

BC546A/B/C BC547A/B/C BC548A/B/C

Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Through Hole Package
- 150°C Junction Temperature
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"

Mechanical Data

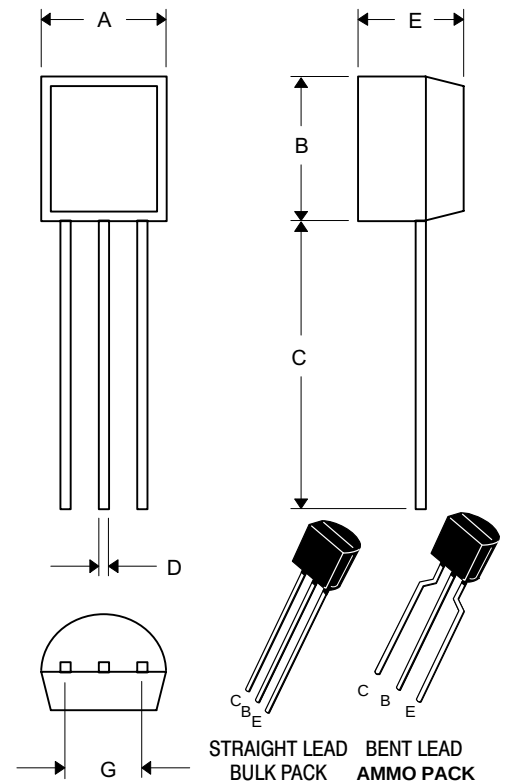
- Case: TO-92, Molded Plastic
- Polarity: indicated as below

Maximum Ratings @ 25°C Unless Otherwise Specified

Charateristic	Symbol	Value	Unit
Collector-Emitter Voltage	BC546 BC547 BC548	65 45 30	V
Collector-Base Voltage	BC546 BC547 BC548	80 50 30	V
Emitter-Base Voltage	V _{EBO}	6.0	V
Collector Current(DC)	I _C	100	mA
Power Dissipation@T _A =25°C	P _d	625 5.0	mW mW/°C
Power Dissipation@T _C =25°C	P _d	1.5 12	W mW/°C
Thermal Resistance, Junction to Ambient Air	R _{θJA}	200	°C/W
Thermal Resistance, Junction to Case	R _{θJC}	83.3	°C/W
Operating & Storage Temperature	T _j , T _{STG}	-55~150	°C

NPN Silicon Amplifier Transistor 625mW

TO-92



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.175	.185	4.45	4.70	
B	.175	.185	4.45	4.70	
C	.500	---	12.70	---	
D	.016	.020	0.41	0.63	
E	.135	.145	3.43	3.68	
G	.095	.105	2.42	2.67	Straight Lead
	.173	.220	4.40	5.60	Bent Lead

* For ammo packing detailed specification, click here to visit our website of product packaging for details.

BC546 thru BC548

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

Characteristic		Symbol	Min	Typ	Max	Unit
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 µAdc)	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)	BC546A/547A/548A	h _{FE}	—	90	—	—
	BC546B/547B/548B		—	150	—	
	BC546C/547C/548C		—	270	—	
(I _C = 2.0 mA, V _{CE} = 5.0 V)	BC546A/547A/548A		110	180	220	
	BC546B/547B/548B		200	290	450	
	BC546C/547C/548C		420	520	800	
(I _C = 100 mA, V _{CE} = 5.0 V)	BC546A/547A/548A		—	120	—	
	BC546B/547B/548B		—	180	—	
	BC546C/547C/548C		—	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 BC547 BC548	f _T	150 150 150	300 300 300	— — —	MHz
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)	BC546A/547A/548A	h _{fe}	125	220	260	—
	BC546B/547B/548B		240	330	500	
	BC546C/547C/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 BC547 BC548	NF	— — —	2.0 2.0 2.0	10 10 10	dB

BC546 thru BC548

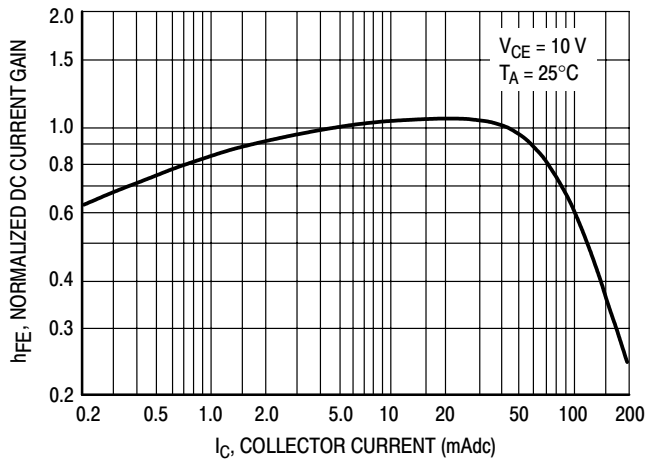


Figure 1. Normalized DC Current Gain

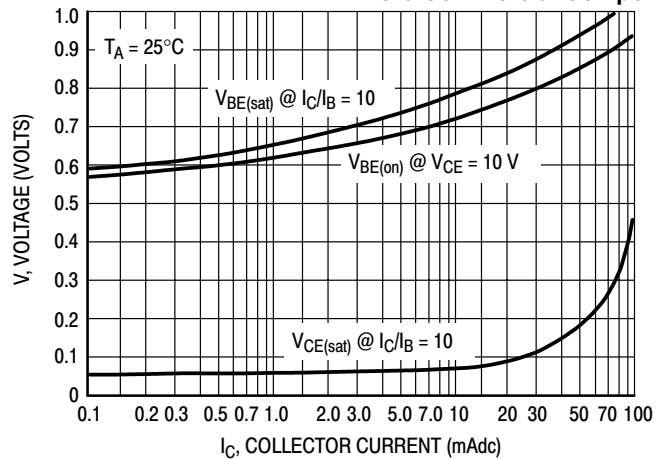


Figure 2. "Saturation" and "On" Voltages

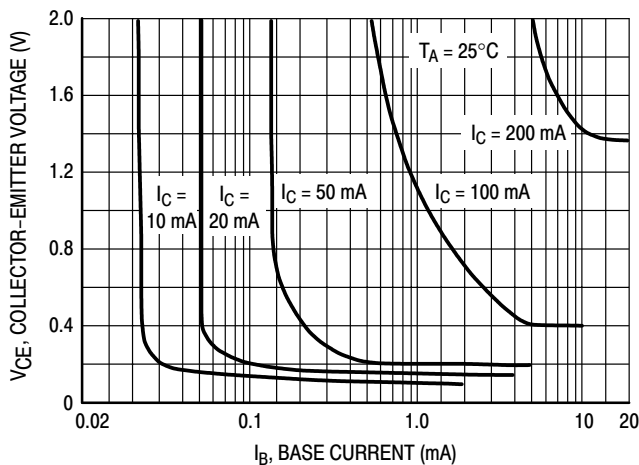


Figure 3. Collector Saturation Region

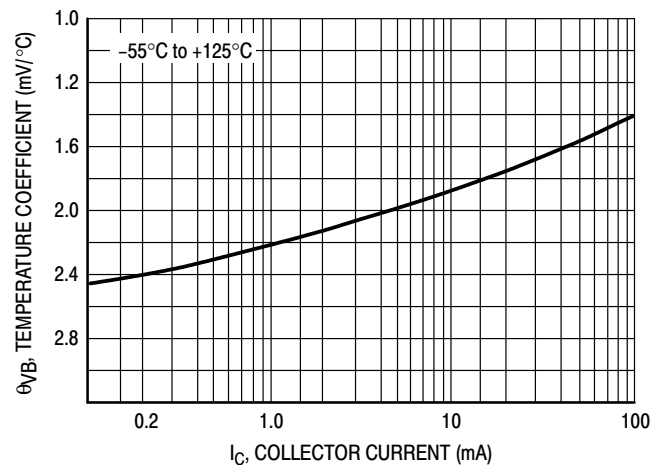


Figure 4. Base-Emitter Temperature Coefficient

BC547/BC548

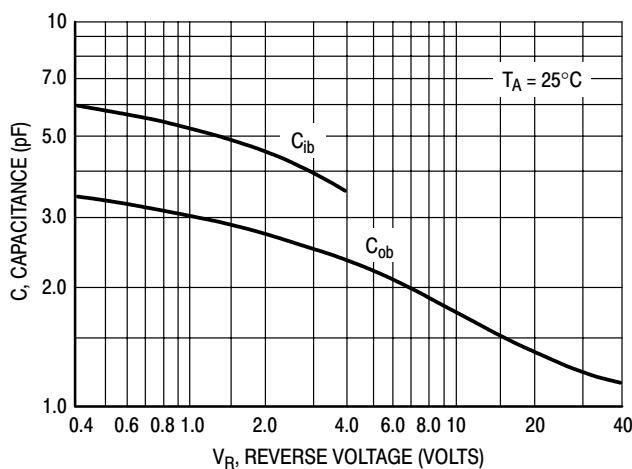


Figure 5. Capacitances

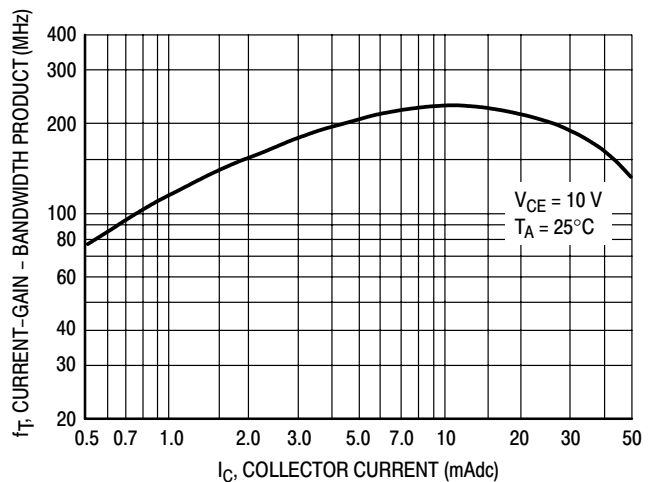


Figure 6. Current-Gain - Bandwidth Product

BC546 thru BC548

BC547/BC548

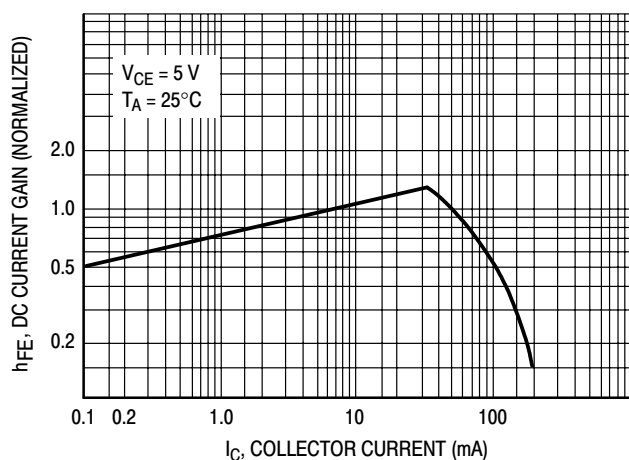


Figure 7. DC Current Gain

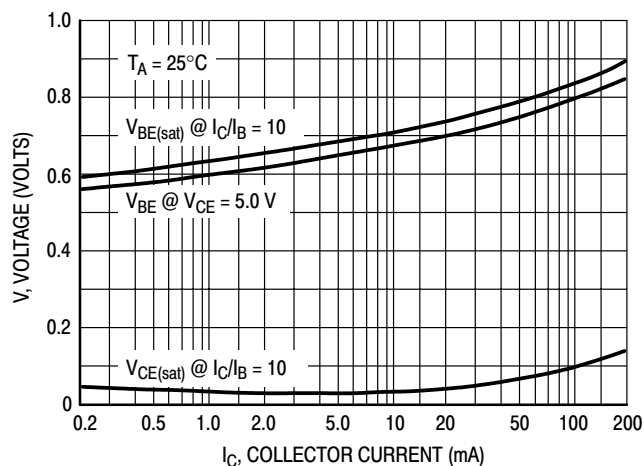


Figure 8. "On" Voltage

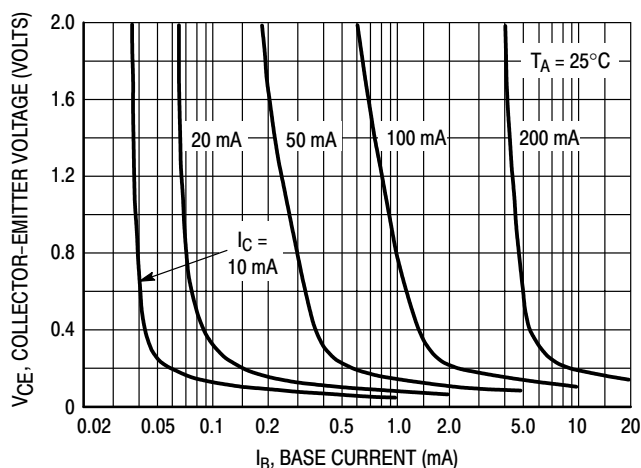


Figure 9. Collector Saturation Region

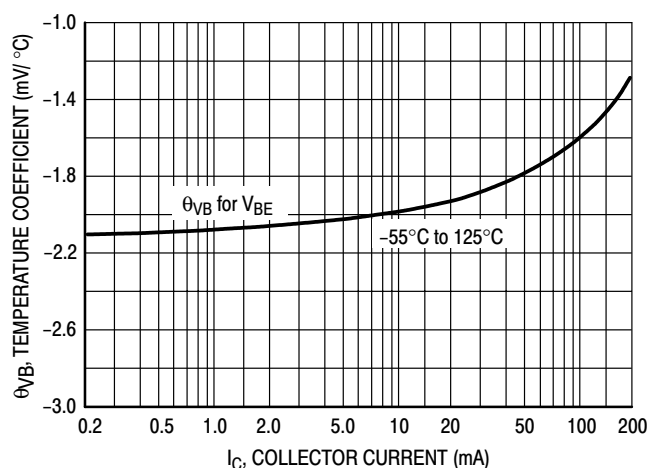


Figure 10. Base-Emitter Temperature Coefficient

BC546

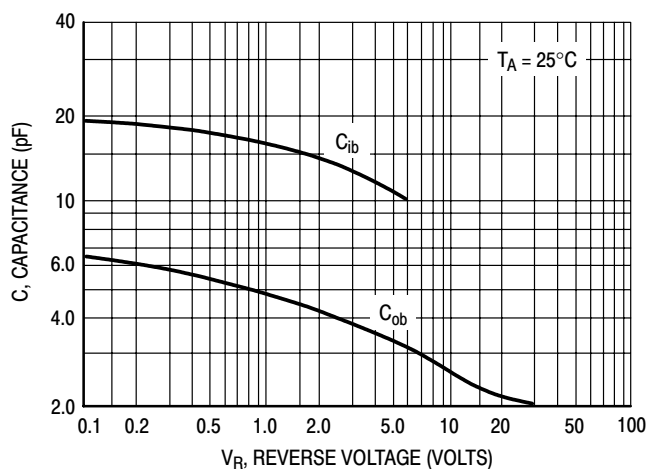


Figure 11. Capacitance

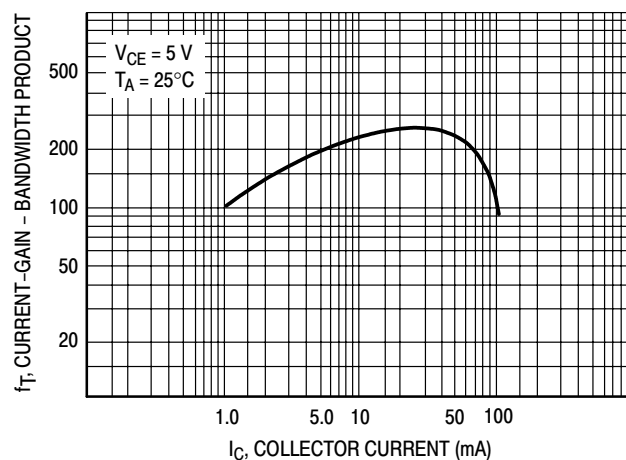


Figure 12. Current-Gain - Bandwidth Product

Ordering Information :

Device	Packing
Part Number-AP	Ammo Packing: 20Kpcs/Carton
Part Number-BP	Bulk: 100Kpcs/Carton

Note : Adding "-HF" suffix for halogen free, eg. Part Number-AP-HF

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