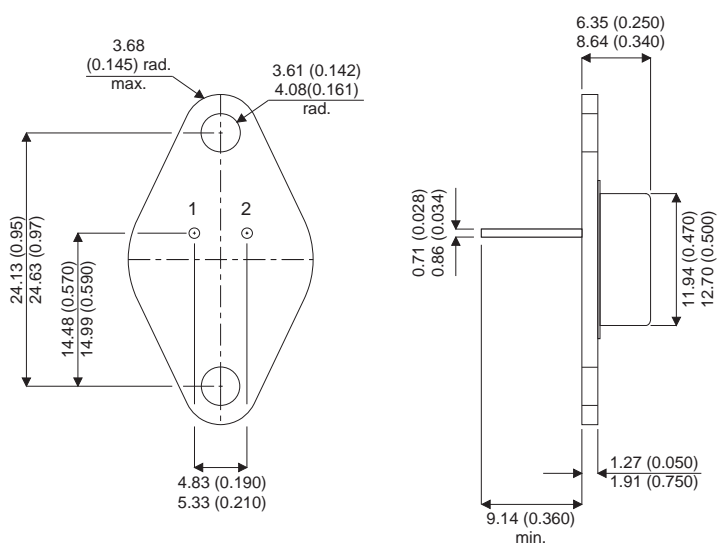


**MECHANICAL DATA**

Dimensions in mm



**POWER TRANSISTORS  
NPN SILICON**

**FEATURES**

- Hermetically Packaged.
- Low Saturation Voltage
- High Gain

**TO66 Package (TO-213AA)**

Pin 1 = Base      Pin 2 = Emitter      Case = Collector

**ABSOLUTE MAXIMUM RATINGS** ( $T_{case} = 25^{\circ}C$  unless otherwise stated)

$V_{CBO}$	Collector – Base Voltage	250V
$V_{CEO}$	Collector – Emitter Voltage ( $I_B = 0$ )	225V
$V_{EBO}$	Emitter – Base Voltage ( $I_C = 0$ )	6V
$I_C$	Collector Current	1A
$I_{C(PK)}$	Peak Collector Current	2A
$I_B$	Base Current	0.5A
$P_D$	Total Device Dissipation at $T_{case} = 25^{\circ}C$ Derate $25^{\circ}C$	20W 0.133W/ $^{\circ}C$
$T_{stg}$	Operating and Storage Temperature Range	$-65$ to $200^{\circ}C$

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.

**ELECTRICAL CHARACTERISTICS** ( $T_{\text{case}} = 25^{\circ}\text{C}$  unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
<b>ELECTRICAL CHARACTERISTICS</b>					
$V_{\text{CEO(BR)*}}$	Collector– Emitter Breakdown Voltage	$I_{\text{C}} = 5\text{mA}$ $I_{\text{B}} = 0$	225		V
$I_{\text{CBO}}$	Collector Base Cut–Off Current	$V_{\text{CB}} = 250\text{V}$ $I_{\text{E}} = 0$		0.1	mA
$I_{\text{CEO}}$	Collector Emitter Cut–Off Current	$V_{\text{CE}} = 125\text{V}$ $I_{\text{B}} = 0$		0.25	mA
$I_{\text{CEV}}$	Collector Cut–Off Current	$V_{\text{CE}} = 250\text{V}$ $V_{\text{BE(OFF)}} = 1.5\text{V}$		0.5	mA
		$V_{\text{CE}} = 125\text{V}$ $V_{\text{BE(OFF)}} = 1.5\text{V}$ $T_{\text{C}} = 100^{\circ}\text{C}$		1.0	mA
$I_{\text{EBO}}$	Emitter Base Cut–Off Current	$V_{\text{EB}} = 6\text{V}$		0.1	mA
$h_{\text{FE}*}$	DC Current Gain	$I_{\text{C}} = 50\text{mA}$ $V_{\text{CE}} = 10\text{V}$	30		—
		$I_{\text{C}} = 100\text{mA}$ $V_{\text{CE}} = 10\text{V}$	40	200	
		$I_{\text{C}} = 250\text{mA}$ $V_{\text{CE}} = 10\text{V}$	25		
$V_{\text{CE(sat)*}}$	Collector – Emitter Saturation Voltage	$I_{\text{C}} = 250\text{mA}$ $I_{\text{B}} = 25\text{mA}$		2.5	V
$V_{\text{BE(on)*}}$	Base – Emitter on Voltage	$I_{\text{C}} = 100\text{mA}$ $V_{\text{CE}} = 10\text{V}$		1.0	
<b>DYNAMIC CHARACTERISTICS</b>					
$f_{\text{T}}$	Transition Frequency	$I_{\text{C}} = 100\text{mA}$ $V_{\text{CE}} = 10\text{V}$ $f = 10\text{MHz}$	10		MHz
$C_{\text{ob}}$	Output Capacitance	$V_{\text{CB}} = 100\text{V}$ $I_{\text{E}} = 0$ $f = 100\text{KHz}$		20	pF
$h_{\text{fe}}$	Small Signal Current Gain	$I_{\text{C}} = 100\text{mA}$ $V_{\text{CE}} = 20\text{V}$ $f = 1\text{KHz}$	35		—

\* Pulse Width  $\leq 300\mu\text{s}$  , Duty Cycle  $< 2\%$