

Amplifier Transistors

PNP Silicon

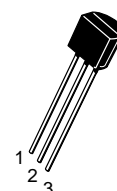
MAXIMUM RATINGS

Rating	Symbol	BC327	Unit
Collector–Emitter Voltage	V_{CEO}	–45	Vdc
Collector–Base Voltage	V_{CBO}	–50	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	$^\circ\text{C}$

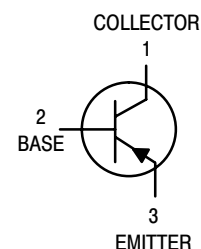
THERMAL CHARACTERISTICS

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	$^\circ\text{C/W}$

**BC327,
BC327-16,
BC327-25,
BC327-40**



**CASE 29–11, STYLE 17
TO–92 (TO–226AA)**



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

BC327, BC327-16, BC327-25, BC327-40

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

Characteristic	Symbol	Min	Typ	Max	Unit
ON CHARACTERISTICS					
DC Current Gain ($I_C = -100\text{ mA}$, $V_{CE} = -1.0\text{ V}$)	h_{FE}	100	—	630	—
BC327		100	—	250	
BC327-16		160	—	400	
BC327-25		250	—	630	
($I_C = -300\text{ mA}$, $V_{CE} = -1.0\text{ V}$)	BC327-40	40	—	—	—
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

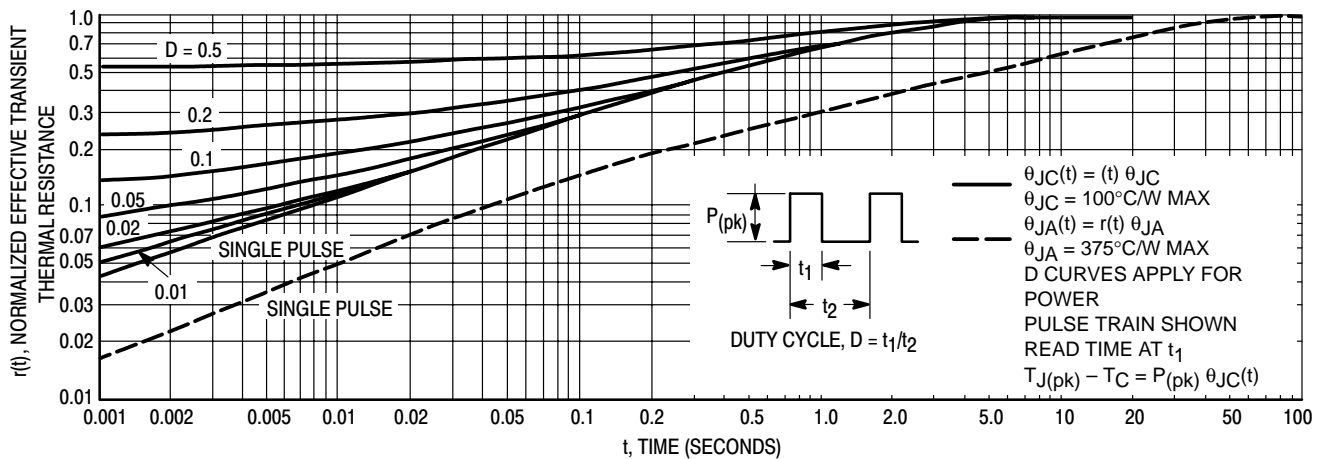


Figure 1. Thermal Response

BC327, BC327-16, BC327-25, BC327-40

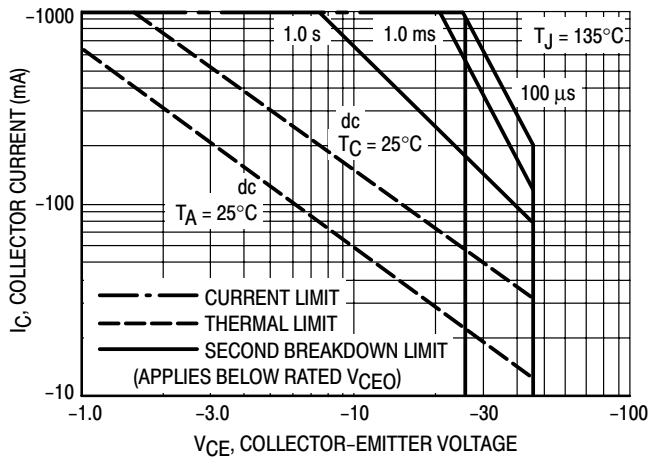


Figure 2. Active Region – Safe Operating Area

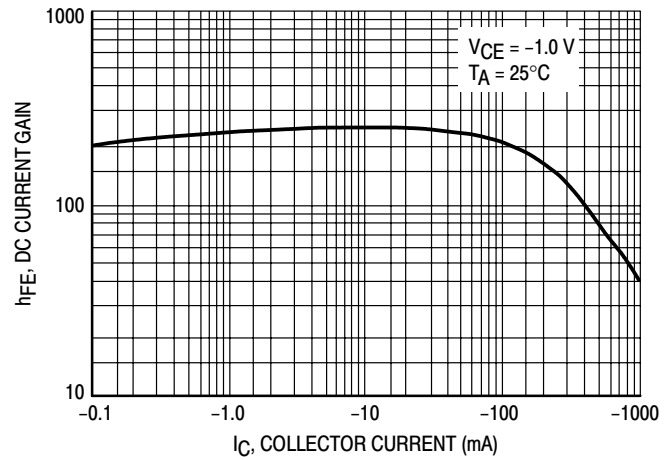


Figure 3. DC Current Gain

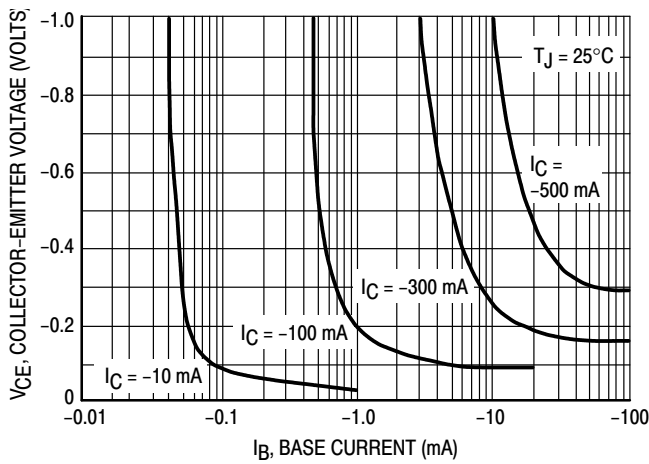


Figure 4. Saturation Region

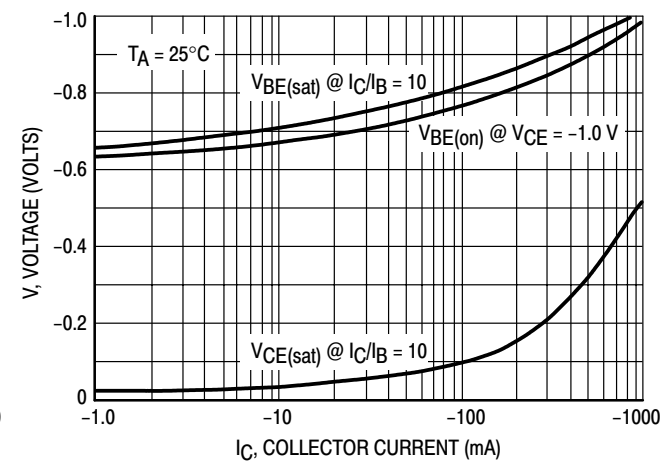


Figure 5. “On” Voltages

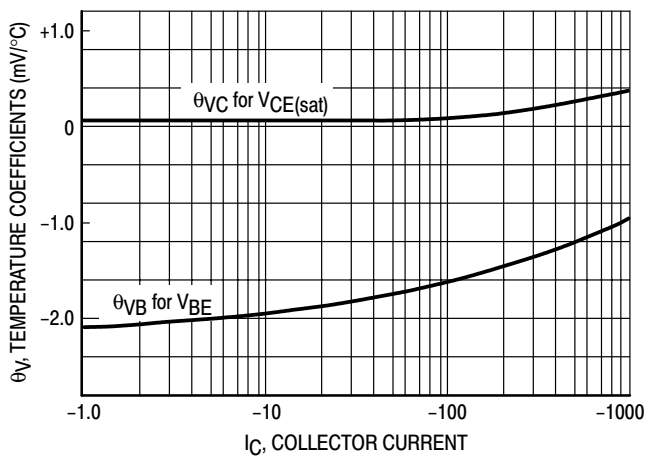


Figure 6. Temperature Coefficients

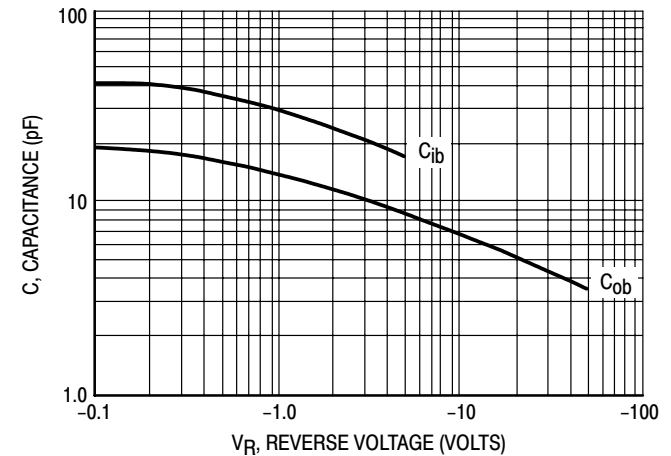
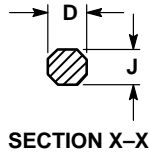
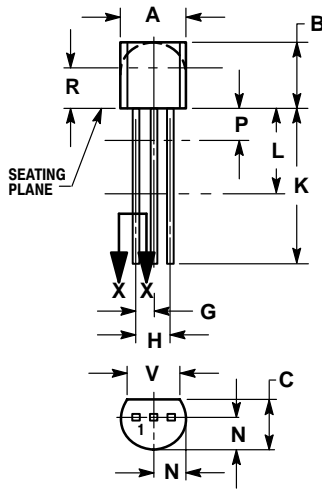


Figure 7. Capacitances

BC327, BC327-16, BC327-25, BC327-40

PACKAGE DIMENSIONS

TO-92 (TO-226) CASE 29-11 ISSUE AL




STYLE 17:
PIN 1. COLLECTOR
2. BASE
3. EMITTER

NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. CONTOUR OF PACKAGE BEYOND DIMENSION R IS UNCONTROLLED.
4. 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	0.021	0.407	0.533
E	0.045	0.055	1.15	1.39
F	0.095	0.105	2.42	2.66
G	0.015	0.020	0.39	0.50
H	0.500	---	12.70	---
I	0.250	---	6.35	---
J	0.080	0.105	2.04	2.66
K	---	0.100	---	2.54
L	0.115	---	2.93	---
M	0.135	---	3.43	---

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