

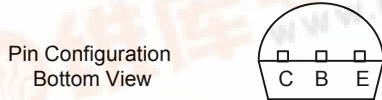


Micro Commercial Components
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**BC546,B
 BC547,A,B,C
 BC548,A,B,C**

Features

- Through Hole Package
- 150°C Junction Temperature



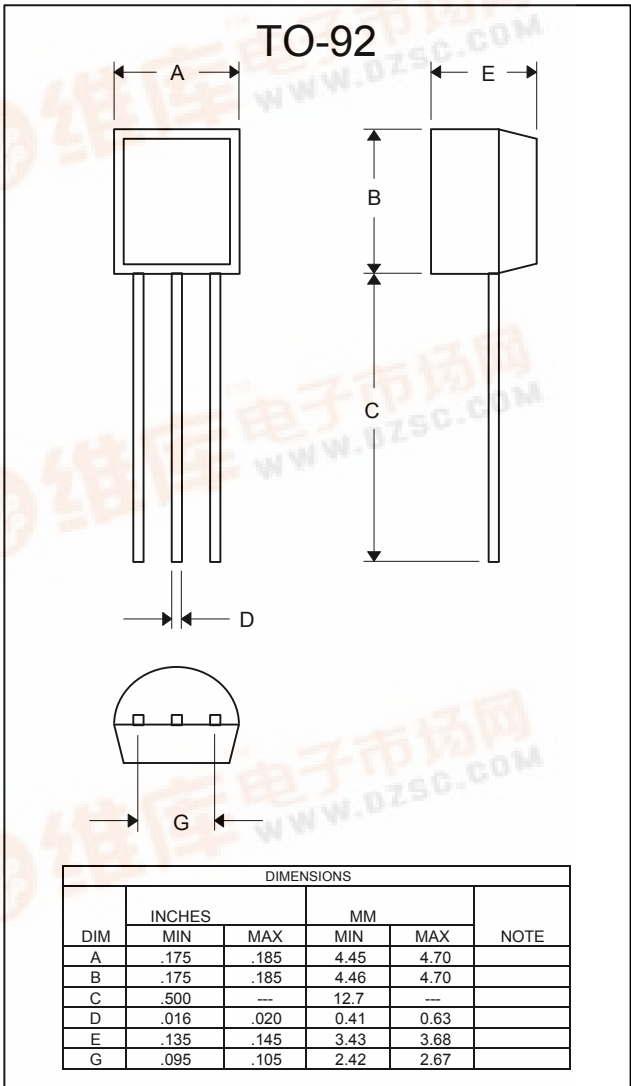
**NPN Silicon
 Amplifier Transistor
 625mW**

Mechanical Data

- Case: TO-92, Molded Plastic
- Polarity: indicated as above.

Maximum Ratings @ 25°C Unless Otherwise Specified

Charateristic	Symbol	Value	Unit
Collector-Emitter Voltage	BC546 BC547 BC548	V_{CEO}	65
			45
			30
Collector-Base Voltage	BC546 BC547 BC548	V_{CBO}	80
			50
			30
Emitter-Base Voltage	V_{EBO}	6.0	V
Collector Current(DC)	I_C	100	mA
Power Dissipation@ $T_A=25^\circ C$	P_d	625	mW
		5.0	mW/°C
Power Dissipation@ $T_C=25^\circ C$	P_d	1.5	W
		12	mW/°C
Thermal Resistance, Junction to Ambient Air	$R_{\theta JA}$	200	°C/W
Thermal Resistance, Junction to Case	$R_{\theta JC}$	83.3	°C/W
Operating & Storage Temperature	T_j, T_{STG}	-55~150	°C



BC546 thru BC548C



ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Collector–Emitter Breakdown Voltage (I _C = 1.0 mA, I _B = 0)	BC546	V _{(BR)CEO}	65	—	—	V
	BC547		45	—	—	
	BC548		30	—	—	
Collector–Base Breakdown Voltage (I _C = 100 µA _{dc})	BC546	V _{(BR)CBO}	80	—	—	V
	BC547		50	—	—	
	BC548		30	—	—	
Emitter–Base Breakdown Voltage (I _E = 10 µA, I _C = 0)	BC546	V _{(BR)EBO}	6.0	—	—	V
	BC547		6.0	—	—	
	BC548		6.0	—	—	

ON CHARACTERISTICS

DC Current Gain (I _C = 10 µA, V _{CE} = 5.0 V)	BC547A/548A	h _{FE}	—	90	—	—
	BC546B/547B/548B		—	150	—	
	BC548C		—	270	—	
(I _C = 2.0 mA, V _{CE} = 5.0 V)	BC546		110	—	450	
	BC547		110	—	800	
	BC548		110	—	800	
	BC547A/548A		110	180	220	
	BC546B/547B/548B		200	290	450	
	BC547C/BC548C		420	520	800	
(I _C = 100 mA, V _{CE} = 5.0 V)	BC547A/548A		—	120	—	
	BC546B/547B/548B		—	180	—	
	BC548C		—	300	—	
Collector–Emitter Saturation Voltage (I _C = 100 mA, I _B = 5.0 mA)		V _{CE(sat)}	—	—	0.3	V
Base–Emitter Saturation Voltage (I _C = 100 mA, I _B = 5.0 mA)		V _{BE(sat)}	—	—	1.0	V
Base–Emitter On Voltage (I _C = 2.0 mA, V _{CE} = 5.0 V) (I _C = 10 mA, V _{CE} = 5.0 V)		V _{BE(on)}	0.55	—	0.7	V
			—	—	0.77	

SMALL–SIGNAL CHARACTERISTICS

Current–Gain — Bandwidth Product (I _C = 10 mA, V _{CE} = 5.0 V, f = 100 MHz)	BC546	f _T	150	300	—	MHz
	BC547		150	300	—	
	BC548		150	300	—	
Output Capacitance (V _{CB} = 10 V, I _C = 0, f = 1.0 MHz)		C _{obo}	—	1.7	4.5	pF
Input Capacitance (V _{EB} = 0.5 V, I _C = 0, f = 1.0 MHz)		C _{ibo}	—	10	—	pF
Small–Signal Current Gain (I _C = 2.0 mA, V _{CE} = 5.0 V, f = 1.0 kHz)	BC546	h _{fe}	125	—	500	—
	BC547/548		125	—	900	
	BC547A/548A		125	220	260	
	BC546B/547B/548B		240	330	500	
	BC547C/548C		450	600	900	
Noise Figure (I _C = 0.2 mA, V _{CE} = 5.0 V, R _S = 2 kΩ, f = 1.0 kHz, Δf = 200 Hz)	BC546	NF	—	2.0	10	dB
	BC547		—	2.0	10	
	BC548		—	2.0	10	

BC546 thru BC548C

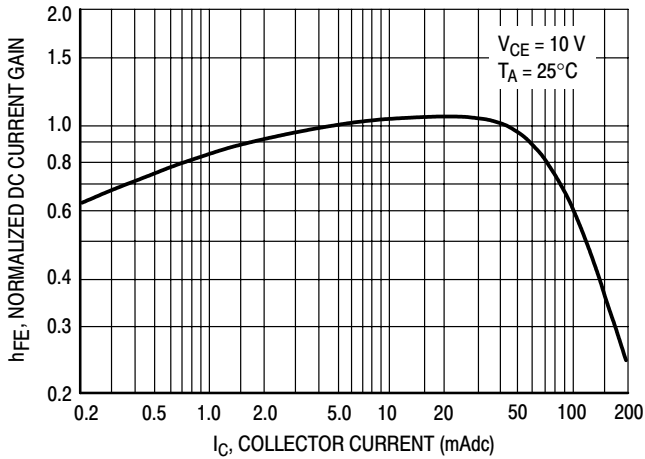


Figure 1. Normalized DC Current Gain

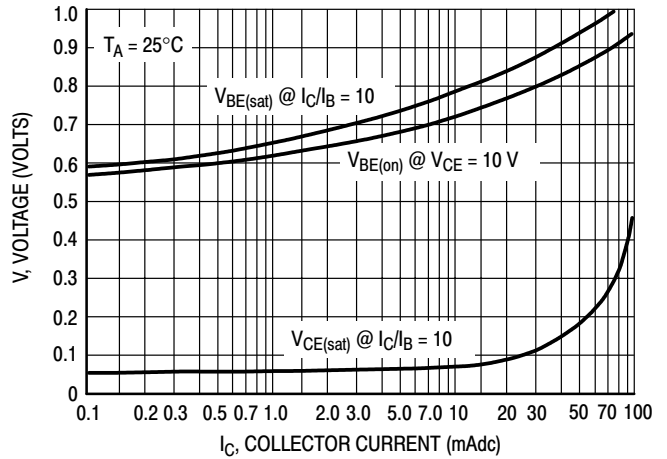


Figure 2. "Saturation" and "On" Voltages

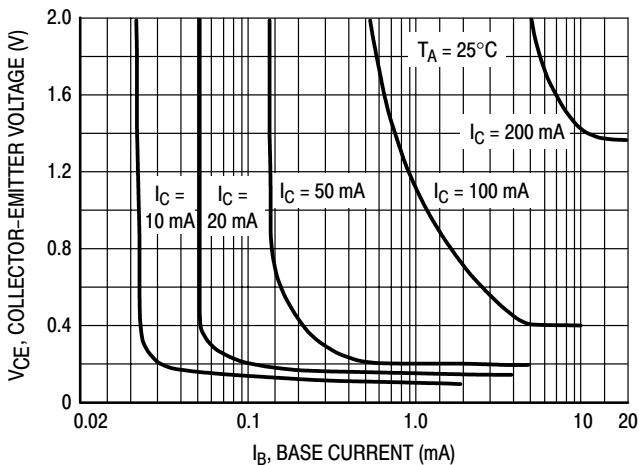


Figure 3. Collector Saturation Region

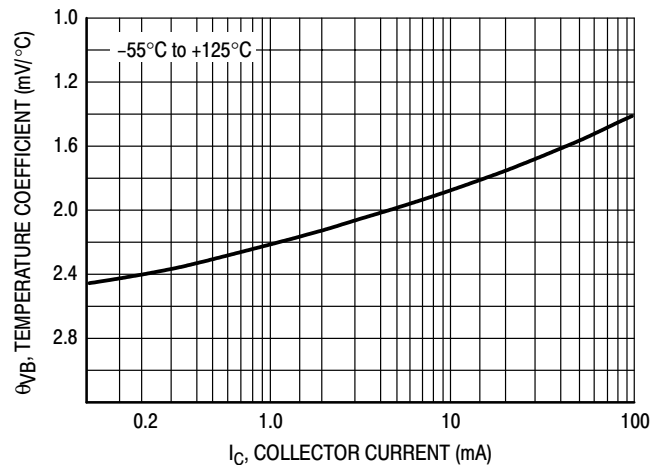


Figure 4. Base-Emitter Temperature Coefficient

BC547/BC548

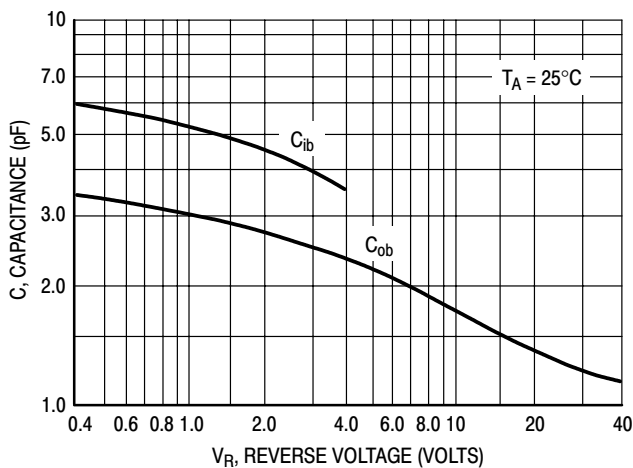


Figure 5. Capacitances

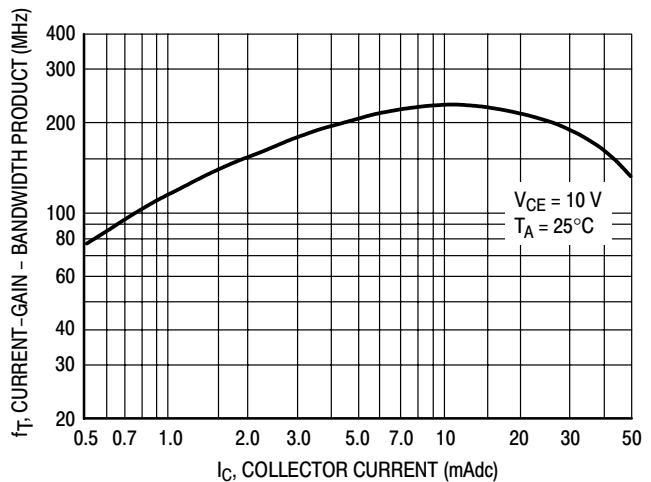


Figure 6. Current-Gain - Bandwidth Product

BC546 thru BC548C

BC547/BC548

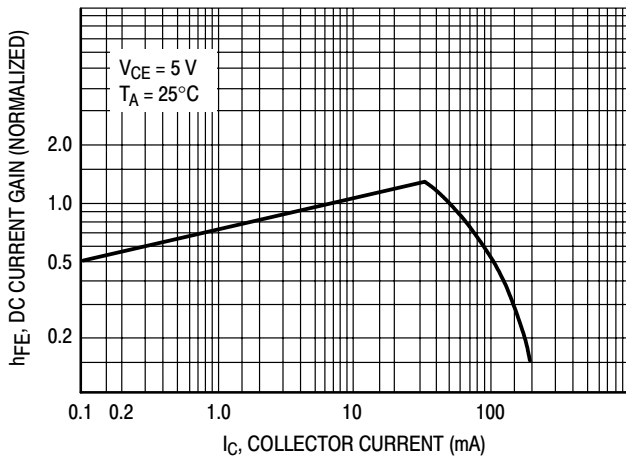


Figure 7. DC Current Gain

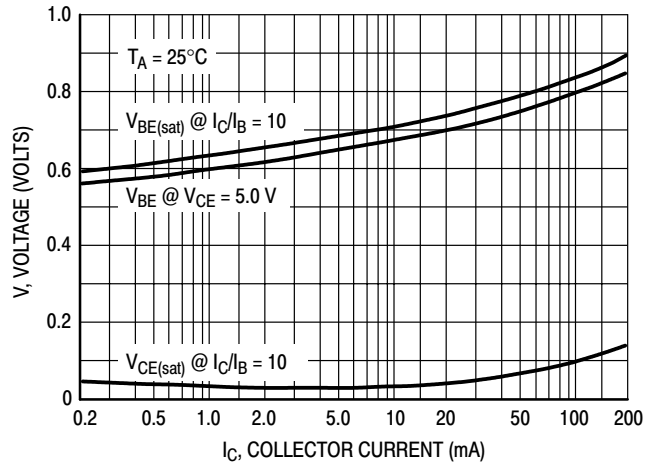


Figure 8. "On" Voltage

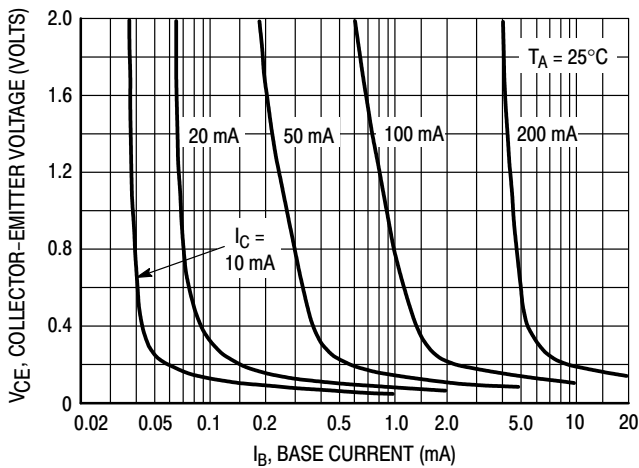


Figure 9. Collector Saturation Region

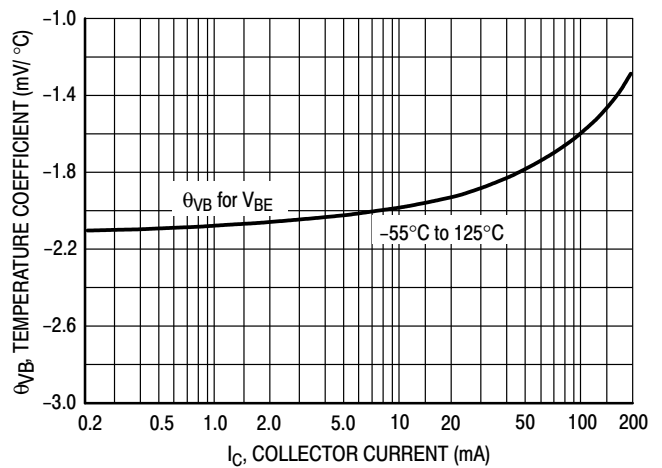


Figure 10. Base-Emitter Temperature Coefficient

BC546

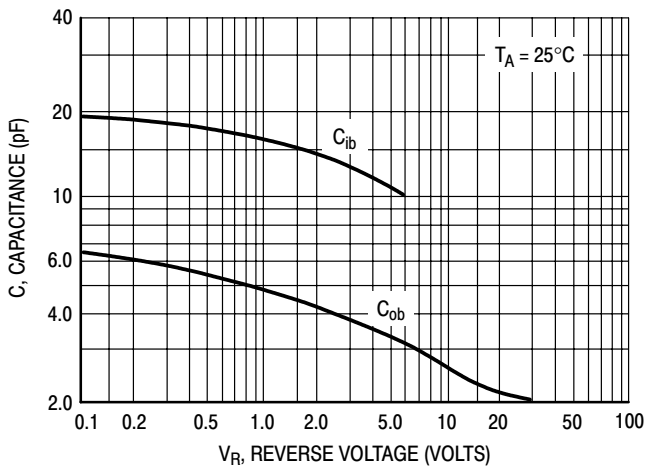


Figure 11. Capacitance

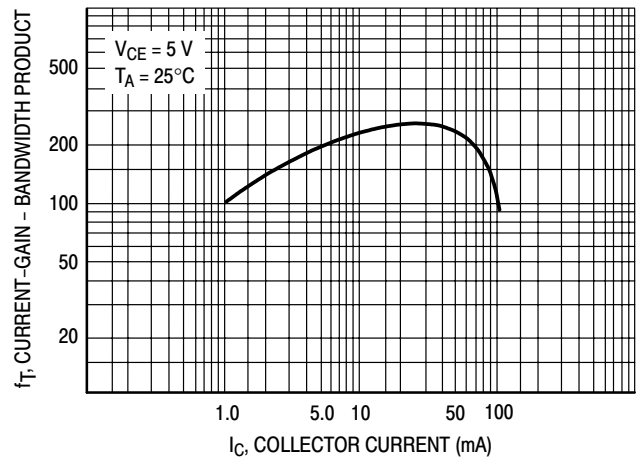


Figure 12. Current-Gain - Bandwidth Product