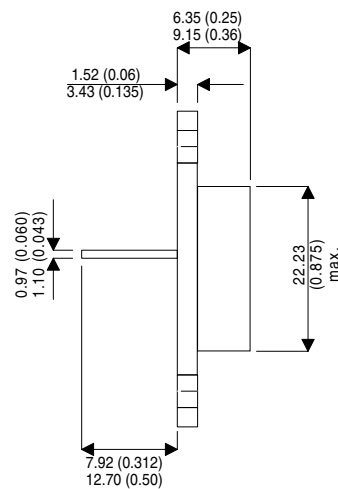
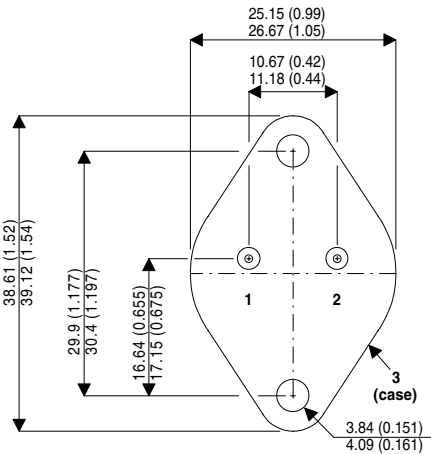


MECHANICAL DATA

Dimensions in mm (inches)



NPN SILICON TRANSISTOR

FEATURES

- $V_{(BR)CEO} = 100V$ (Min)
- Hermetically Sealed TO3 Metal Package
- Screening Options Available

APPLICATIONS

- Linear & Switching Applications

TO3 (TO-204AA)

1 = Base 2 = Emitter Case = Collector

ABSOLUTE MAXIMUM RATINGS ($T_c = 25^\circ C$ unless otherwise stated)

V_{CEO}	Collector - Emitter Voltage	100V
V_{CEV}	Collector - Emitter Voltage ($V_{BE} = -1.5V$)	120V
V_{CBO}	Collector - Base Voltage	120V
V_{EBO}	Emitter - Base Voltage	6V
I_C	Collector Current - Continuous	10A
	Peak	15A
I_B	Base Current	2A
P_D	Power Dissipation at $T_c = 25^\circ C$	60W
	Derate Above $25^\circ C$	0.4W/ $^\circ C$
T_J	Junction Temperature	175 $^\circ C$
T_{stg}	Storage Temperature	-65 to +175 $^\circ C$

Semelab Plc 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 orders.

THERMAL CHARACTERISTICS		Max	Unit
$R_{\theta JC}$	Thermal resistance junction to case	2.5	°C/W

ELECTRICAL CHARACTERISTICS ($T_c = 25^\circ\text{C}$ unless otherwise stated)						
Parameter	Test Conditions	Min.	Typ.	Max.	Unit	
$V_{(BR)CEO}^*$	Collector-Emitter Breakdown Voltage	$I_C = 10\text{mA}$	$I_B = 0$	100		V
I_{CEV}	Collector-Emitter Cut-Off Current	$V_{CE} = 120\text{V}$	$V_{BE} = -1.5\text{V}$		1.0	mA
			$T_c = 150^\circ\text{C}$		3	
I_{EBO}	Emitter-Base Cut-Off Current	$I_C = 0$	$V_{EB} = 6\text{V}$		1.0	
I_{CBO}	Collector-Base Cut-Off Current	$I_E = 0$	$V_{CB} = 120\text{V}$		1.0	
h_{FE}^*	Forward-current transfer ratio	$I_C = 1.0\text{A}$	$V_{CE} = 2\text{V}$	30		
		$I_C = 5.0\text{A}$	$V_{CE} = 5\text{V}$	30	120	
		$I_C = 10\text{A}$	$V_{CE} = 5\text{V}$	20		
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = 5\text{A}$	$I_B = 500\text{mA}$		0.5	V
		$I_C = 10\text{A}$	$I_B = 1.0\text{A}$		1.5	
$V_{BE(sat)}^*$	Base-Emitter Saturated Voltage	$I_C = 5\text{A}$	$I_B = 500\text{mA}$		1.2	
		$I_C = 10\text{A}$	$I_B = 1.0\text{A}$		1.5	

DYNAMIC CHARACTERISTICS						
f_T	Transition Frequency	$I_C = 500\text{mA}$	$V_{CE} = 5\text{V}$	20		MHz
C_{obo}	Output Capacitance	$I_E = 0$	$V_{CB} = 10\text{V}$		200	pF
		$f = 1.0\text{MHz}$				
t_{on}	Turn-On Time	$V_{CC} = 30\text{V}$	$I_C = 5\text{A}$	$I_{B1} = 0.5\text{A}$	0.35	μs
t_s	Storage Time	$V_{CC} = 30\text{V}$			1.3	
t_f	Fall Time	$I_C = 5\text{A}$	$I_{B1} = -I_{B2} = 0.5\text{A}$		0.2	

* Pulse test $t_p = 300\mu\text{s}$, $\delta < 2\%$

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