

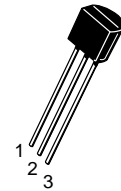
Low Noise Transistors

NPN Silicon

BC549B,C
BC550B,C

MAXIMUM RATINGS

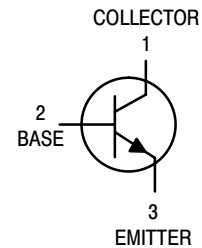
Rating	Symbol	BC549	BC550	Unit
Collector–Emitter Voltage	V_{CEO}	30	45	Vdc
Collector–Base Voltage	V_{CBO}	30	50	Vdc
Emitter–Base Voltage	V_{EBO}	5.0		Vdc
Collector Current — Continuous	I_C	100		mAdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	625 5.0		mW mW/ $^\circ\text{C}$
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		$^\circ\text{C}$



CASE 29–04, STYLE 17
TO–92 (TO–226AA)

THERMAL CHARACTERISTICS

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



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 ($I_C = 10\text{ mAdc}$, $I_B = 0$)	BC549B,C BC550B,C	$V_{(BR)CEO}$	30 45	— —	— —	Vdc
Collector–Base Breakdown Voltage ($I_C = 10\text{ }\mu\text{Adc}$, $I_E = 0$)	BC549B,C BC550B,C	$V_{(BR)CBO}$	30 50	— —	— —	Vdc
Emitter–Base Breakdown Voltage ($I_E = 10\text{ }\mu\text{Adc}$, $I_C = 0$)		$V_{(BR)EBO}$	5.0	—	—	Vdc
Collector Cutoff Current ($V_{CB} = 30\text{ V}$, $I_E = 0$) ($V_{CB} = 30\text{ V}$, $I_E = 0$, $T_A = +125^\circ\text{C}$)		I_{CBO}	— —	— —	15 5.0	nAdc μAdc
Emitter Cutoff Current ($V_{EB} = 4.0\text{ Vdc}$, $I_C = 0$)		I_{EBO}	—	—	15	nAdc

BC549B,C BC550B,C

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted) (Continued)

Characteristic	Symbol	Min	Typ	Max	Unit
ON CHARACTERISTICS					
DC Current Gain (I _C = 10 µAdc, V _{CE} = 5.0 Vdc) (I _C = 2.0 mAdc, V _{CE} = 5.0 Vdc)	h _{FE}	100 100 200 420	150 270 290 500	— — 450 800	—
Collector–Emitter Saturation Voltage (I _C = 10 mAdc, I _B = 0.5 mAdc) (I _C = 10 mAdc, I _B = see note 1) (I _C = 100 mAdc, I _B = 5.0 mAdc, see note 2)	V _{CE(sat)}	— — —	0.075 0.3 0.25	0.25 0.6 0.6	Vdc
Base–Emitter Saturation Voltage (I _C = 100 mAdc, I _B = 5.0 mAdc)	V _{BE(sat)}	—	1.1	—	Vdc
Base–Emitter On Voltage (I _C = 10 µAdc, V _{CE} = 5.0 Vdc) (I _C = 100 µAdc, V _{CE} = 5.0 Vdc) (I _C = 2.0 mAdc, V _{CE} = 5.0 Vdc)	V _{BE(on)}	— — 0.55	0.52 0.55 0.62	— — 0.7	Vdc

SMALL–SIGNAL CHARACTERISTICS

Current–Gain — Bandwidth Product (I _C = 10 mAdc, V _{CE} = 5.0 Vdc, f = 100 MHz)	f _T	—	250	—	MHz
Collector–Base Capacitance (V _{CB} = 10 Vdc, I _E = 0, f = 1.0 MHz)	C _{cbo}	—	2.5	—	pF
Small–Signal Current Gain (I _C = 2.0 mAdc, V _{CE} = 5.0 V, f = 1.0 kHz)	h _{fe}	240 450	330 600	500 900	—
Noise Figure (I _C = 200 µAdc, V _{CE} = 5.0 Vdc, R _S = 2.0 kΩ, f = 1.0 kHz) (I _C = 200 µAdc, V _{CE} = 5.0 Vdc, R _S = 100 kΩ, f = 1.0 kHz)	NF ₁ NF ₂	— —	0.6 —	2.5 10	dB

NOTES:

- I_B is value for which I_C = 11 mA at V_{CE} = 1.0 V.
- Pulse test = 300 µs – Duty cycle = 2%.

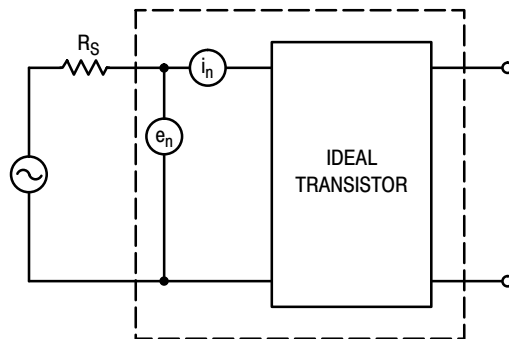
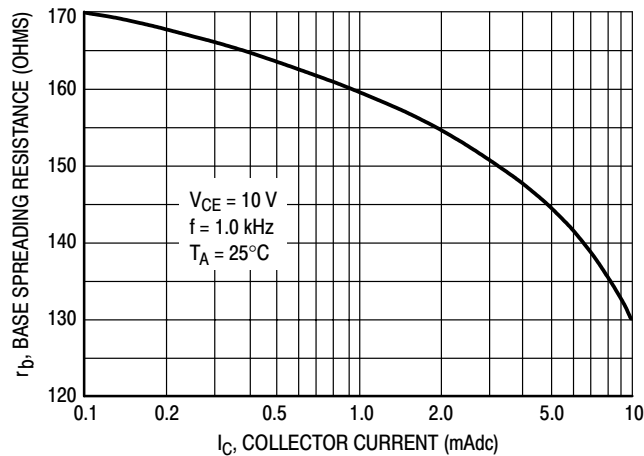
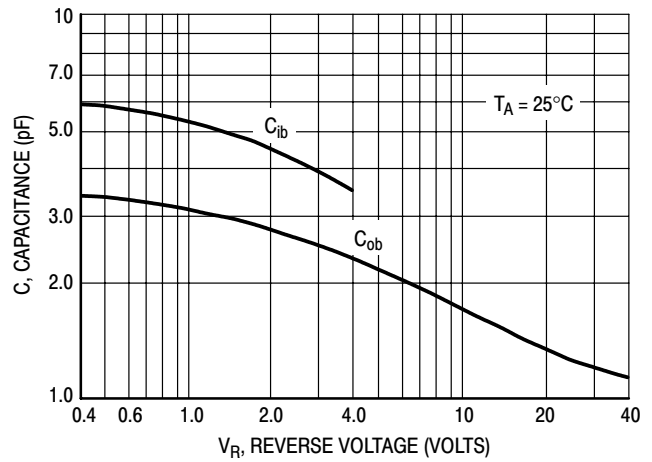
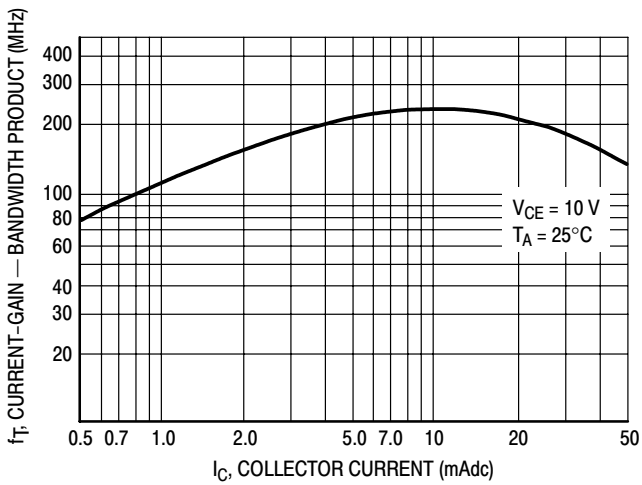
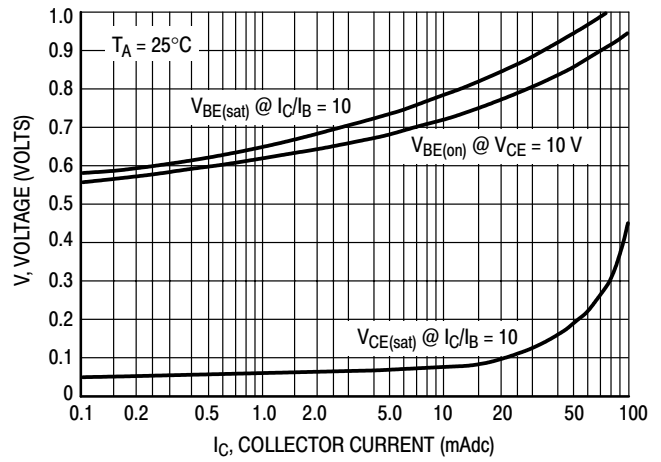
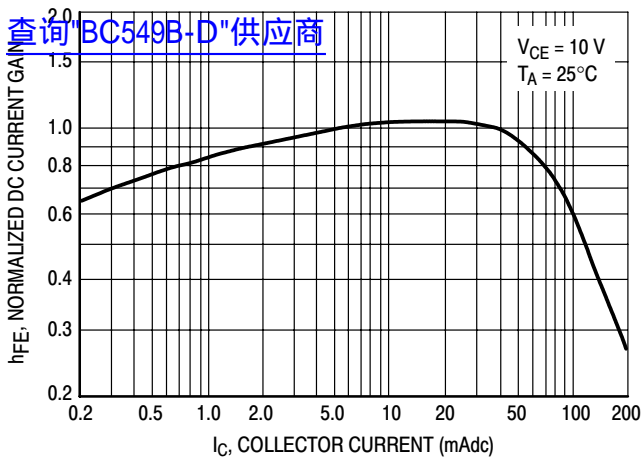


Figure 1. Transistor Noise Model

BC549B,C BC550B,C

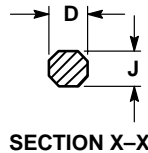
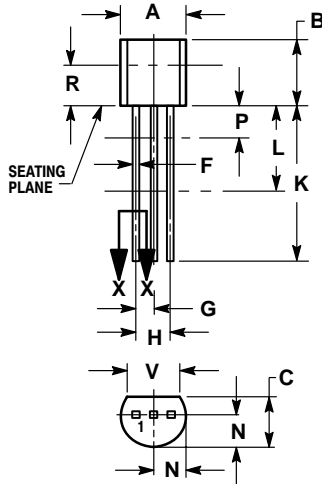


BC549B,C BC550B,C

[查询"BC549B-D"供应商](#)

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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