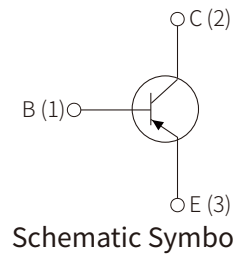
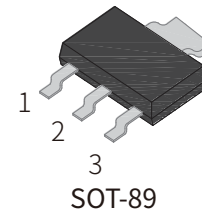


FEATURES

- | NPN Complements to BCX51,BCX52,BCX53
- | Low Voltage
- | High Current

MECHANICAL DATA

- | Medium Power General Purposes
- | Driver Stages of Audio Amplifiers



APPROVALS

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

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

Parameter		Symbol	Value	Unit
Collector-Base Voltage	BCX51	V_{CBO}	-45	V
	BCX52		-60	
	BCX53		-100	
Collector-Emitter Voltage	BCX51	V_{CEO}	-45	V
	BCX52		-60	
	BCX53		-80	
Emitter-Base Voltage		V_{EBO}	-5	
Collector Current		I_C	-1	A
Collector Power Dissipation		P_C	500	mW
Thermal Resistance From Junction To Ambient		$R_{\theta JA}$	250	$^{\circ}\text{C}/\text{W}$
Junction Temperature		T_J	150	$^{\circ}\text{C}$
Storage Temperature		T_{STG}	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS (T_A=25°C)

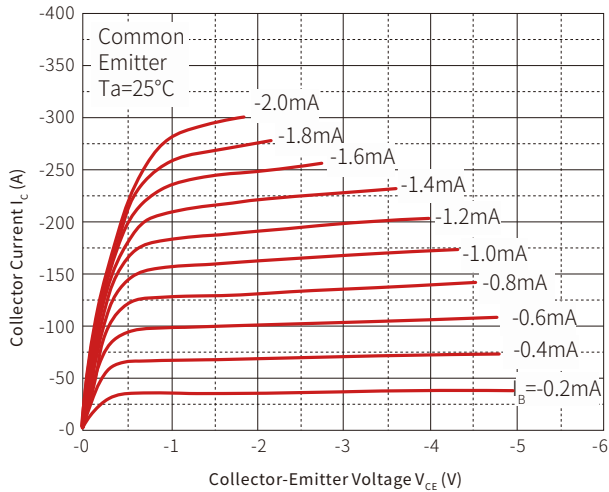
Parameter		Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	BCX51	V _{(BR)CBO}	I _C =100μA, I _E =0	-45			V
	BCX52			-60			
	BCX53			-100			
Collector-emitter breakdown voltage	BCX51	V _{(BR)CEO}	I _C =-1mA, I _B =0	-45			V
	BCX52			-60			
	BCX53			-80			
Emitter-base breakdown voltage		V _{(BR)EBO}	I _E =-100μA, I _C =0	-5			
Collector-Base cut-off current		I _{CBO}	V _{CB} =-30V, I _E =0			-0.1	μA
Emitter cut-off current		I _{EBO}	V _{EB} =-5V, I _C =0			-0.1	μA
DC Current Gain		h _{FE(1)}	V _{CE} =-2V, I _C =-5mA	63			
		h _{FE(2)}	V _{CE} =-2V, I _C =-150mA	63		250	
		h _{FE(3)}	V _{CE} =-2V, I _C =-0.5A	40			
Collector-Emitter Saturation Voltage		V _{CE(sat)}	I _C =-0.5A, I _B =-50mA			-0.5	V
Base-Emitter Voltage		V _{BE}	V _{CE} =-2V, I _C =0.5A			-1	V
Transition Frequency		f _T	V _{CE} =-5V, I _C =-10mA, f=100MHz		50		MHz

CLASSIFICATION OF H_{FE(2)}

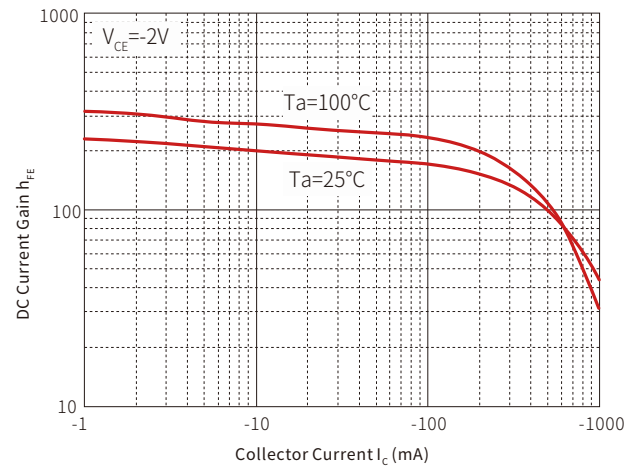
Rank	BCX51	BCX51-10	BCX51-16	BCX52	BCX52-10	BCX52-16	BCX53	BCX53-10	BCX53-16
Range	63-250	63-160	100-250	63-250	63-160	100-250	63-250	63-160	100-250
Marking	AA	AC	AD	AE	AG	AM	AH	AK	AL

TYPICAL CHARACTERISTICS

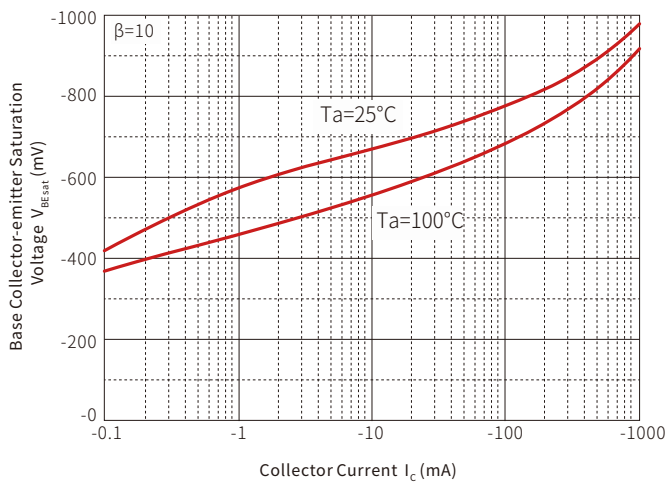
Static Characteristic



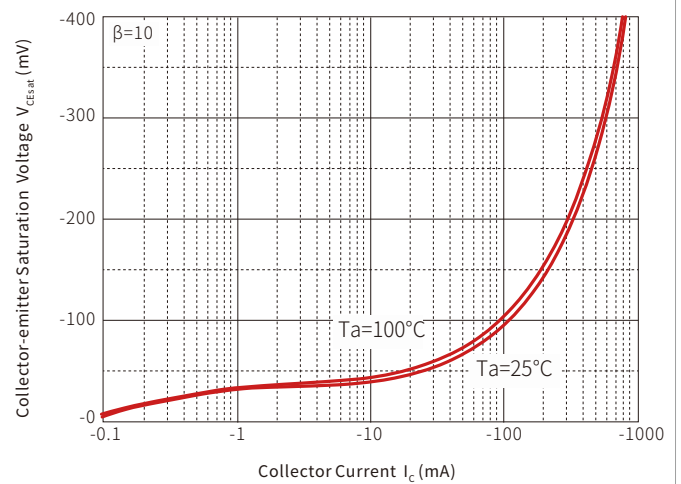
h_{FE} — I_C

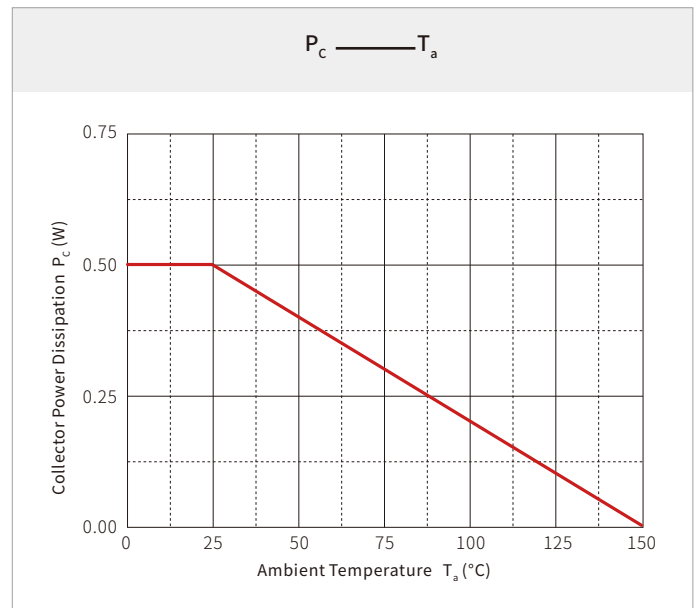
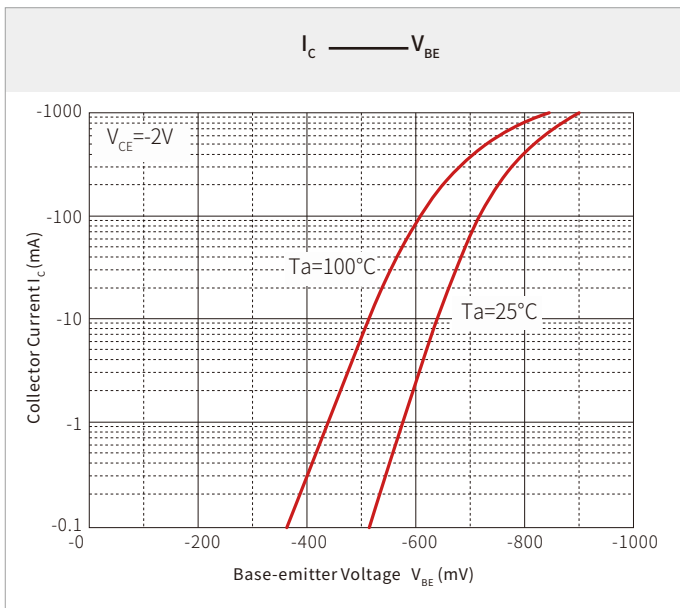
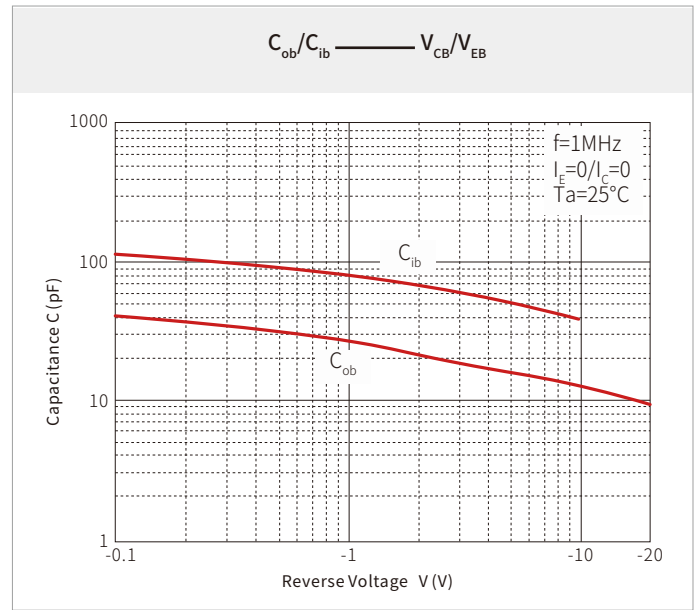
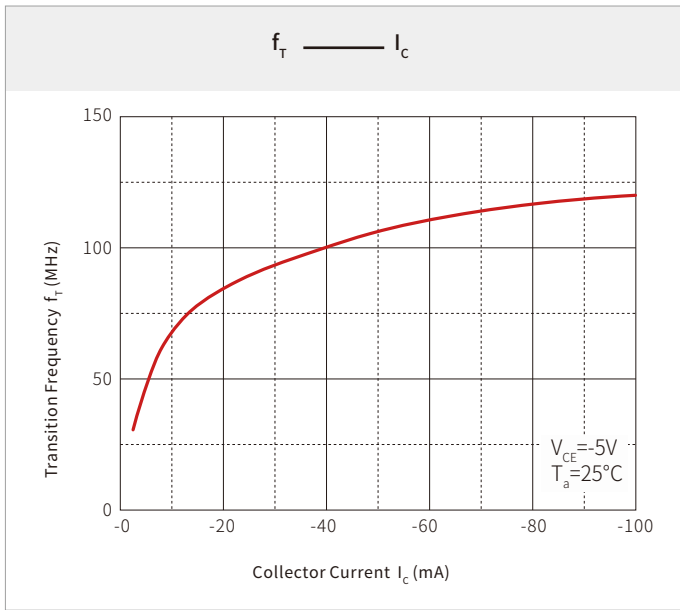


$V_{BE sat}$ — I_C



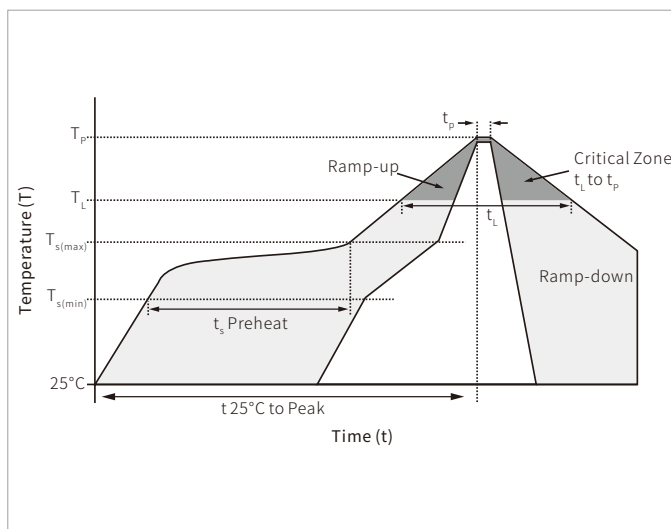
$V_{CE sat}$ — I_C



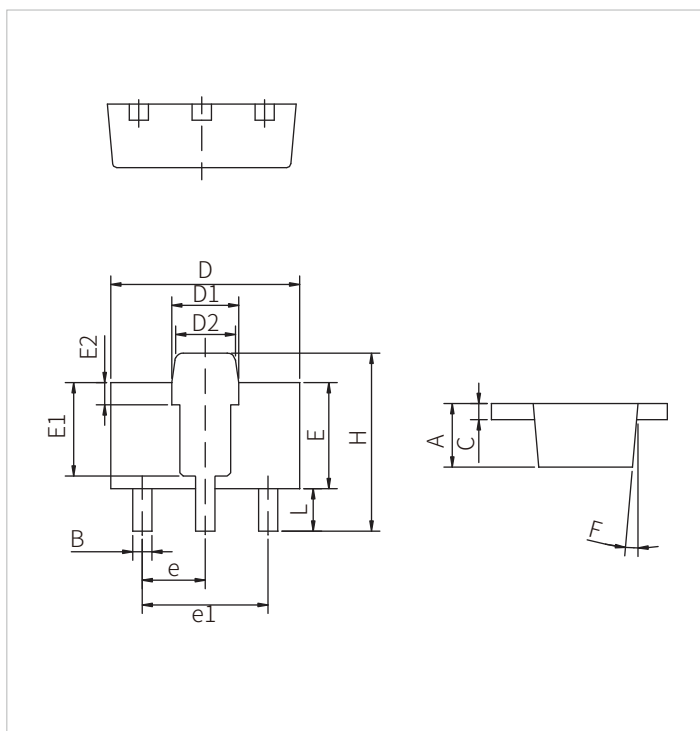


SOLDERING PARAMETERS

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-89 PACKAGE DIMENSIONS



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.40		1.60	0.055		0.063
B	0.40		0.52	0.016		0.020
C	0.35		0.41	0.014		0.016
D	4.40		4.60	0.173		0.181
D1	1.50		1.70	0.059		0.067
D2	1.30		1.50	0.051		0.059
E	2.40		2.60	0.094		0.102
E1		2.20			0.087	
E2		0.52			0.020	
e		1.50			0.059	
e1		3.00			0.118	
F		5.00			5.000	
H	4.05		4.25	0.159		0.167
L	0.89		1.20	0.035		0.047

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Box	Carton	Reel Size
BCX51-BCX53	SOT-89	1000PCS	8000PCS	32000PCS	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

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