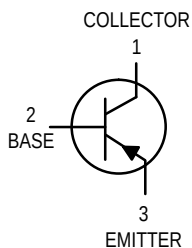
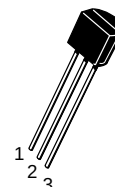


Amplifier Transistors

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°C	P_D	625	5.0	mW mW/ $^\circ\text{C}$
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°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 ($T_A = 25^\circ\text{C}$ unless otherwise noted) (Continued)

Characteristic	Symbol	Min	Typ	Max	Unit
ON CHARACTERISTICS					
DC Current Gain ($I_C = -100\text{ mA}$, $V_{CE} = -1.0\text{ V}$) $(I_C = -300\text{ mA}$, $V_{CE} = -1.0\text{ V})$	h_{FE} BC327/BC328 BC327-16/BC328-16 BC327-25/BC328-25	100 100 160 40	— — — —	630 250 400 —	—
Base-Emitter On Voltage ($I_C = -300\text{ mA}$, $V_{CE} = -1.0\text{ V}$)	$V_{BE(on)}$	—	—	-1.2	Vdc
Collector-Emitter Saturation Voltage ($I_C = -500\text{ mA}$, $I_B = -50\text{ mA}$)	$V_{CE(sat)}$	—	—	-0.7	Vdc

SMALL-SIGNAL CHARACTERISTICS

Output Capacitance ($V_{CB} = -10\text{ V}$, $I_E = 0$, $f = 1.0\text{ MHz}$)	C_{ob}	—	11	—	pF
Current-Gain — Bandwidth Product ($I_C = -10\text{ mA}$, $V_{CE} = -5.0\text{ V}$, $f = 100\text{ MHz}$)	f_T	—	260	—	MHz

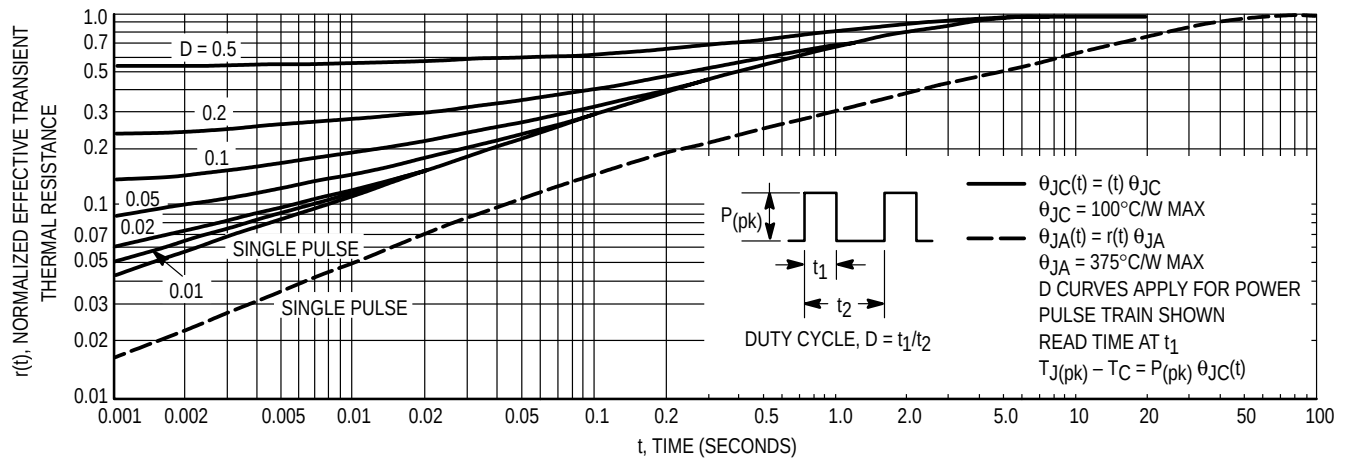


Figure 1. Thermal Response

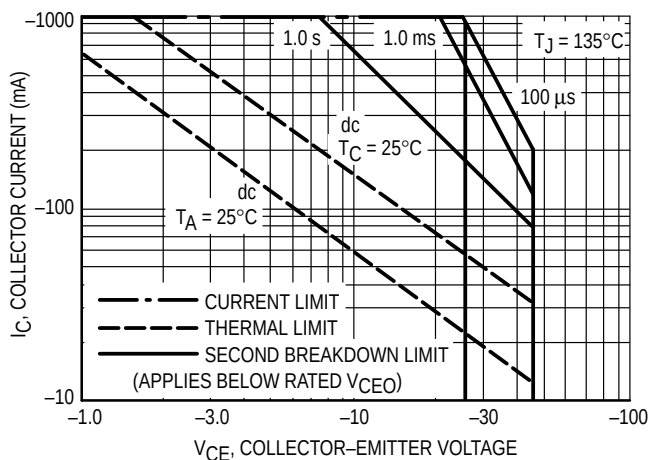


Figure 2. Active Region — Safe Operating Area

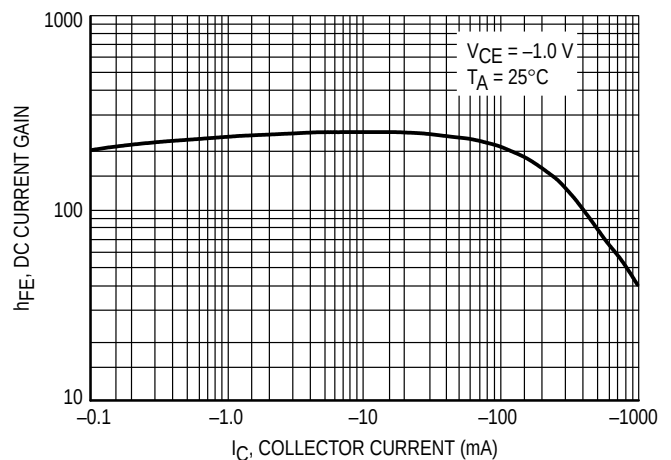


Figure 3. DC Current Gain

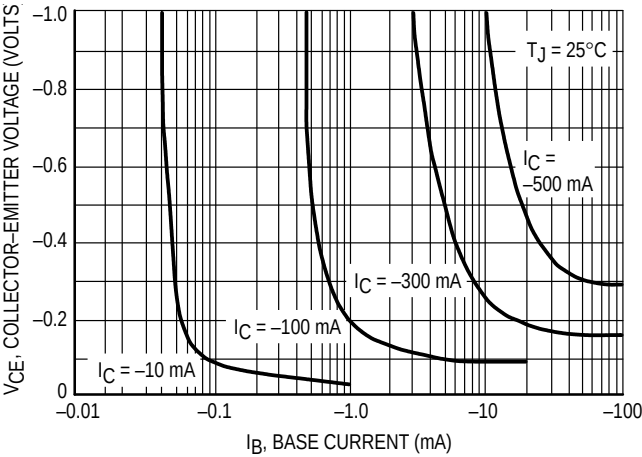


Figure 4. Saturation Region

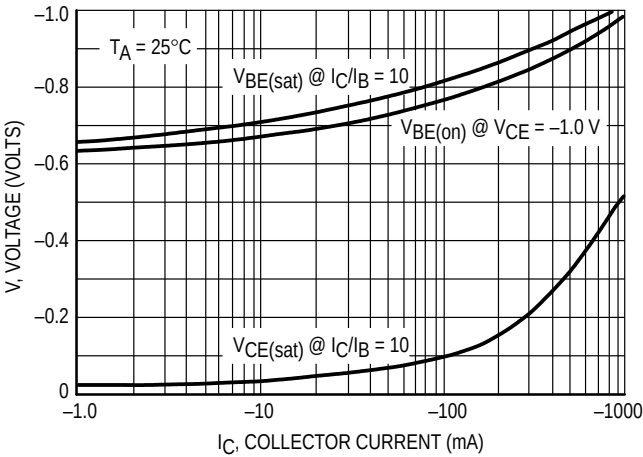


Figure 5. "On" Voltages

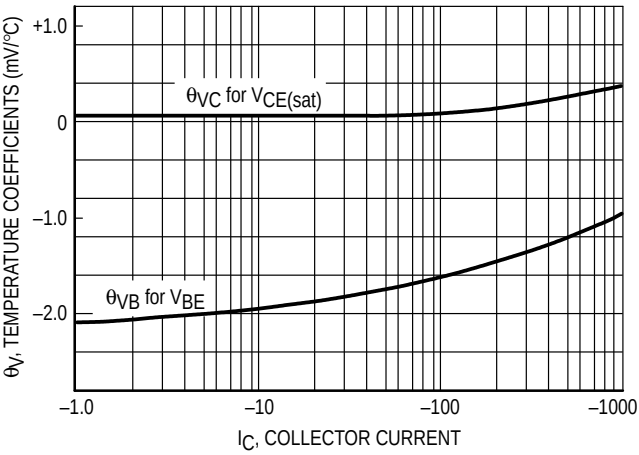


Figure 6. Temperature Coefficients

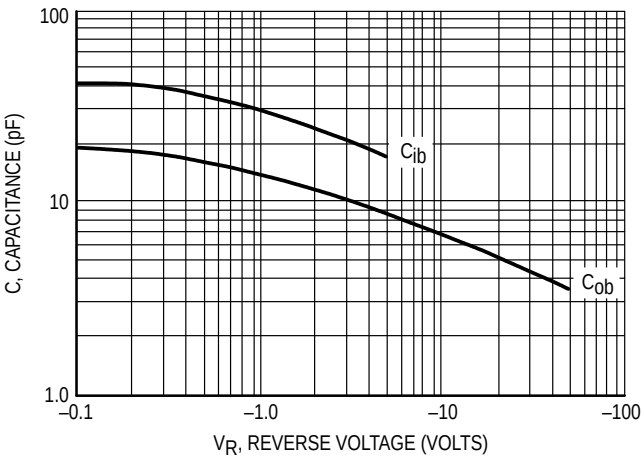
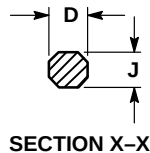
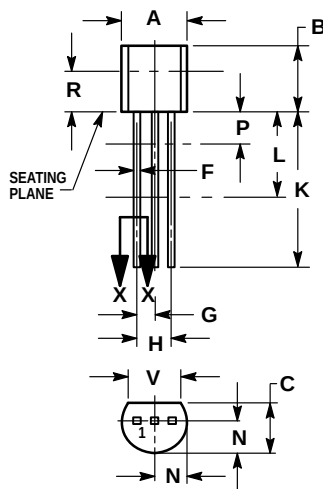


Figure 7. Capacitances

PACKAGE DIMENSIONS



SECTION X-X

**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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