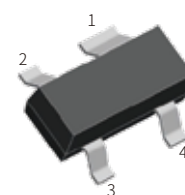
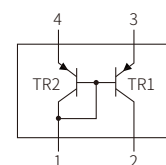


FEATURES

- Low Current
- Low Voltage
- Matched Pairs



SOT-143



Schematic Symbol

APPLICATIONS

- Applications With Working Point Independent of Temperature
- Current Mirrors

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-30	V
Collector-Emitter Voltage	V_{CEO}	-30	V
Emitter-Base Voltage	V_{EBO}	-6	V
Collector Current - Continuous	I_C	-0.1	A
Collector Current — Peak	I_{CM}	-0.2	A
Total Power Dissipation, ^(Note1) $T_a \leq 25^\circ\text{C}$	P_{tot}	250	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-65 to +150	$^\circ\text{C}$
Thermal resistance from junction to ambient ^(Note1)	$R_{th(j-a)}$	500	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-100\mu\text{A}, I_E=0$	-30			V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-10\text{mA}, I_B=0$	-30			
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-100\mu\text{A}, I_C=0$	-6			
Collector-Base Cut-Off Current	I_{CBO}	$V_{CB}=-30\text{V}, I_E=0$			-15	nA
Emitter-Base Cut-Off Current	I_{EBO}	$V_{EB}=-5\text{V}, I_C=0$			-100	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-10\text{mA}, I_B=-0.5\text{mA}$			-0.3	V
		$I_C=-100\text{mA}, I_B=-5\text{mA}$			-0.65	
Base - Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-10\text{mA}, I_B=-0.5\text{mA}$		-0.7		V
		$I_C=-100\text{mA}, I_B=-5\text{mA}$			-1	
Base - Emitter On-State Voltage	$V_{BE(on)}$	$V_{CE}=-5\text{V}, I_C=-2\text{mA}$	-0.6		-0.75	V
		$V_{CE}=-5\text{V}, I_C=-10\text{mA}$			-0.82	
DC Current Gain	hFE	$V_{CE}=-5\text{V}, I_C=-100\mu\text{A}$	100			
		BCV62	100		800	
		BCV62A	125		250	
		BCV62B	220		475	
		BCV62C	420		800	
Transition Frequency	f_T	$V_{CE}=-5\text{V}, I_C=-10\text{mA}, f=100\text{MHz}$	100			MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$		4.5		pF

Notes:

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

CHARACTERISTIC CURVES

Fig1. BCV62A:DC Current gain as a function of collector current typical values

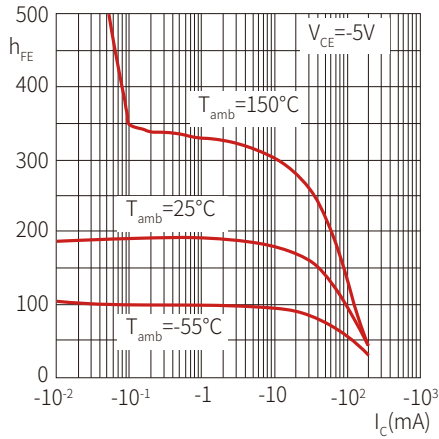


Fig2. BCV62A:Base-emitter voltage as a function of collector current typical values

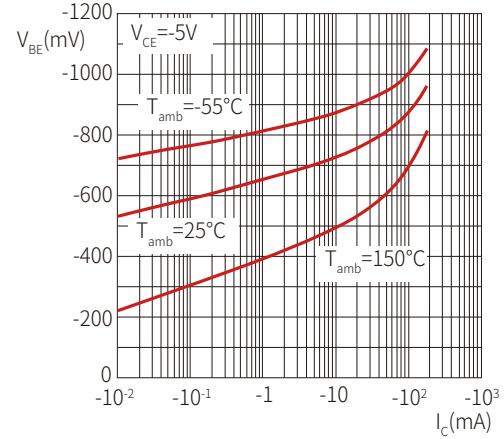


Fig3: BCV62A:Collector-emitter saturation voltage as a function of collector current typical values

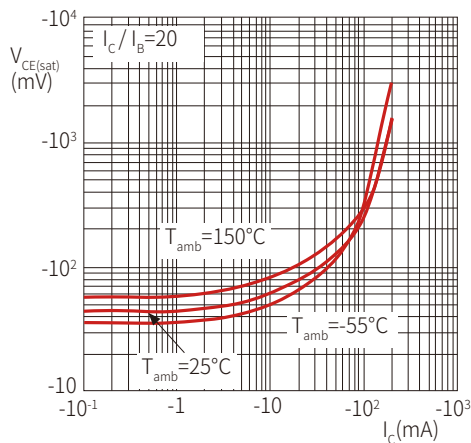


Fig4: BCV62A:Base-emitter saturation voltage as a function of collector current typical values

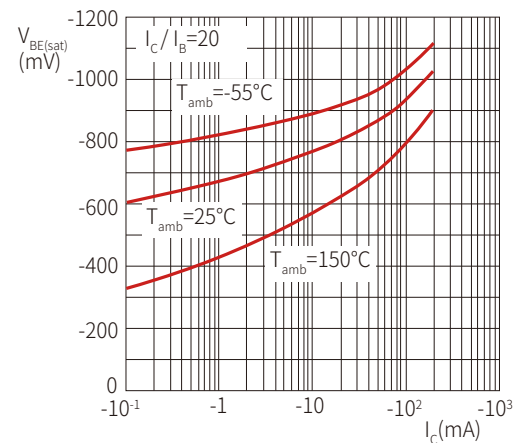


Fig5. BCV62B:DC Current gain as a function of collector current typical values

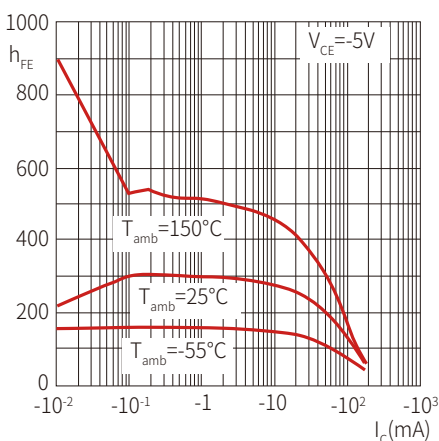


Fig6. BCV62B:Base-emitter voltage as a function of collector current typical values

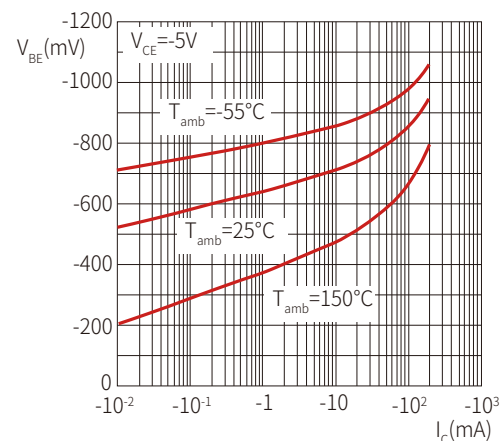
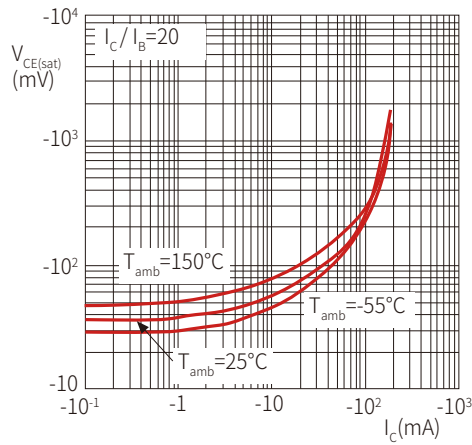
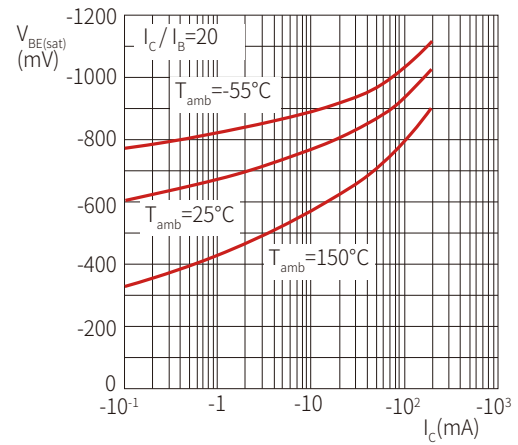
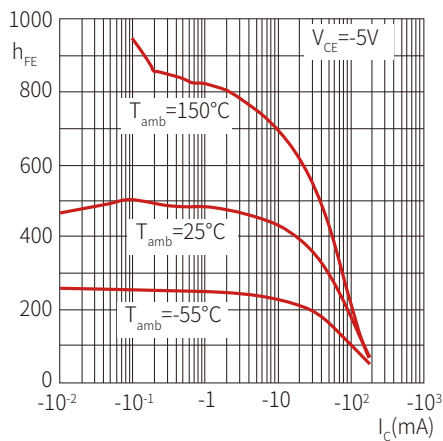
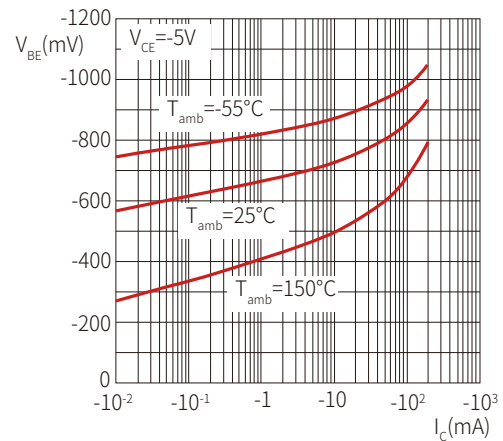
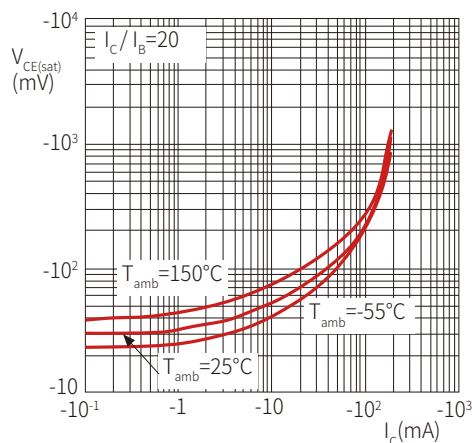
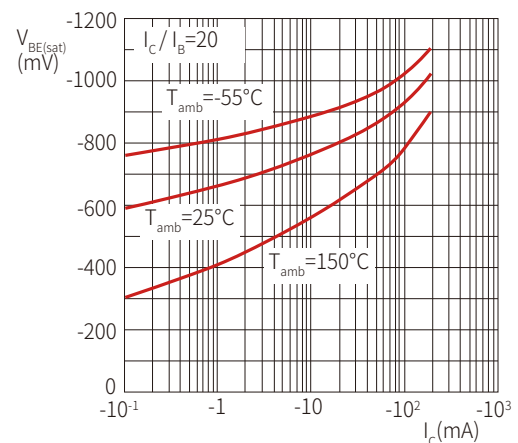
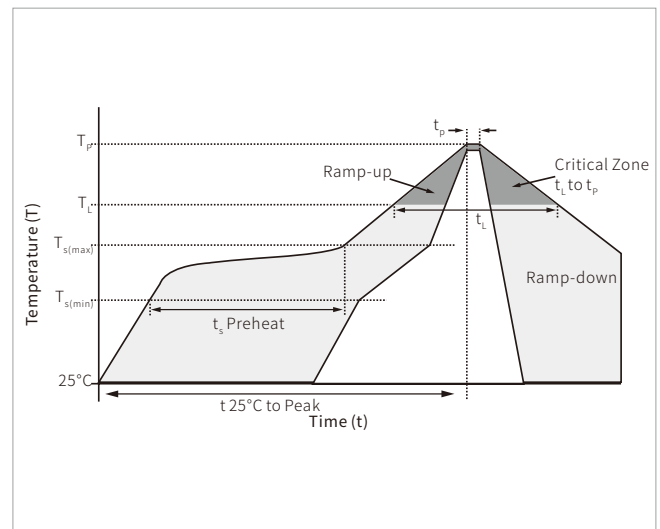


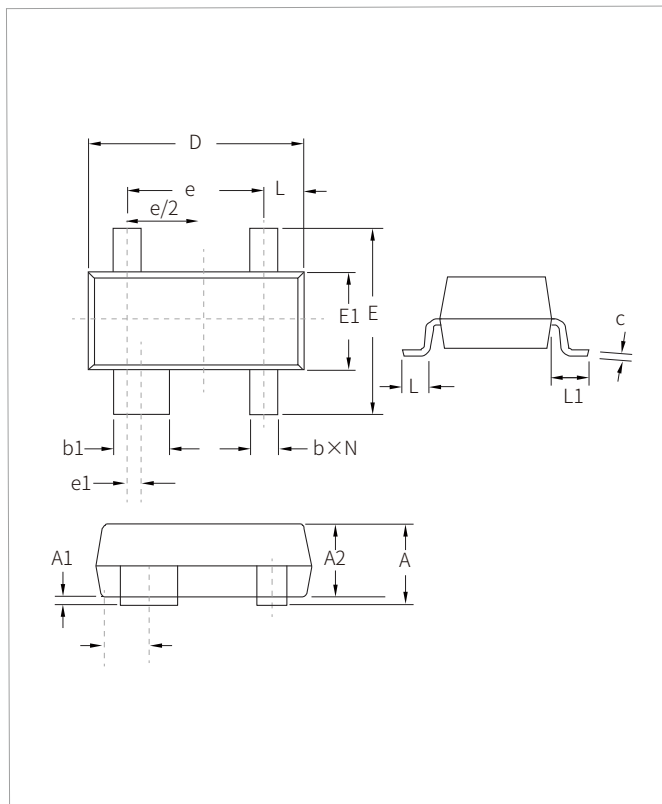
Fig7: BCV62B:Collector-emitter saturation voltage as a function of collector current typical values

Fig8: BCV62B:Base-emitter saturation voltage as a function of collector current typical values

Fig9: BCV62C:DC Current gain as a function of collector current typical values

Fig10: BCV62C:Base-emitter voltage as a function of collector current typical values

Fig11: BCV62C:Collector-emitter saturation voltage as a function of collector current typical values

Fig12: BCV62C:Base-emitter saturation voltage as a function of collector current typical values


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

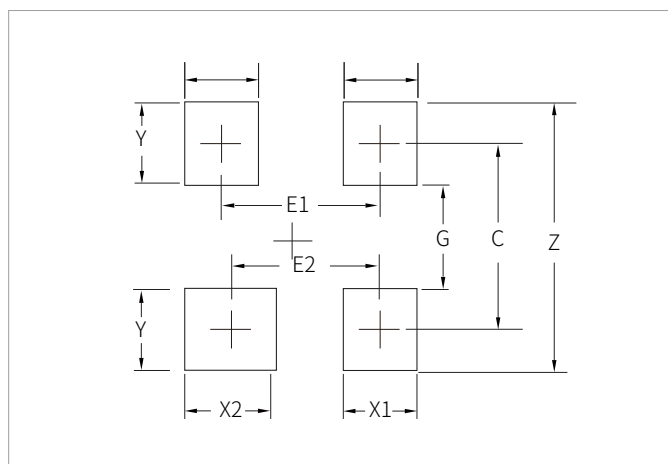


SOT-143 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.80	1.22	0.031	0.048
A1	0.013	0.15	0.000	0.008
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	0.06	0.20	0.002	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	1.92BSC		0.075	
e1	0.20BSC		0.008	
L	0.40	0.60	0.015	0.024
L1	(0.54)		(0.021)	
N	4		4	

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
C	(2.2)	(0.087)
E1	1.92	0.076
E2	1.72	0.068
G	0.80	0.031
X1	1.00	0.039
X2	1.20	0.047
Y	1.40	0.055
Z	3.60	0.141

ORDERING INFORMATION

Part Number	Component Package	Marking	QTY/Reel	Reel Size
BCV62	SOT-143	3Mp	3000PCS	7"
BCV62A	SOT-143	3Jp	3000PCS	7"
BCV62B	SOT-143	3Kp	3000PCS	7"
BCV62C	SOT-143	3Lp	3000PCS	7"

Headquarters

No.3387 Shendu Road
Pujiang I&E Park
Minhang Shanghai China
201000

Hotline

400-021-5756

Web

<https://www.semiware.com>

Sales Center

Tel: 86-21-3463-7458
Email: sales18@semiware.com

Customer Service

Tel: 86-21-5484-1001
Email: sales17@semiware.com

Technical Support

Tel: 86-21-3463-7654
Email: fae01@semiware.com

Complaint & Suggestions

Tel: 86-21-3463-7172
Ext: 8868
Email: cs03@semiware.com

By QR Code

Website



Wechat

To find your local partner within Semiware's global website: www.semiware.com

© 2022 Semiware Semiconductor Inc.

The content of this document has been carefully checked and understood. However, neither Semiware nor its subsidiaries assume any liability whatsoever for any errors or inaccuracies of this document and the consequences thereof. Published specifications are subject to change without notice. Product suitability for any area of application must ultimately be determined by the customer. In all cases, products must never be operated outside their published specifications. Semiware does not guarantee the availability of all published products. This disclaimer shall be governed by substantive Chinese law and resulting disputes shall be settled by the courts at the place of business of Semiware. Latest publications and a complete disclaimer can be downloaded from the Semiware website. All trademarks recognized.