



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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
<b>ELECTRICAL CHARACTERISTICS</b>					
$V_{\text{CEO(sus)}}$	Collector – Emitter Sustaining Voltage	$I_{\text{C}} = 10\text{mA}$	90		
$V_{(\text{BR})\text{CBO}}$	Collector – Base Breakdown Voltage	$I_{\text{C}} = 1\text{mA}$	180		V
$V_{(\text{BR})\text{EBO}}$	Emitter – Base Breakdown Voltage	$I_{\text{E}} = 1\text{mA}$	10		
$I_{\text{CBO}}$	Collector Cut-Off Current	$V_{\text{CB}} = 180\text{V}$		10	$\mu\text{A}$
			$T_{\text{C}} = 125^{\circ}\text{C}$	100	
$I_{\text{CEO}}$	Collector Cut-Off Current	$I_{\text{B}} = 0$ $V_{\text{CE}} = 80\text{V}$		100	$\mu\text{A}$
$I_{\text{EBO}}$	Emitter Cut-Off Current	$I_{\text{C}} = 0$ $V_{\text{EB}} = 9\text{V}$		10	$\mu\text{A}$
			$T_{\text{C}} = 125^{\circ}\text{C}$	100	
$h_{\text{FE}}^*$	DC Current Gain	$I_{\text{C}} = 0.3\text{A}$ $V_{\text{CE}} = 4\text{V}$	30	80	—
		$I_{\text{C}} = 3\text{A}$ $V_{\text{CE}} = 4\text{V}$	25	60	
		$I_{\text{C}} = 5\text{A}$ $V_{\text{CE}} = 4\text{V}$ $T_{\text{C}} = 125^{\circ}\text{C}$	20	50	
$V_{\text{CE(sat)}}^*$	Collector – Emitter Saturation Voltage	$I_{\text{C}} = 1\text{A}$ $I_{\text{B}} = 0.1\text{A}$		0.2	V
		$I_{\text{C}} = 3\text{A}$ $I_{\text{B}} = 0.3\text{A}$		0.6	
		$I_{\text{C}} = 6\text{A}$ $I_{\text{B}} = 0.6\text{A}$		1.5	
$V_{\text{BE(sat)}}^*$	Base – Emitter Saturation Voltage	$I_{\text{C}} = 3\text{A}$ $I_{\text{B}} = 0.3\text{A}$		1.1	V
		$I_{\text{C}} = 6\text{A}$ $I_{\text{B}} = 0.5\text{A}$		2.0	
<b>DYNAMIC CHARACTERISTICS</b>					
$f_{\text{t}}$	Transition Frequency	$I_{\text{C}} = 0.2\text{A}$ $V_{\text{CE}} = 4\text{V}$		20	MHz
$C_{\text{ob}}$	Output Capacitance	$V_{\text{CB}} = 20\text{V}$ $f = 1\text{MHz}$		44	pF

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