

Kingtronics®

BC546~BC550

FEATURE

for switching and AF amplifier application

These transistors are subdivided into three groups A, B and C according to their current gain.

NPN Silicon Epitaxial Planar Transistor



1. Collector 2. Base 3. Emitter
TO-92 Plastic Package

Absolute Maximum Ratings(Ta=25°C)

Parameter	SYMBOLS	Value	UNITS
Collector Base Voltage	BC46	80	
	BC547 BC550	V_{CBO} 50	v
	BC548 BC549	30	
Collector Emitter Voltage	BC546	65	
	BC547 BC550	V_{CEO} 45	v
	BC548 BC549	30	
Emitter Base Voltage	V_{EBO}	6	v
Collector Current (DC)	I_C	100	mA
Peak Collector Current	I_{CM}	200	mA
Total Power Dissipation	P_{tot}	500	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-65 to +150	°C

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Characteristics at $T_a=25^\circ\text{C}$

Parameter	SYMBOLS	Min	Max	UNITS	
DC Current Gain					
At $V_{CE}=5\text{V}$, $I_C=2\text{mA}$	Current Gain Group A	h_{FE}	110	220	-
	B	h_{FE}	200	450	-
	C	h_{FE}	420	800	-
Collector Base Cutoff Current					
At $V_{CB}=30\text{V}$	I_{CBO}	-	15	nA	
Emitter Base Cutoff Current					
At $V_{EB}=5\text{V}$	I_{EBO}	-	100	μA	
Collector Base Breakdown Voltage			80		
at $I_C = 100 \mu\text{A}$	BC546	$V_{(BR)CBO}$	50	V	
	BC547, BC550		30-		
	BC548, BC549		-		
Collector Emitter Breakdown Voltage			65		
at $I_C = 1 \text{ mA}$	BC546	$V_{(BR)CEO}$	45	V	
	BC547, BC550		30		
	BC548, BC549				
Emitter Base Breakdown Voltage			6		
at $I_E = 10 \mu\text{A}$	$V_{(BR)EBO}$		-	V	
Collector Emitter Saturation Voltage			0.25		
at $I_C = 10 \text{ mA}$, $I_B = 0.5 \text{ mA}$	$V_{CE(sat)}$		0.6	V	
at $I_C = 100 \text{ mA}$, $I_B = 5 \text{ mA}$					
Base Emitter On Voltage			0.55		
at $V_{CE} = 5 \text{ V}$, $I_C = 2 \text{ mA}$	$V_{BE(on)}$		0.7	V	
at $V_{CE} = 5 \text{ V}$, $I_C = 10 \text{ mA}$			0.77		
Transition Frequency			100		
at $V_{CE} = 5 \text{ V}$, $I_C = 10 \text{ mA}$, $f = 100 \text{ MHz}$	f_T		-	MHz	
Collector Base Capacitance					
at $V_{CB} = 10 \text{ V}$, $f = 1 \text{ MHz}$	C_{cb}		6	pF	

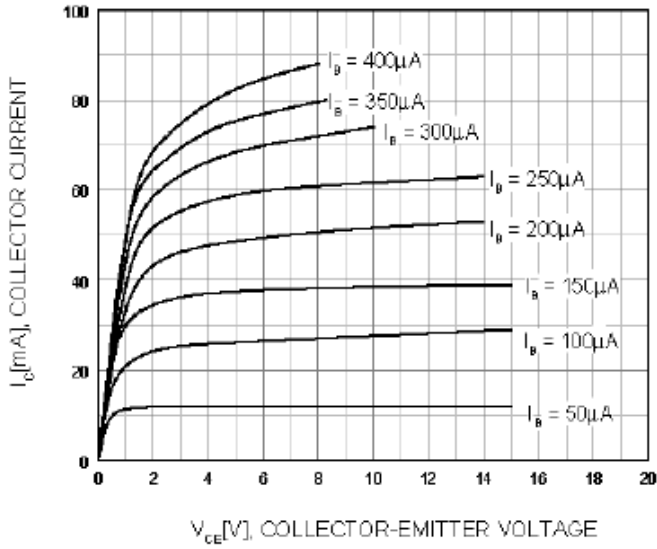


Figure 1. Static Characteristic

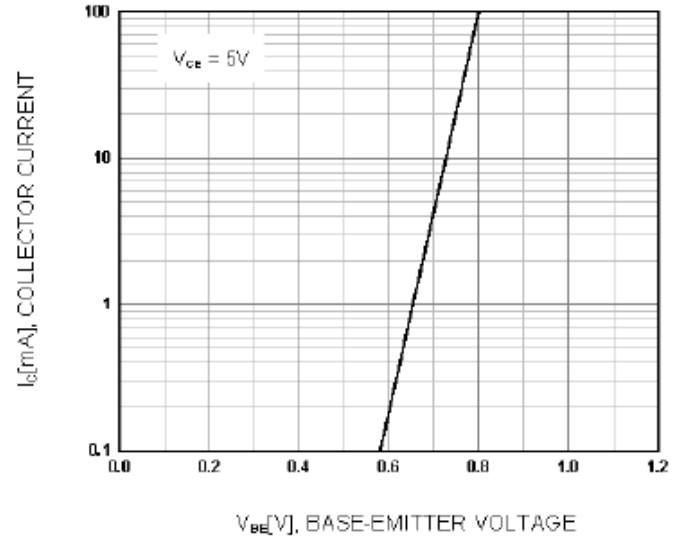


Figure 2. Transfer Characteristic

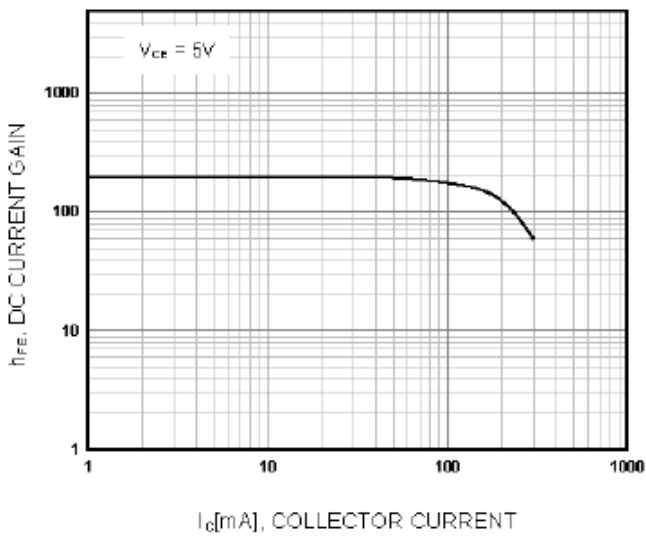


Figure 3. DC current Gain

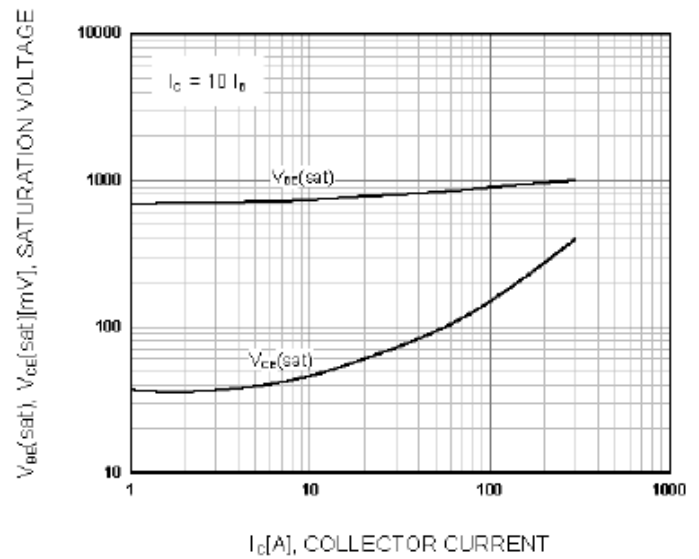


Figure 4. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage