

# BC556,B BC557,A,B,C BC558,B

## PNP Silicon Amplifier Transistor 625mW

### Features

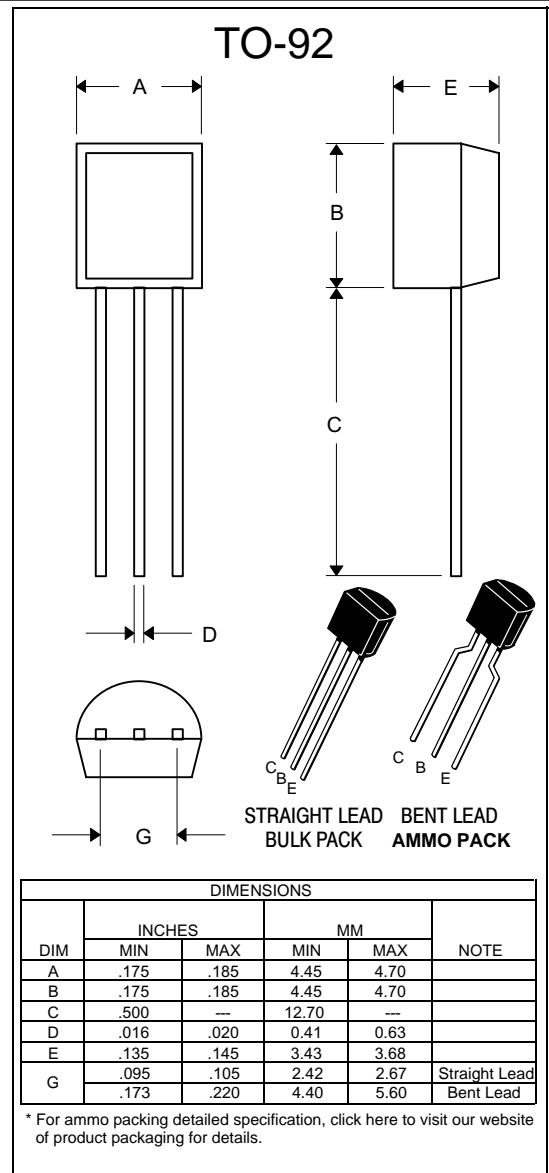
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- 150°C Junction Temperature
- Through Hole Package
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking: Type Number
- Halogen free available upon request by adding suffix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

### Mechanical Data

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

### Maximum Ratings @ 25°C Unless Otherwise Specified

Characteristic	Symbol	Value	Unit
Collector-Emitter Voltage	BC556 BC557 BC558	-65 -45 -30	V
Collector-Base Voltage	BC556 BC557 BC558	-80 -50 -30	V
Emitter-Base Voltage	$V_{EBO}$	-5.0	V
Collector Current(DC)	$I_C$	-100	mA
Power Dissipation@ $T_A=25^\circ\text{C}$	$P_d$	625 5.0	mW mW/°C
Power Dissipation@ $T_C=25^\circ\text{C}$	$P_d$	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



# BC556 thru BC558B



## ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
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### OFF CHARACTERISTICS

Collector Cut-off Current ( $V_{CB} = -70\text{ V}$ , $I_E = 0$ )	$I_{CBO}$	—	—	-100	nA
Collector–Emitter Breakdown Voltage ( $I_C = -2.0\text{ mAdc}$ , $I_B = 0$ )	$V_{(BR)CEO}$	-65 -45 -30	— — —	— — —	V
Collector–Base Breakdown Voltage ( $I_C = -100\ \mu\text{Adc}$ )	$V_{(BR)CBO}$	-80 -50 -30	— — —	— — —	V
Emitter–Base Breakdown Voltage ( $I_E = -100\ \mu\text{Adc}$ , $I_C = 0$ )	$V_{(BR)EBO}$	-5.0 -5.0 -5.0	— — —	— — —	V

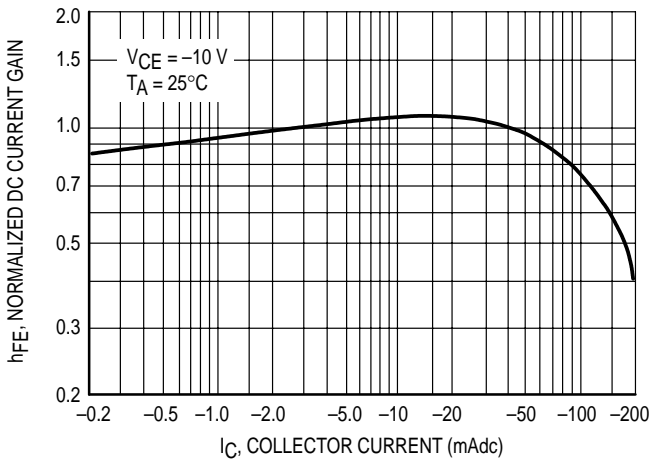
### ON CHARACTERISTICS

DC Current Gain ( $I_C = -10\ \mu\text{Adc}$ , $V_{CE} = -5.0\text{ V}$ )	$h_{FE}$	—	90	—	—
	BC557A	—	150	—	—
	BC556B/557B/558B	—	270	—	—
	BC557C	—	—	—	—
( $I_C = -2.0\text{ mAdc}$ , $V_{CE} = -5.0\text{ V}$ )	BC556	120	—	500	—
	BC557	120	—	800	—
	BC558	120	—	800	—
	BC557A	120	170	220	—
	BC556B/557B/558B	180	290	460	—
	BC557C	420	500	800	—
( $I_C = -100\text{ mAdc}$ , $V_{CE} = -5.0\text{ V}$ )	BC557A	—	120	—	—
	BC556B/557B/558B	—	180	—	—
	BC557C	—	300	—	—
Collector–Emitter Saturation Voltage ( $I_C = -100\text{ mAdc}$ , $I_B = -5.0\text{ mAdc}$ )	$V_{CE(sat)}$	—	—	-0.3	V
Base–Emitter Saturation Voltage ( $I_C = -100\text{ mAdc}$ , $I_B = -5.0\text{ mAdc}$ )	$V_{BE(sat)}$	—	—	-1.0	V
Base–Emitter On Voltage ( $I_C = -2.0\text{ mAdc}$ , $V_{CE} = -5.0\text{ Vdc}$ )	$V_{BE(on)}$	-0.55	-0.62	-0.7	V
( $I_C = -10\text{ mAdc}$ , $V_{CE} = -5.0\text{ Vdc}$ )		—	-0.7	-0.82	—

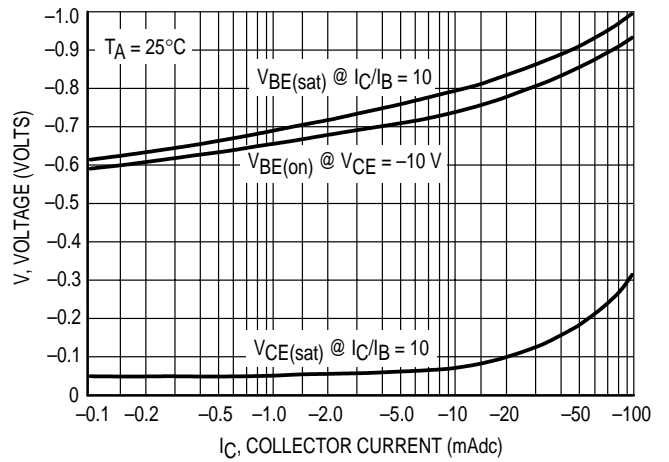
### SMALL–SIGNAL CHARACTERISTICS

Current–Gain — Bandwidth Product ( $I_C = -10\text{ mA}$ , $V_{CE} = -5.0\text{ V}$ , $f = 100\text{ MHz}$ )	$f_T$	150	280	—	MHz
	BC556	150	320	—	—
	BC557	150	360	—	—
	BC558	—	—	—	—
Output Capacitance ( $V_{CB} = -10\text{ V}$ , $I_C = 0$ , $f = 1.0\text{ MHz}$ )	$C_{ob}$	—	3.0	6.0	pF

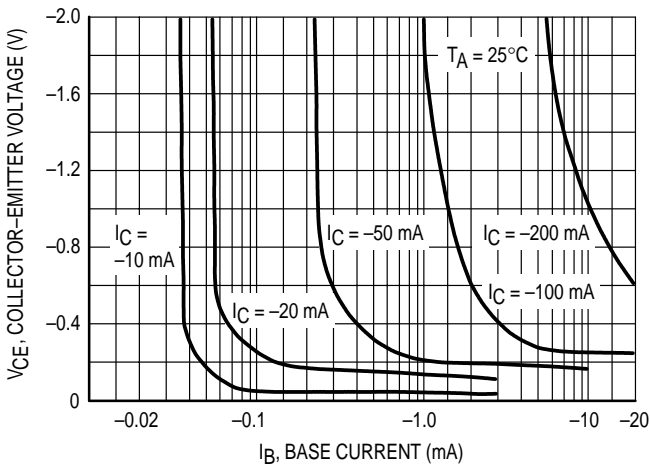
## BC557/BC558



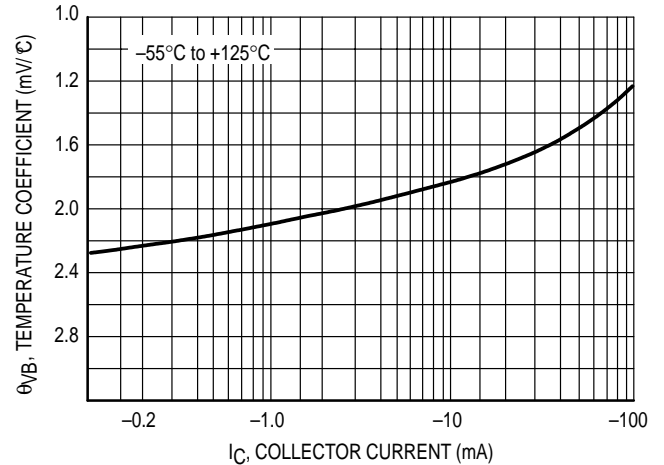
**Figure 1. Normalized DC Current Gain**



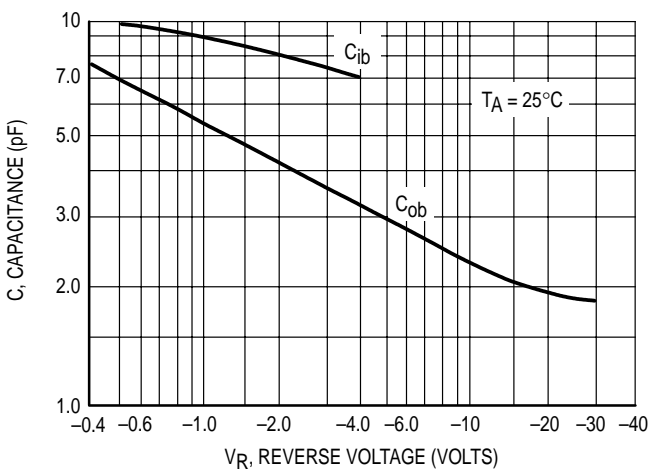
**Figure 2. "Saturation" and "On" Voltages**



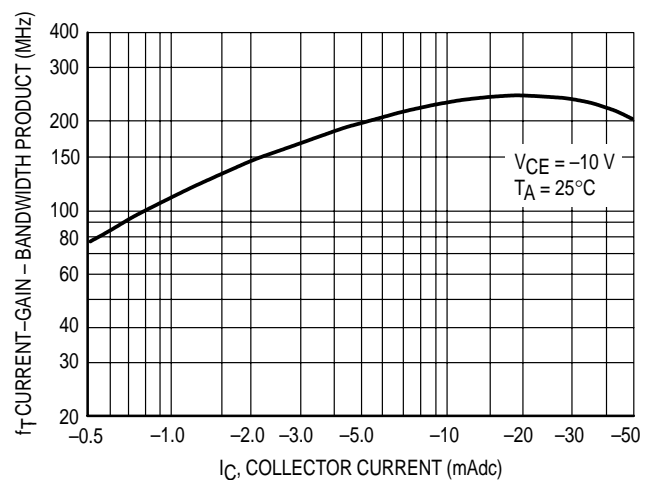
**Figure 3. Collector Saturation Region**



**Figure 4. Base-Emitter Temperature Coefficient**



**Figure 5. Capacitances**



**Figure 6. Current-Gain - Bandwidth Product**

# BC556 thru BC558B

## BC556

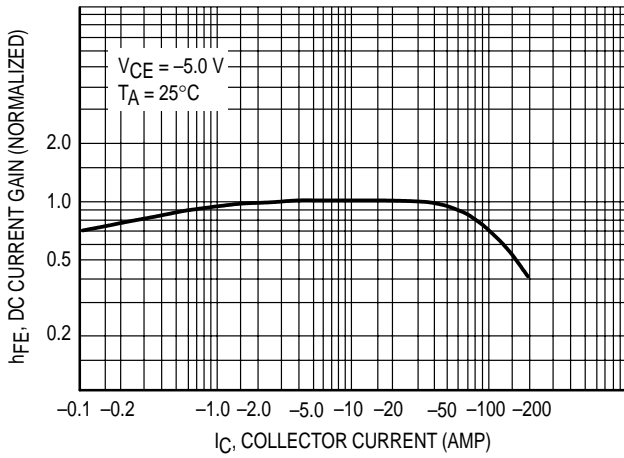


Figure 7. DC Current Gain

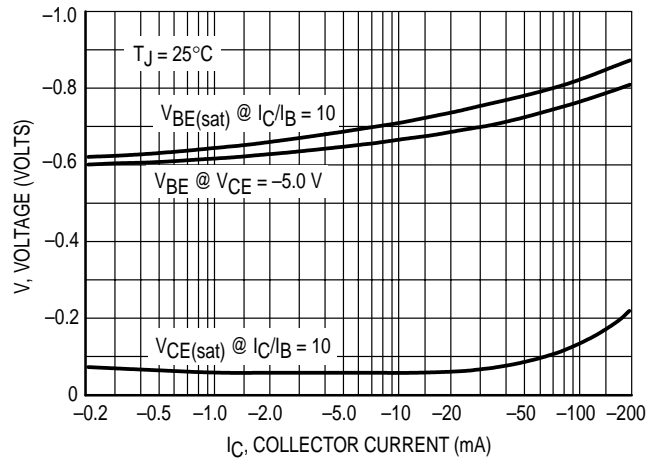


Figure 8. "On" Voltage

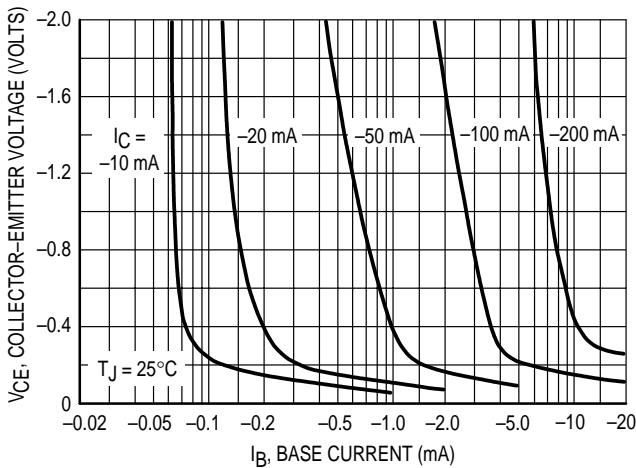


Figure 9. Collector Saturation Region

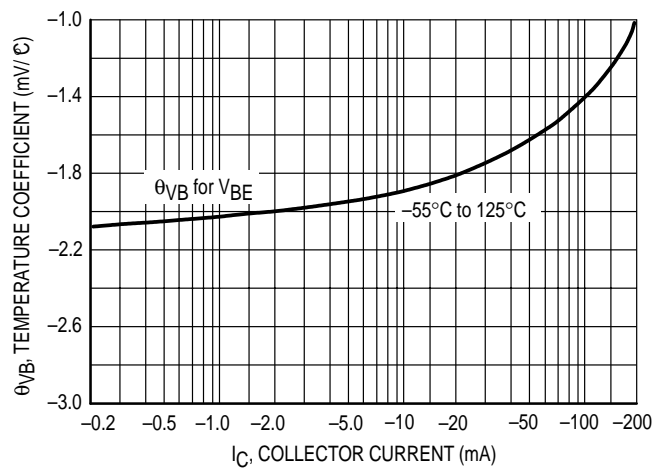


Figure 10. Base-Emitter Temperature Coefficient

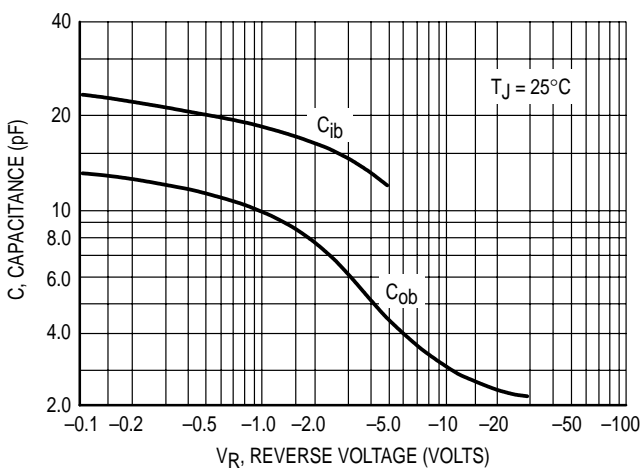


Figure 11. Capacitance

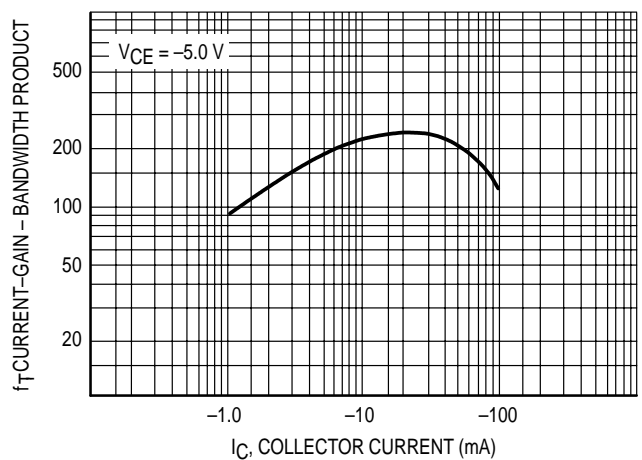


Figure 12. Current-Gain - Bandwidth Product



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### 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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