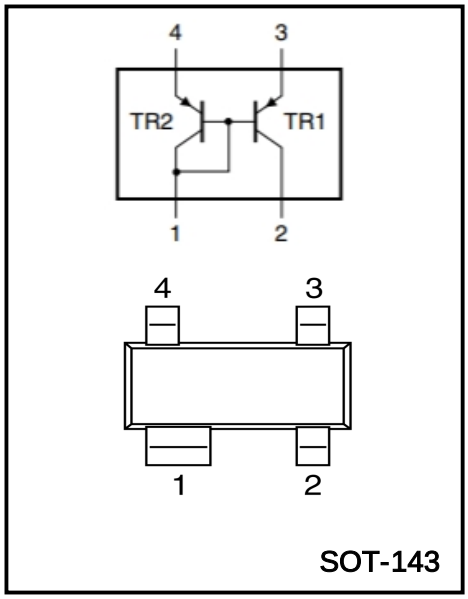
PNP General-purpose Double Transistor



Features

- Low Current
- Low Voltage
- Matched Pairs

Applications

- 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

Ordering Information

Part Number	Package	Shipping	Marking Code
BCV62	SOT-143	3000 pcs / Tape & Reel	3Mp
BCV62A	SOT-143	3000 pcs / Tape & Reel	3Jp
BCV62B	SOT-143	3000 pcs / Tape & Reel	3Kp
BCV62C	SOT-143	3000 pcs / Tape & Reel	3Lp

Maximum Ratings (@T_A=25℃ 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℃	250	mW
T_J	Junction Temperature	150	℃
T_j,T_{stg}	Junction and Storage Temperature	-65 to +150	℃
$R_{th\ (j\text{-}a)}$ (Note 1)	Thermal resistance from junction to ambient	500	℃/W

Electrical Characteristics (@T_A=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = -100uA, 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 = -100uA, 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 = -100uA	100	-	-	-
		V_{CE} = -5V, I_C =-2mA BCV62 BCV62A BCV62B BCV62C	 100 125 220 420		 800 250 475 800	
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

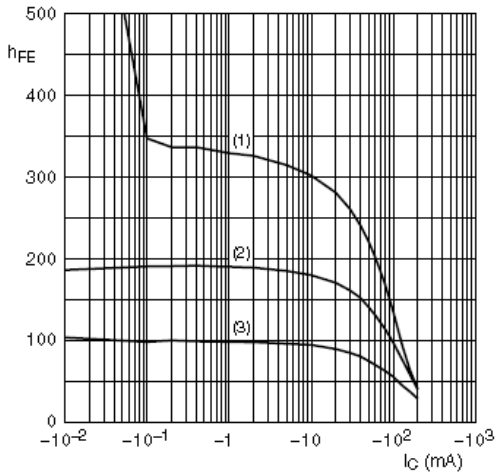
Notes：

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 (T_A=25℃ unless otherwise noted)



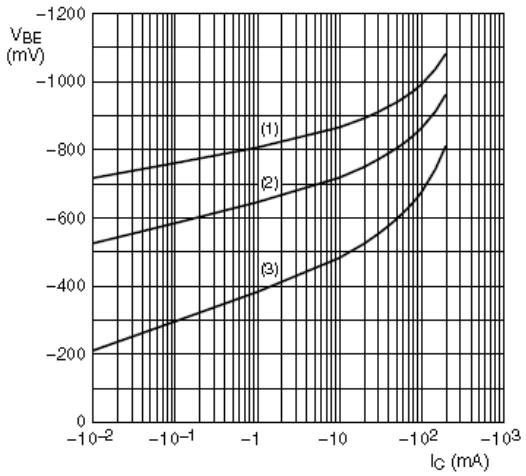
V_{CE} = −5 V

(1) T_{amb} = 150 °C

(2) T_{amb} = 25 °C

(3) T_{amb} = −55 °C

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



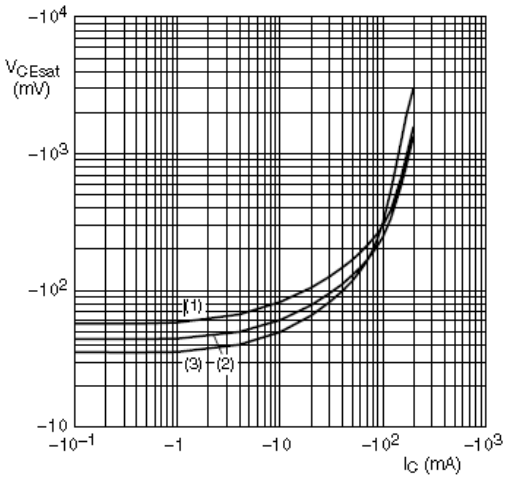
V_{CE} = −5 V

(1) T_{amb} = −55 °C

(2) T_{amb} = 25 °C

(3) T_{amb} = 150 °C

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



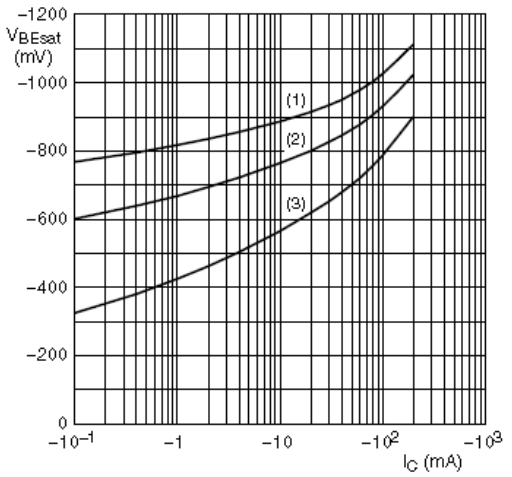
I_C/I_B = 20

(1) T_{amb} = 150 °C

(2) T_{amb} = 25 °C

(3) T_{amb} = −55 °C

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



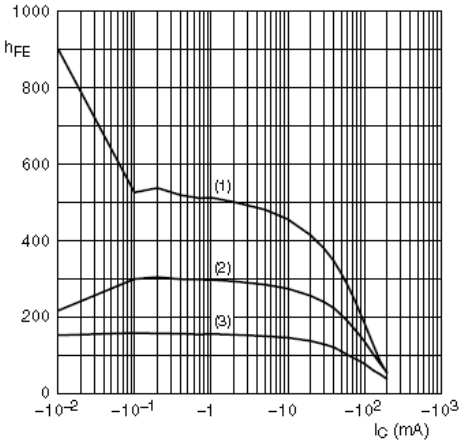
I_C/I_B = 20

(1) T_{amb} = −55 °C

(2) T_{amb} = 25 °C

(3) T_{amb} = 150 °C

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



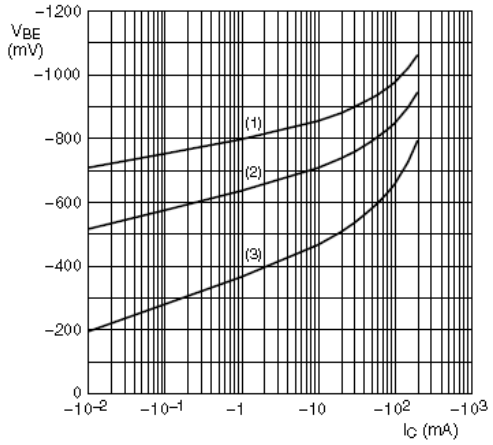
V_{CE} = −5 V

(1) T_{amb} = 150 °C

(2) T_{amb} = 25 °C

(3) T_{amb} = −55 °C

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



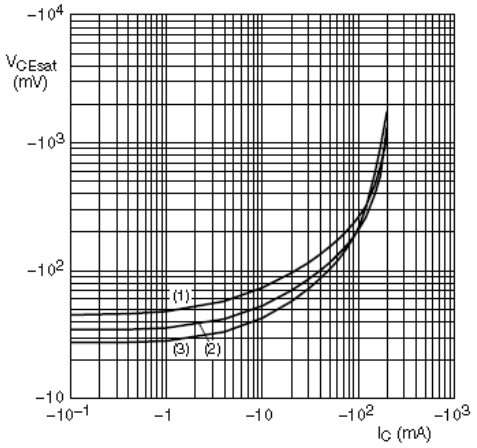
V_{CE} = −5 V

(1) T_{amb} = −55 °C

(2) T_{amb} = 25 °C

(3) T_{amb} = 150 °C

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



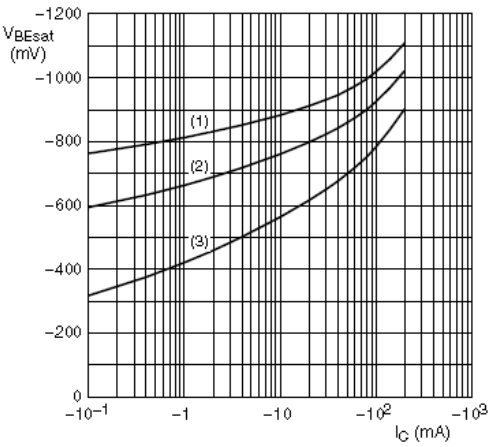
I_C/I_B = 20

(1) T_{amb} = 150 °C

(2) T_{amb} = 25 °C

(3) T_{amb} = −55 °C

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



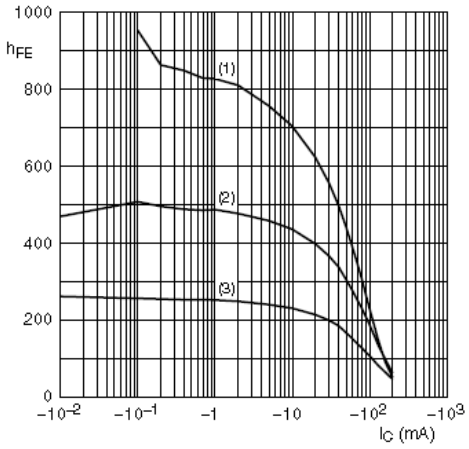
I_C/I_B = 20

(1) T_{amb} = −55 °C

(2) T_{amb} = 25 °C

(3) T_{amb} = 150 °C

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



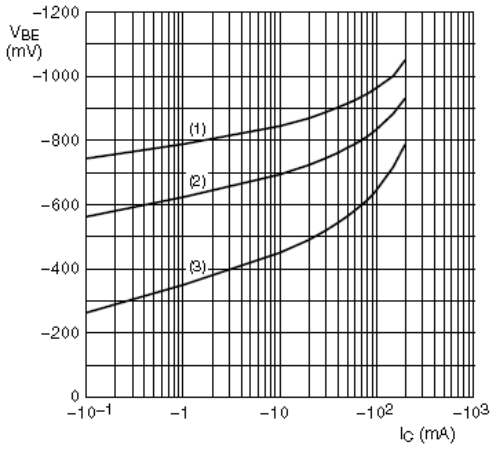
V_{CE} = −5 V

(1) T_{amb} = 150 °C

(2) T_{amb} = 25 °C

(3) T_{amb} = −55 °C

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



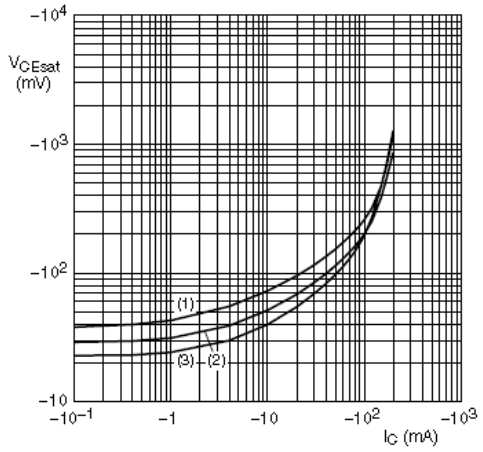
V_{CE} = −5 V

(1) T_{amb} = −55 °C

(2) T_{amb} = 25 °C

(3) T_{amb} = 150 °C

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



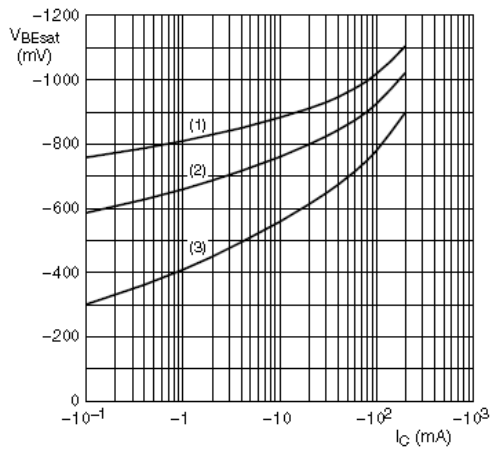
I_C/I_B = 20

(1) T_{amb} = 150 °C

(2) T_{amb} = 25 °C

(3) T_{amb} = −55 °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 °C

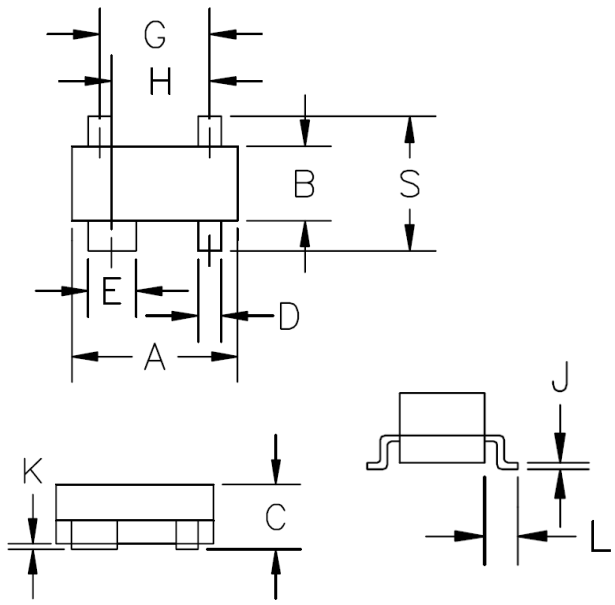
(2) T_{amb} = 25 °C

(3) T_{amb} = 150 °C

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

Package Outline SOT-143

Plastic surface mounted package



DIMENSIONS					
DIMN	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	—
B	.047	.055	1.20	1.40	—
C	.031	.047	.80	1.20	—
D	.014	.018	.37	.510	—
E	.030	.035	.76	.940	—
G	.076 BSC		1.92 BSC		—
H	.068 BSC		1.72 BSC		—
J	.003	.005	.085	.180	—
K	.002	.005	.013	0.10	—
L	.010	.022	—	.55	REF
S	.082	.104	2.10	2.64	—