

PNP General-purpose Double Transistor

Features

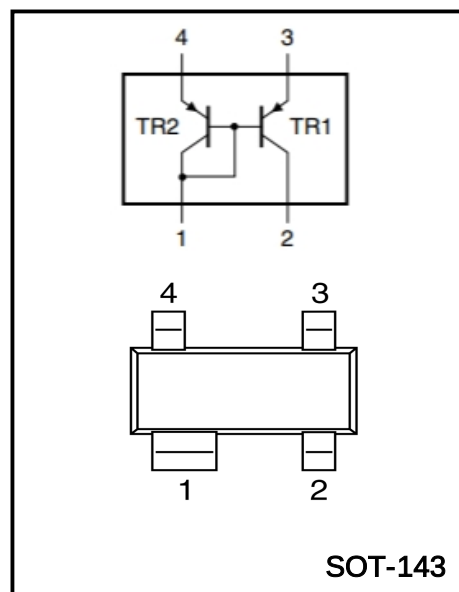
- Low Current
- Low Voltage
- Matched Pairs

Application

- Applications With Working Point Independent of Temperature
- Current Mirrors

Mechanical Data

- Case: SOT-143
- Molding Compound, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208



Marking Code

BCV62	3Mp
BCV62A	3Jp
BCV62B	3Kp
BCV62C	3Lp

Maximum Ratings (TA = 25 °C unless otherwise specified)

Symbol	Parameter	Value	Units
MAXIMUM RATINGS			
V _{CBO}	Collector-Base Voltage	-30	V
V _{CEO}	Collector-Emitter Voltage	-30	V
V _{EBO}	Emitter-Base Voltage	-6	V
I _C	Collector Current - Continuous	-0.1	A
I _{CM}	Collector Current – Peak	-0.2	A
Thermal Characteristic			
P _{tot} (Note1)	Total Power Dissipation, T _a ≤25°C	250	mW
T _J	Junction Temperature	150	°C
T _J , T _{stg}	Junction and Storage Temperature	-65 to +150	°C
R _{th(j-a)} (Note 1)	Thermal resistance from junction to ambient	500	°C/W

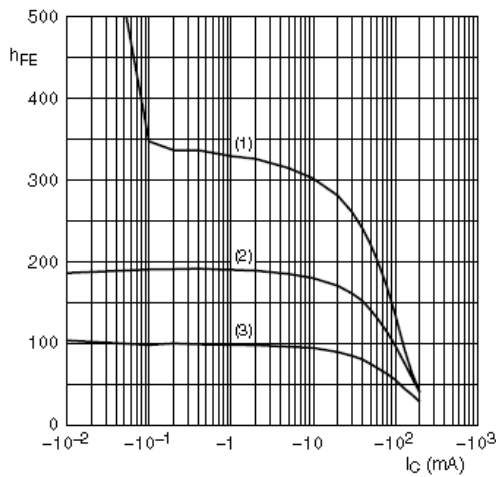
Electrical Characteristics(TA = 25 °C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -100\mu A, I_E = 0$	-30	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -10mA, I_B = 0$	-30	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -100\mu A, I_C = 0$	-6	-	-	V
RCollector Cut-Off Current	I_{CBO}	$V_{CB} = -30V, I_E = 0$	-	-	-15	nA
Emitter Cut-Off Current	I_{EBO}	$V_{EB} = -5V, I_C = 0$	-	-	-100	nA
DC Current Gain (Note 1)	h_{FE}	$V_{CE} = -5V, I_C = -100\mu A$	100	-	-	-
		$V_{CE} = -5V, I_C = -2mA$				
		BCV62	100		800	
		BCV62A	125		250	
		BCV62B	220		475	
		BCV62C	420		800	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -10mA, I_B = -0.5mA$ $I_C = -100mA, I_B = -5mA$	-	-	-0.3 -0.65	V
Base-Emitter Saturation Voltage (Note 2)	$V_{BE(sat)}$	$I_C = -10mA, I_B = -0.5mA$ $I_C = -100mA, I_B = -5mA$	-	-0.7 -	- -1	V
Base-Emitter Turn-on Voltage (Note 3)	$V_{BE(on)}$	$I_C = -2mA, V_{CE} = -5V$ $I_C = -10mA, V_{CE} = -5V$	-0.6 -	- -	-0.75 -0.82	V
Transition Frequency	f_T	$V_{CE} = -5V, I_C = -10mA,$ $f = 100MHz$	100	-	-	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$	-	4.5	-	pF

Notes:

- 1: Device mounted on an FR4 PCB.
- 2: V_{BEsat} decreases by about 1.7 mV/K with increasing temperature.
- 3: V_{BE} decreases by about 2 mV/K with increasing temperature.

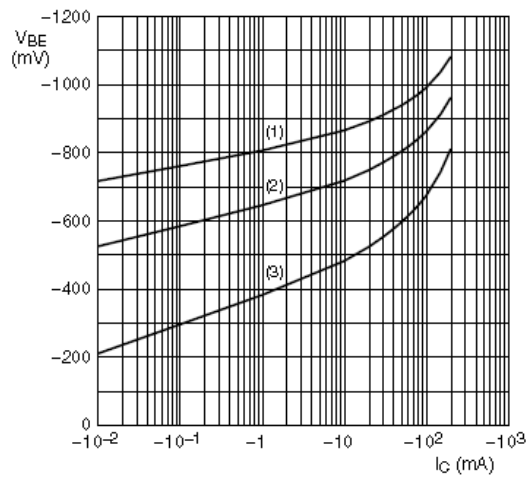
Ratings And Characteristic Curves



$V_{CE} = -5 \text{ V}$

- (1) $T_{amb} = 150 \text{ }^{\circ}\text{C}$
- (2) $T_{amb} = 25 \text{ }^{\circ}\text{C}$
- (3) $T_{amb} = -55 \text{ }^{\circ}\text{C}$

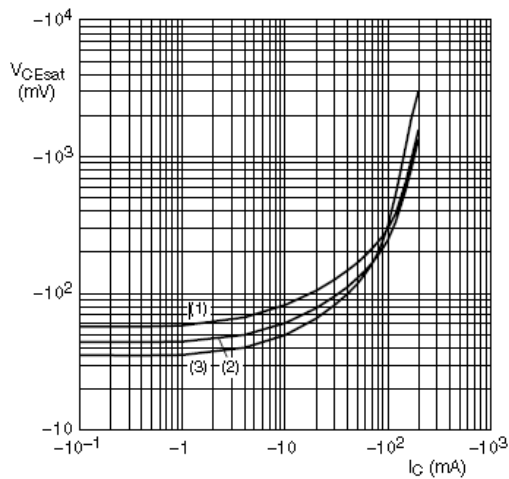
Fig 1. BCV62A: DC current gain as a function of collector current; typical values



$V_{CE} = -5 \text{ V}$

- (1) $T_{amb} = -55 \text{ }^{\circ}\text{C}$
- (2) $T_{amb} = 25 \text{ }^{\circ}\text{C}$
- (3) $T_{amb} = 150 \text{ }^{\circ}\text{C}$

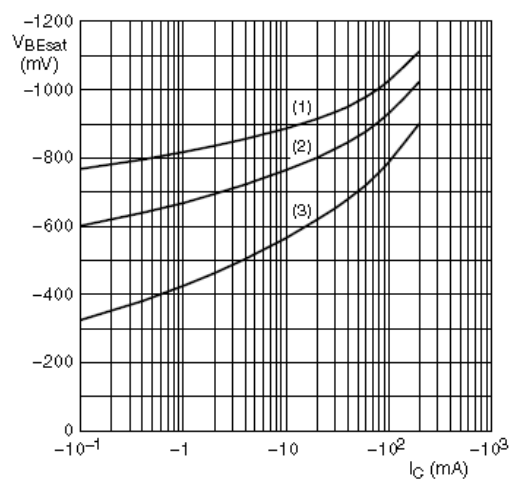
Fig 2. BCV62A: Base-emitter voltage as a function of collector current; typical values



$I_C/I_B = 20$

- (1) $T_{amb} = 150 \text{ }^{\circ}\text{C}$
- (2) $T_{amb} = 25 \text{ }^{\circ}\text{C}$
- (3) $T_{amb} = -55 \text{ }^{\circ}\text{C}$

Fig 3. BCV62A: Collector-emitter saturation voltage as a function of collector current; typical values

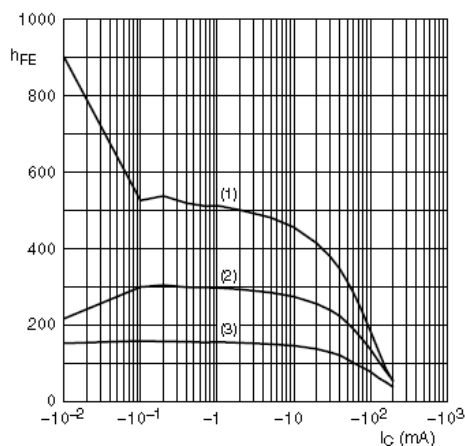


$I_C/I_B = 20$

- (1) $T_{amb} = -55 \text{ }^{\circ}\text{C}$
- (2) $T_{amb} = 25 \text{ }^{\circ}\text{C}$
- (3) $T_{amb} = 150 \text{ }^{\circ}\text{C}$

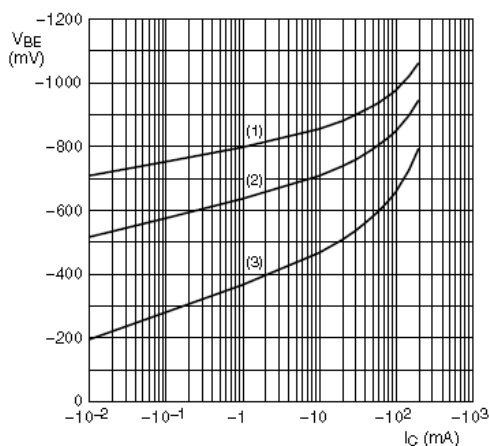
Fig 4. BCV62A: Base-emitter saturation voltage as a function of collector current; typical values

Ratings And Characteristic Curves



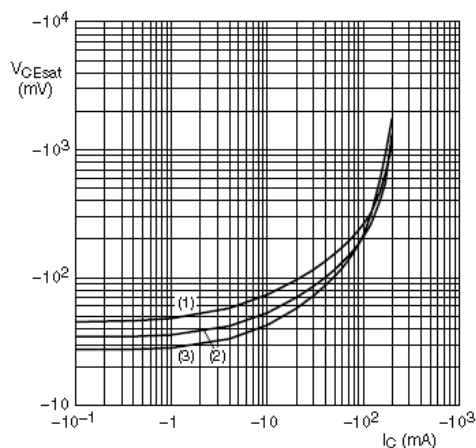
- $V_{CE} = -5\text{ V}$
(1) $T_{amb} = 150\text{ }^{\circ}\text{C}$
(2) $T_{amb} = 25\text{ }^{\circ}\text{C}$
(3) $T_{amb} = -55\text{ }^{\circ}\text{C}$

Fig 5. BCV62B: DC current gain as a function of collector current; typical values



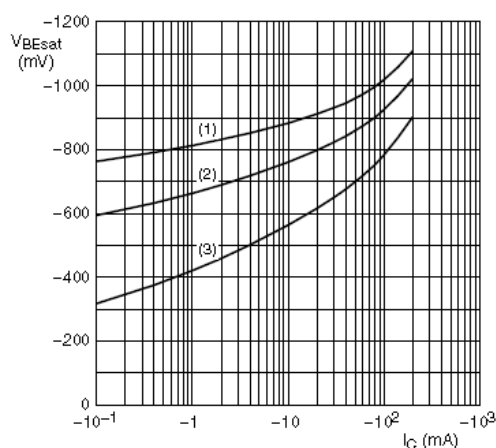
- $V_{CE} = -5\text{ V}$
(1) $T_{amb} = -55\text{ }^{\circ}\text{C}$
(2) $T_{amb} = 25\text{ }^{\circ}\text{C}$
(3) $T_{amb} = 150\text{ }^{\circ}\text{C}$

Fig 6. BCV62B: Base-emitter voltage as a function of collector current; typical values



- $I_C/I_B = 20$
(1) $T_{amb} = 150\text{ }^{\circ}\text{C}$
(2) $T_{amb} = 25\text{ }^{\circ}\text{C}$
(3) $T_{amb} = -55\text{ }^{\circ}\text{C}$

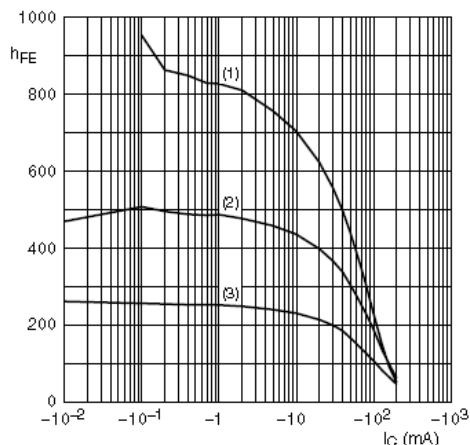
Fig 7. BCV62B: Collector-emitter saturation voltage as a function of collector current; typical values



- $I_C/I_B = 20$
(1) $T_{amb} = -55\text{ }^{\circ}\text{C}$
(2) $T_{amb} = 25\text{ }^{\circ}\text{C}$
(3) $T_{amb} = 150\text{ }^{\circ}\text{C}$

Fig 8. BCV62B: Base-emitter saturation voltage as a function of collector current; typical values

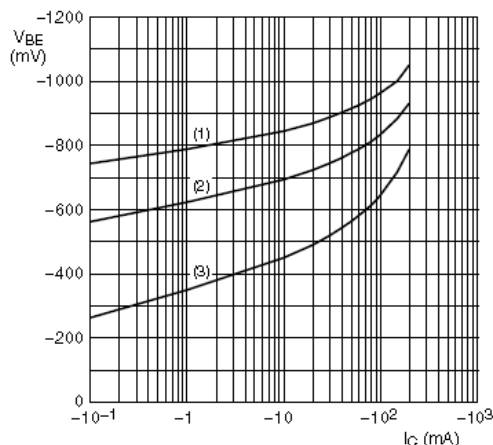
Ratings And Characteristic Curves



$$V_{CE} = -5 \text{ V}$$

- (1) $T_{amb} = 150 \text{ }^{\circ}\text{C}$
- (2) $T_{amb} = 25 \text{ }^{\circ}\text{C}$
- (3) $T_{amb} = -55 \text{ }^{\circ}\text{C}$

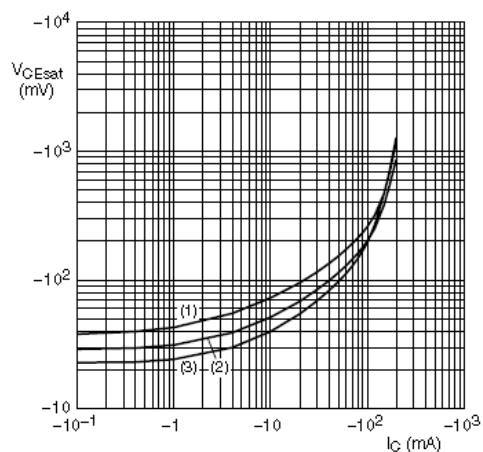
Fig 9. BCV62C: DC current gain as a function of collector current; typical values



$$V_{CE} = -5 \text{ V}$$

- (1) $T_{amb} = -55 \text{ }^{\circ}\text{C}$
- (2) $T_{amb} = 25 \text{ }^{\circ}\text{C}$
- (3) $T_{amb} = 150 \text{ }^{\circ}\text{C}$

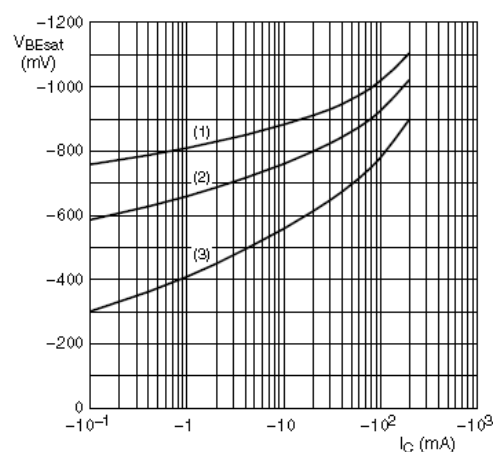
Fig 10. BCV62C: Base-emitter voltage as a function of collector current; typical values



$$I_C/I_B = 20$$

- (1) $T_{amb} = 150 \text{ }^{\circ}\text{C}$
- (2) $T_{amb} = 25 \text{ }^{\circ}\text{C}$
- (3) $T_{amb} = -55 \text{ }^{\circ}\text{C}$

Fig 11. BCV62C: Collector-emitter saturation voltage as a function of collector current; typical values



$$I_C/I_B = 20$$

- (1) $T_{amb} = -55 \text{ }^{\circ}\text{C}$
- (2) $T_{amb} = 25 \text{ }^{\circ}\text{C}$
- (3) $T_{amb} = 150 \text{ }^{\circ}\text{C}$

Fig 12. BCV62C: Base-emitter saturation voltage as a function of collector current; typical values

Ordering information

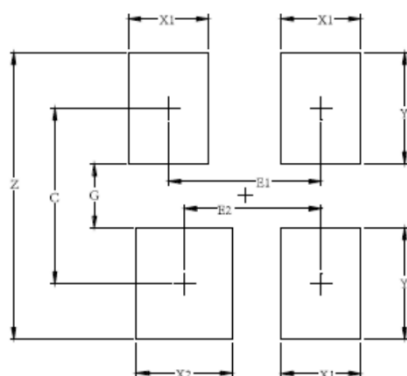
Package	Packing Description	Packing Quantity
SOT-143	Tape/Reel, 7" reel	3000PCS/Reel 120000PCS/Carton

Package Dimensions

SOT-143

Dim.	Millimeter(mm)		Inches	
	Min.	Max.	Min.	Max.
A	0.80	1.22	0.031	0.048
A1	0.013	0.15	0.000	0.006
A2	0.75	1.07	0.029	0.042
b	0.30	0.51	0.011	0.020
b1	0.76	0.94	0.029	0.037
c	0.08	0.20	0.003	0.008
D	2.80	3.04	0.110	0.120
E	2.10	2.64	0.082	0.104
E1	1.20	1.40	0.047	0.055
e	1.92 BSC		0.075	
e1	0.20 BSC		0.008	
L	0.40	0.60	0.015	
L1	TYP0.54		TYP 0.021	
N	4		4	
Φ	0°C	8°C	0°C	8°C
aaa	0.15		0.006	
bbb	0.20		0.008	
ccc	0.10		0.004	

The recommended mounting pad size



Dim.	Millimeter(mm)
	TYP
C	2.20
E1	1.92
E2	1.72
G	0.80
X1	1.00
X2	1.20
Y	1.40
Z	3.60

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