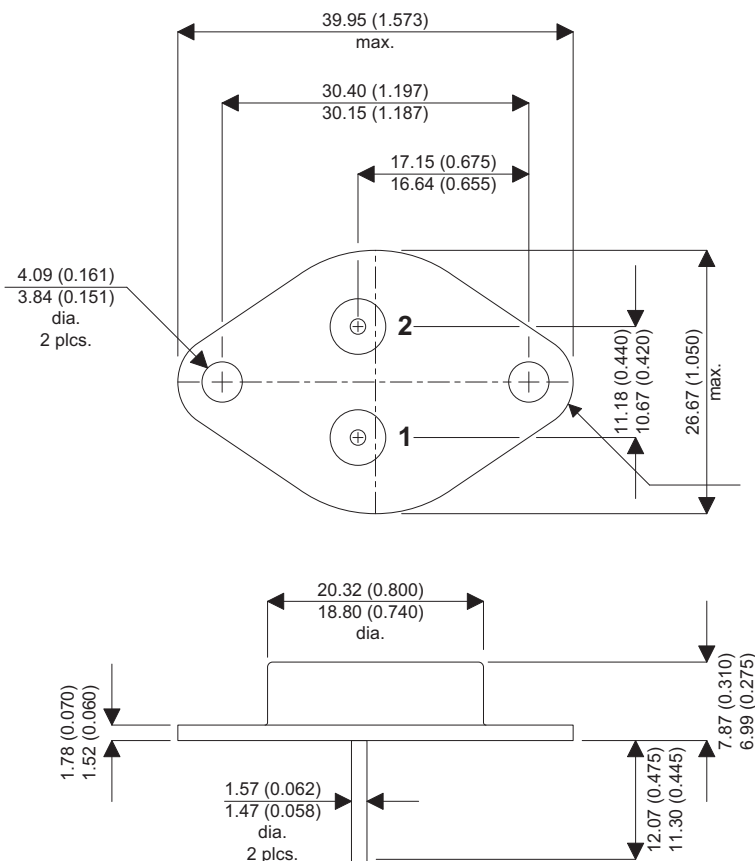
SWITCHING CHARACTERISTICS

Symbols	Parameters	Test Conditions		Min.	Typ.	Max.	Units
Switching Times On Resistive Load							
t_r	Rise Time	$V_{CC} = 200V$	$I_C = 24A$			0.6	μs
t_s	Storage Time	$V_{BB} = -5V$	$I_{B1} = 3A$			1.8	
t_f	Fall Time	$R_{B2} = 0.83\Omega$	$T_p = 30\mu s$			0.35	
Turn-On Switching Characteristics							
dI_C/dt	Rated Rise of On state Collector Current	$V_{CC} = 200V$ $R_C = 0$	$I_{B1} = 2.4A$ $T_C = 100^\circ C$		130		$A/\mu s$
$V_{CE(2\mu s)}$	Collector-Emitter Dynamic Voltage	$V_{CC} = 200V$ $R_C = 13\Omega$	$I_{B1} = 1.6A$ $T_C = 100^\circ C$		1.8		V
$V_{CE(4\mu s)}$	Collector-Emitter Dynamic Voltage	$V_{CC} = 200V$ $R_C = 13\Omega$	$I_{B1} = 1.6A$ $T_C = 100^\circ C$		1.1		
Switching Times On Inductive Load							
t_s	Storage Time	$V_{CC} = 200V$	$V_{clamp} = 250V$		1.2		μs
t_f	Fall Time	$I_C = 16A$	$I_B = 1.6A$		0.08		
t_t	Tail Time in Turn-on	$V_{BB} = -5V$	$R_{B2} = 1.6\Omega$		0.03		
t_c	Crossover Time	$L_C = 0.63mH$			0.15		
t_s	Storage Time	$V_{CC} = 200V$	$V_{clamp} = 250V$		1.8		
t_f	Fall Time	$I_C = 16A$	$I_B = 1.6A$		0.2		
t_t	Tail Time in Turn-on	$V_{BB} = -5V$	$R_{B2} = 3.3\Omega$		0.08		
t_c	Crossover Time	$L_C = 0.63mH$	$T_C = 100^\circ C$		0.3		
t_s	Storage Time	$V_{CC} = 200V$	$V_{clamp} = 250V$		3.0		
t_f	Fall Time	$I_C = 16A$	$I_B = 1.6A$		0.6		
t_t	Tail Time in Turn-on	$V_{BB} = 0$	$R_{B2} = 3.3\Omega$		0.2		
t_s	Storage Time	$V_{CC} = 200V$	$V_{clamp} = 250V$		5.0		
t_f	Fall Time	$I_C = 16A$	$I_B = 1.6A$		1.0		
t_t	Tail Time in Turn-on	$V_{BB} = 0$	$R_{B2} = 3.3\Omega$		0.45		
		$L_C = 0.63mH$	$T_C = 100^\circ C$				

FAST SWITCHING NPN POWER TRANSISTOR BUV62

MECHANICAL DATA

Dimensions in mm (inches)



TO3 (TO-204AE)

Pin 1 - Base

Pin 2 - Emitter

Case - Collector