



Micro Commercial Components



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

NPN Silicon Amplifier Transistor 625mW

Features

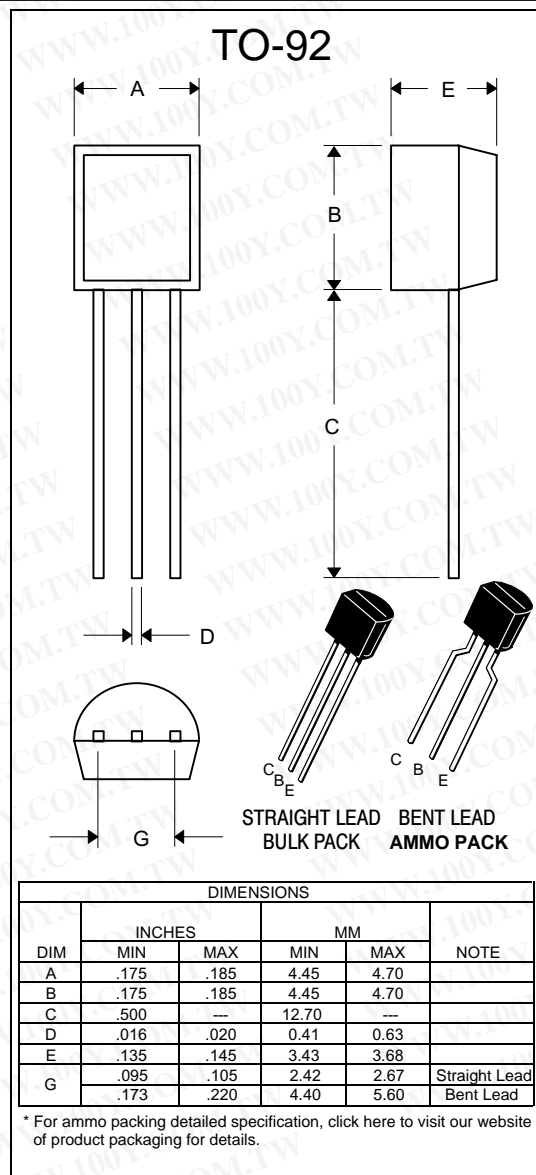
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Through Hole Package
- 150°C Junction Temperature
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

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@ $T_A=25^\circ C$	P_d	625 5.0	mW mW/°C
Power Dissipation@ $T_C=25^\circ C$	P_d	1.5 12	W 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 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	65	—	—	V
	BC547	45	—	—	
	BC548	30	—	—	
Collector–Base Breakdown Voltage (I _C = 100 μA _{dc})	BC546	80	—	—	V
	BC547	50	—	—	
	BC548	30	—	—	
Emitter–Base Breakdown Voltage (I _E = 10 μA, I _C = 0)	BC546	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 BC546B/547B/548B BC546C/547C/548C	h _{fe}	125	220	260	—
			240	330	500	
			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

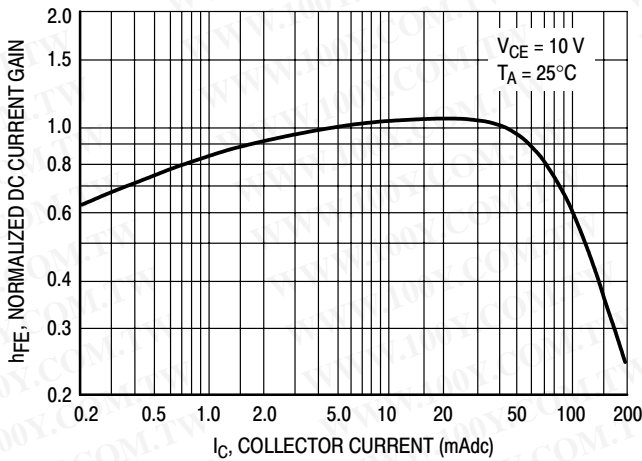


Figure 1. Normalized DC Current Gain

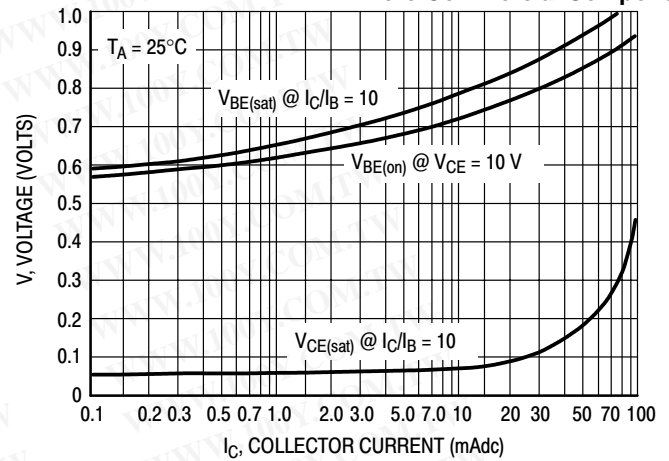


Figure 2. "Saturation" and "On" Voltages

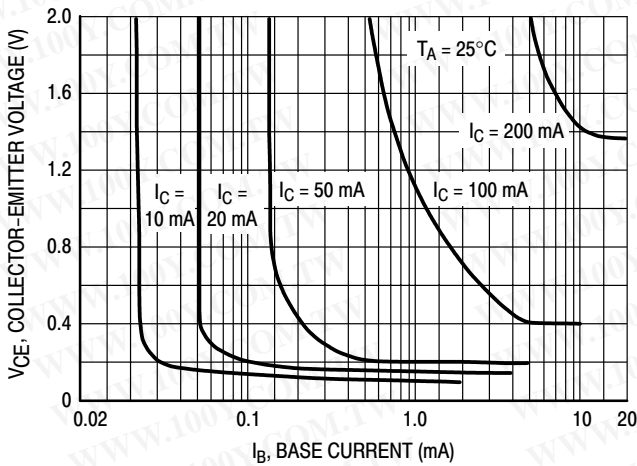


Figure 3. Collector Saturation Region

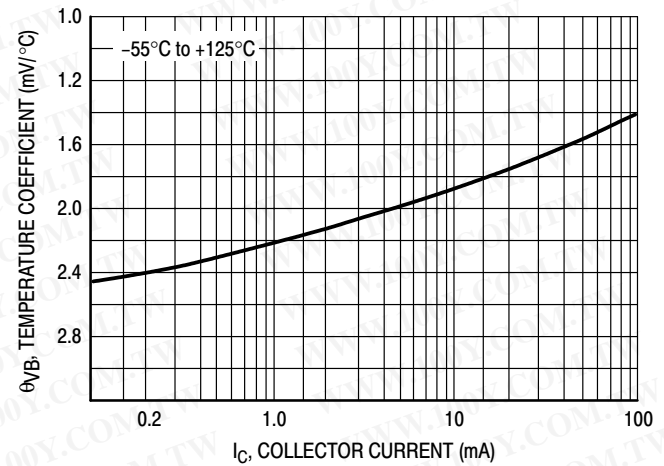


Figure 4. Base-Emitter Temperature Coefficient

BC547/BC548

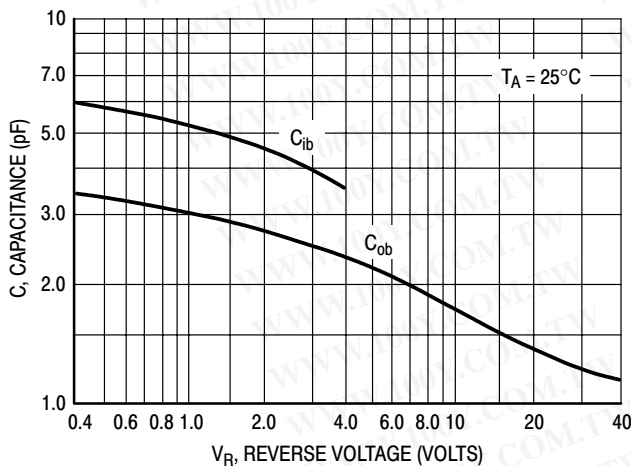


Figure 5. Capacitances

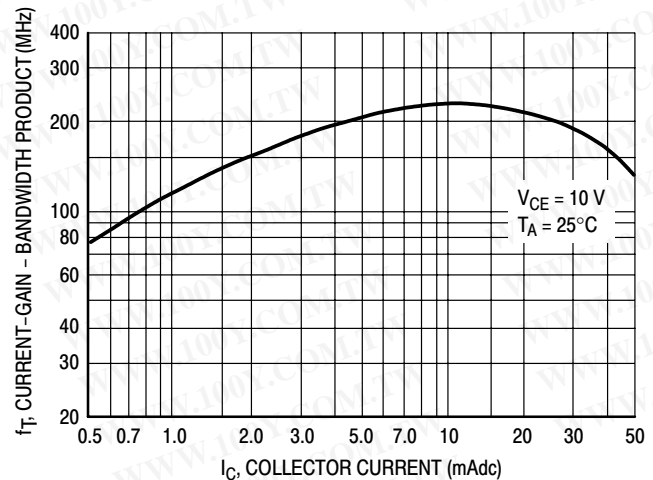


Figure 6. Current-Gain - Bandwidth Product

BC546 thru BC548

BC547/BC548

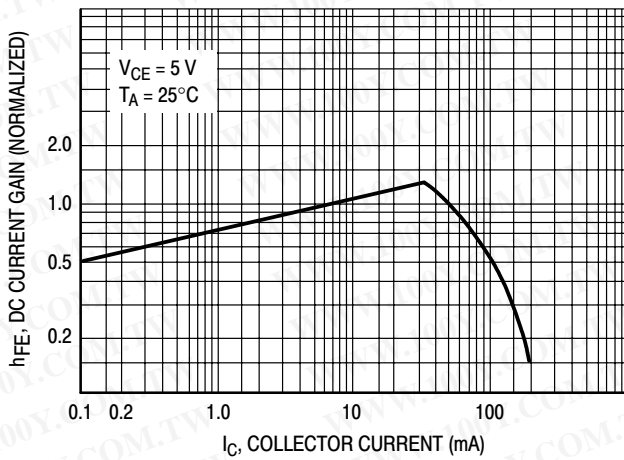


Figure 7. DC Current Gain

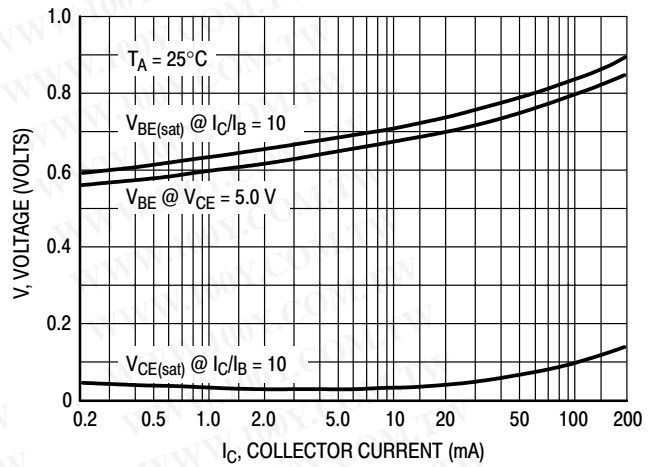


Figure 8. "On" Voltage

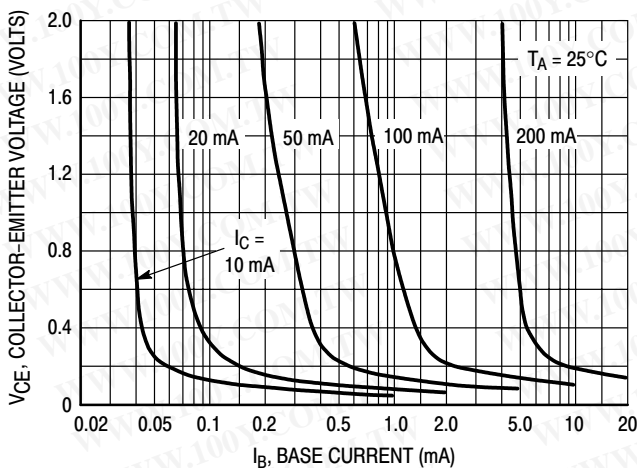


Figure 9. Collector Saturation Region

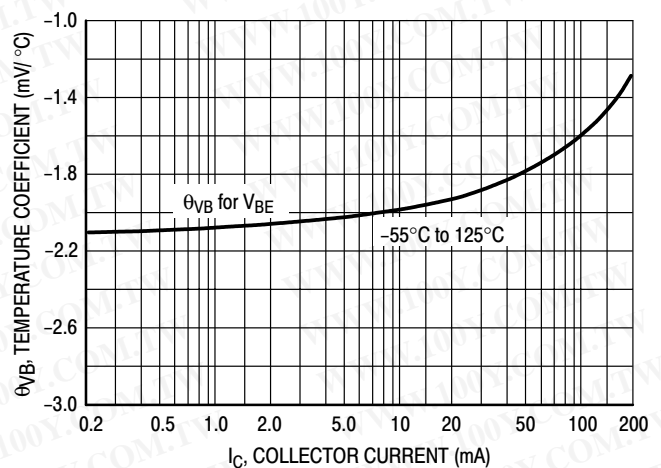


Figure 10. Base-Emitter Temperature Coefficient

BC546

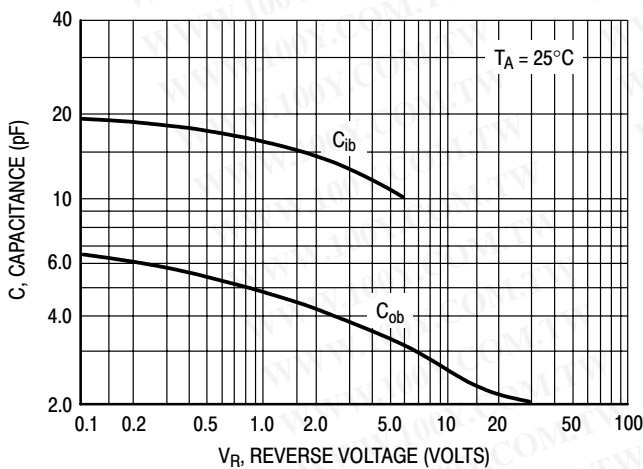


Figure 11. Capacitance

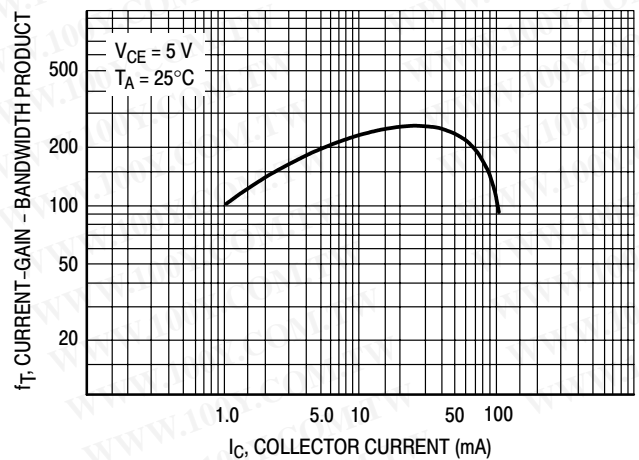


Figure 12. Current-Gain - Bandwidth Product

Ordering Information :

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

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