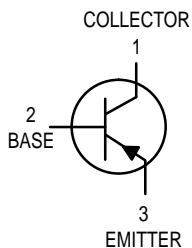
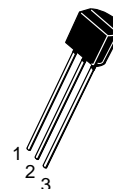


# Amplifier Transistors

## PNP Silicon



**BC327,-16,-25**  
**BC328,-16,-25**



CASE 29-04, STYLE 17  
TO-92 (TO-226AA)

### MAXIMUM RATINGS

Rating	Symbol	BC327	BC328	Unit
Collector–Emitter Voltage	$V_{CEO}$	–45	–25	Vdc
Collector–Base Voltage	$V_{CBO}$	–50	–30	Vdc
Emitter–Base Voltage	$V_{EBO}$	–5.0		Vdc
Collector Current — Continuous	$I_C$	–800		mA dc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	625	5.0	mW mW/ $^\circ\text{C}$
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	1.5	12	Watt mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	$T_J, T_{stg}$	–55 to +150		$^\circ\text{C}$

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	200	$^\circ\text{C/W}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	83.3	$^\circ\text{C/W}$

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

Characteristic	Symbol	Min	Typ	Max	Unit
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### OFF CHARACTERISTICS

Collector–Emitter Breakdown Voltage ( $I_C = -10\text{ mA}$ , $I_B = 0$ )	BC327 BC328	$V_{(BR)CEO}$	–45 –25	— —	— —	Vdc
Collector–Emitter Breakdown Voltage ( $I_C = -100\text{ }\mu\text{A}$ , $I_E = 0$ )	BC327 BC328	$V_{(BR)CES}$	–50 –30	— —	— —	Vdc
Emitter–Base Breakdown Voltage ( $I_E = -10\text{ }\mu\text{A}$ , $I_C = 0$ )		$V_{(BR)EBO}$	–5.0	—	—	Vdc
Collector Cutoff Current ( $V_{CB} = -30\text{ V}$ , $I_E = 0$ ) ( $V_{CB} = -20\text{ V}$ , $I_E = 0$ )	BC327 BC328	$I_{CBO}$	— —	— —	–100 –100	nAdc
Collector Cutoff Current ( $V_{CE} = -45\text{ V}$ , $V_{BE} = 0$ ) ( $V_{CE} = -25\text{ V}$ , $V_{BE} = 0$ )	BC327 BC328	$I_{CES}$	— —	— —	–100 –100	nAdc
Emitter Cutoff Current ( $V_{EB} = -4.0\text{ V}$ , $I_C = 0$ )		$I_{EBO}$	—	—	–100	nAdc

BC327,-16,-25 BC328,-16,-25

ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise noted) (Continued)

Characteristic	Symbol	Min	Typ	Max	Unit
<b>ON CHARACTERISTICS</b>					
DC Current Gain (I <sub>C</sub> = -100 mA, V <sub>CE</sub> = -1.0 V)  (I <sub>C</sub> = -300 mA, V <sub>CE</sub> = -1.0 V)	h <sub>FE</sub>	100 100 160 40	— — — —	630 250 400 —	—
Base-Emitter On Voltage (I <sub>C</sub> = -300 mA, V <sub>CE</sub> = -1.0 V)	V <sub>BE(on)</sub>	—	—	-1.2	Vdc
Collector-Emitter Saturation Voltage (I <sub>C</sub> = -500 mA, I <sub>B</sub> = -50 mA)	V <sub>CE(sat)</sub>	—	—	-0.7	Vdc
<b>SMALL-SIGNAL CHARACTERISTICS</b>					
Output Capacitance (V <sub>CB</sub> = -10 V, I <sub>E</sub> = 0, f = 1.0 MHz)	C <sub>ob</sub>	—	11	—	pF
Current-Gain — Bandwidth Product (I <sub>C</sub> = -10 mA, V <sub>CE</sub> = -5.0 V, f = 100 MHz)	f <sub>T</sub>	—	260	—	MHz

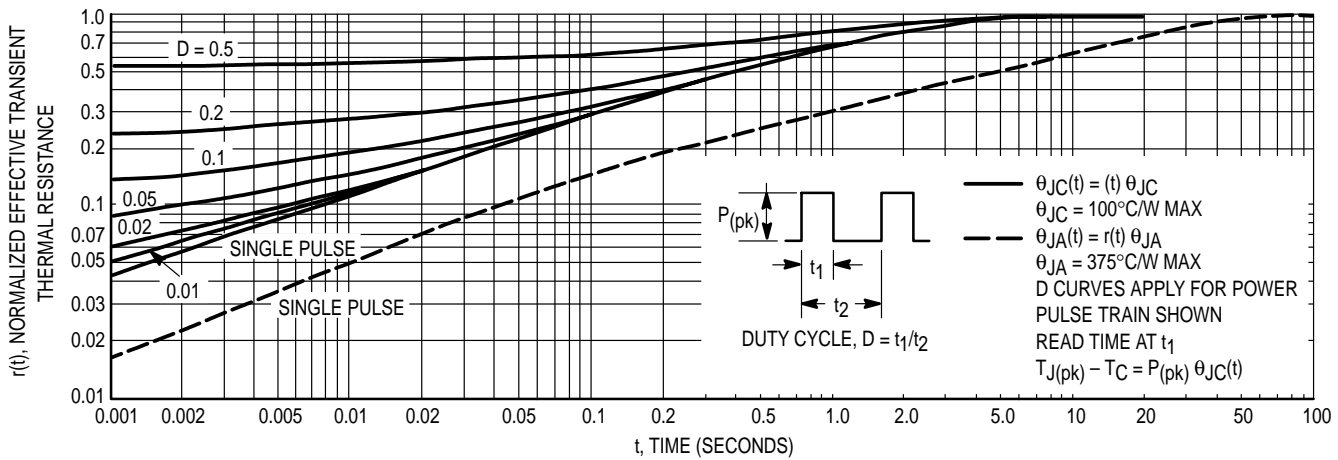


Figure 1. Thermal Response

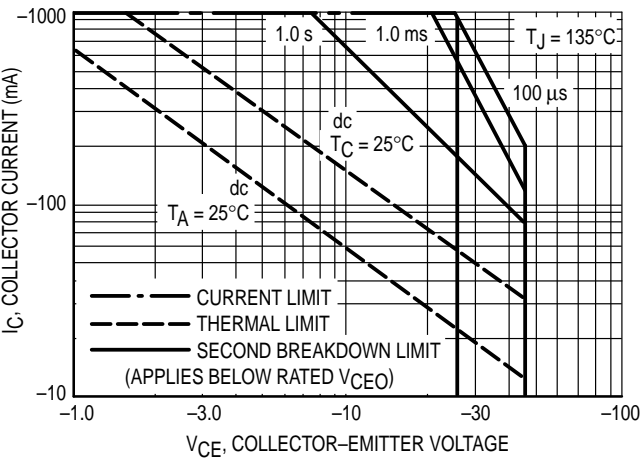


Figure 2. Active Region — Safe Operating Area

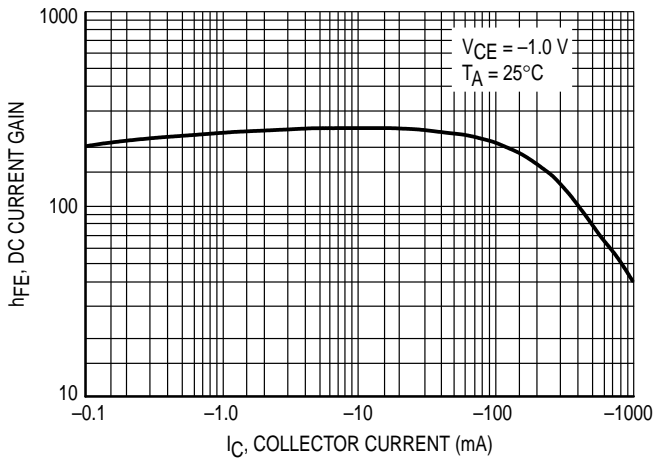


Figure 3. DC Current Gain

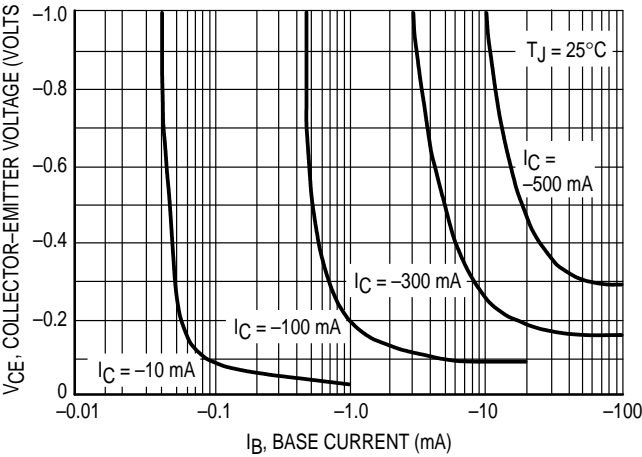


Figure 4. Saturation Region

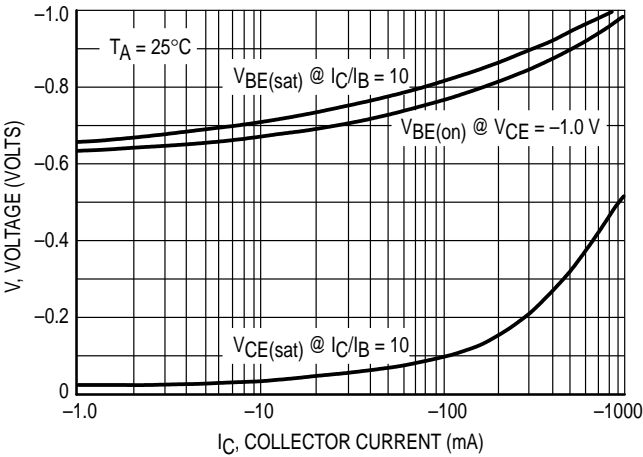


Figure 5. "On" Voltages

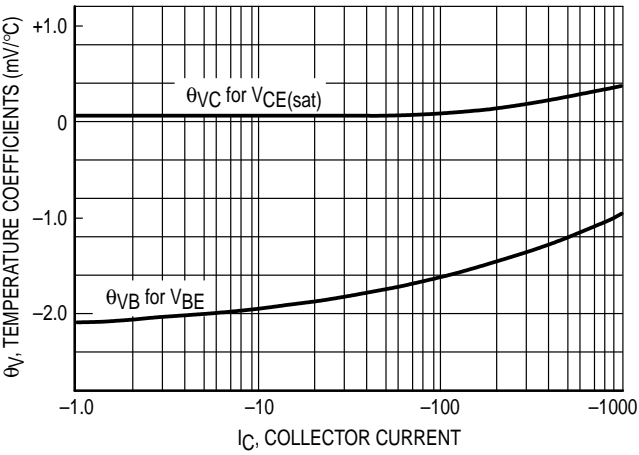


Figure 6. Temperature Coefficients

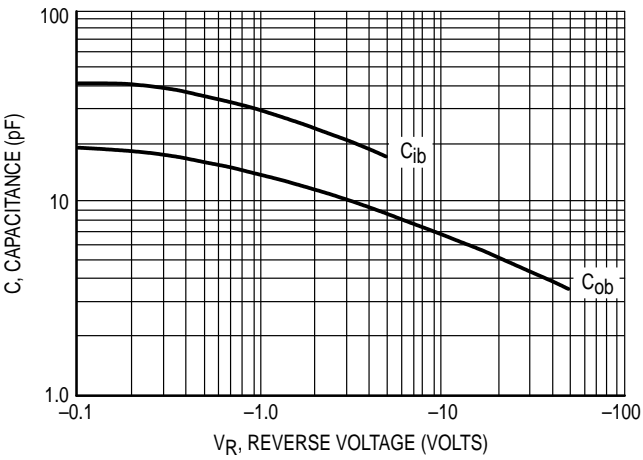
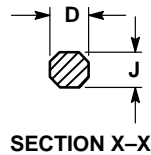
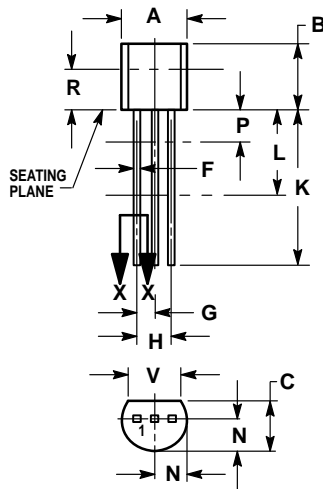


Figure 7. Capacitances

## PACKAGE DIMENSIONS



**CASE 029-04  
(TO-226AA)  
ISSUE AD**


## NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. CONTOUR OF PACKAGE BEYOND DIMENSION R IS UNCONTROLLED.
4. DIMENSION F APPLIES BETWEEN P AND L. DIMENSION D AND J APPLY BETWEEN L AND K. MINIMUM LEAD DIMENSION IS UNCONTROLLED IN P AND BEYOND DIMENSION K MINIMUM.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.175	0.205	4.45	5.20
B	0.170	0.210	4.32	5.33
C	0.125	0.165	3.18	4.19
D	0.016	0.022	0.41	0.55
F	0.016	0.019	0.41	0.48
G	0.045	0.055	1.15	1.39
H	0.095	0.105	2.42	2.66
J	0.015	0.020	0.39	0.50
K	0.500	—	12.70	—
L	0.250	—	6.35	—
N	0.080	0.105	2.04	2.66
P	—	0.100	—	2.54
R	0.115	—	2.93	—
V	0.135	—	3.43	—

## STYLE 17:

1. COLLECTOR
2. BASE
3. EMITTER

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