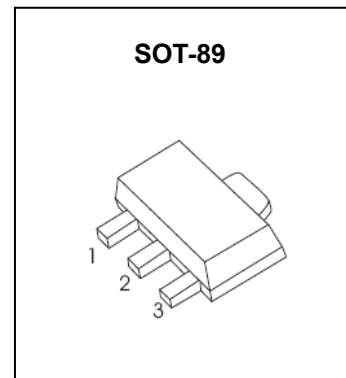


FEATURES

- NPN Complements to BCX54-Q1,BCX55-Q1,BCX56-Q1
- Low Voltage
- High Current
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

APPLICATIONS

- Medium Power General Purposes
- Driver Stages of Audio Amplifiers



MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	BCX51-Q1	-45
		BCX52-Q1	-60
		BCX53-Q1	-100
V _{CEO}	Collector-Emitter Voltage	BCX51-Q1	-45
		BCX52-Q1	-60
		BCX53-Q1	-80
V _{EBO}	Emitter-Base Voltage	-5	V
I _C	Collector Current	-1	A
P _C	Collector Power Dissipation	500	mW
R _{θJA}	Thermal Resistance From Junction To Ambient	250	°C/W
T _J , T _{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

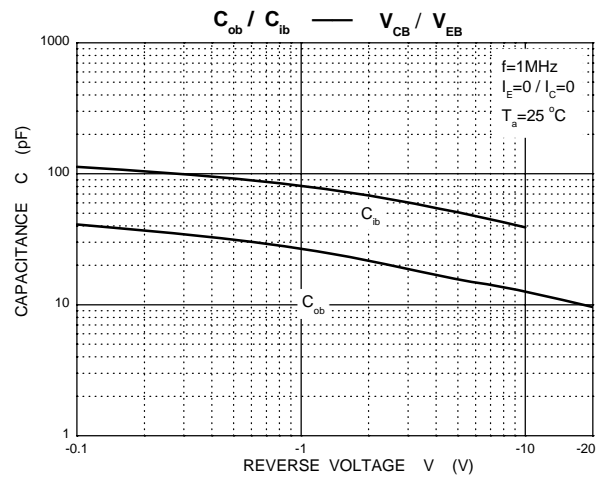
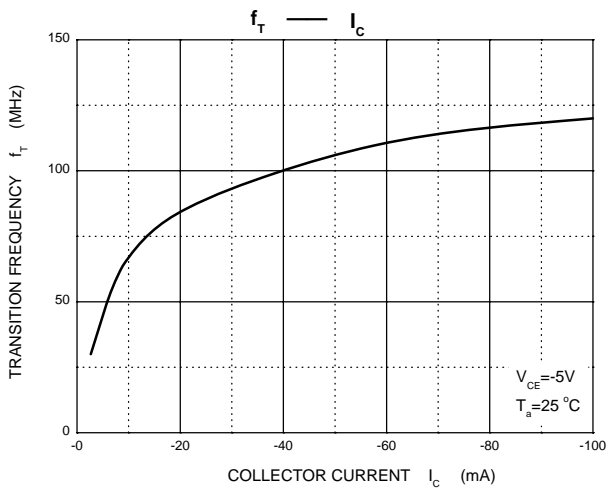
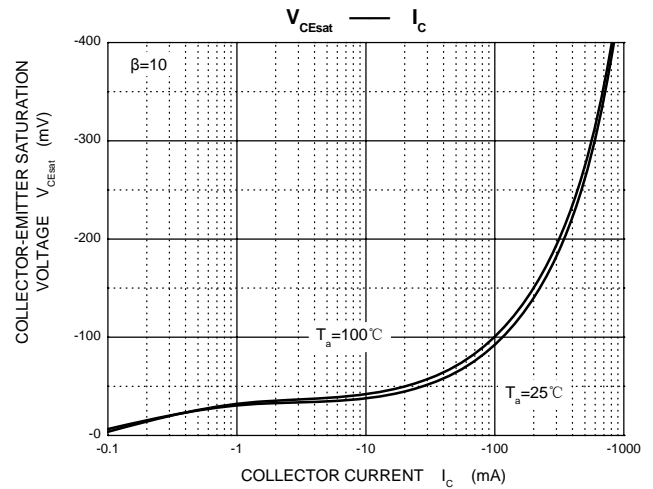
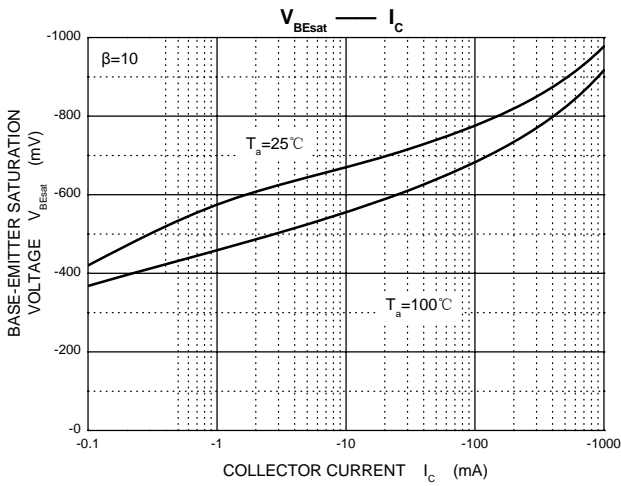
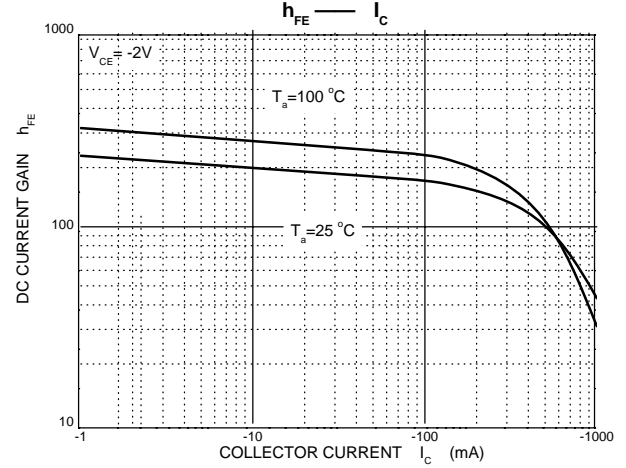
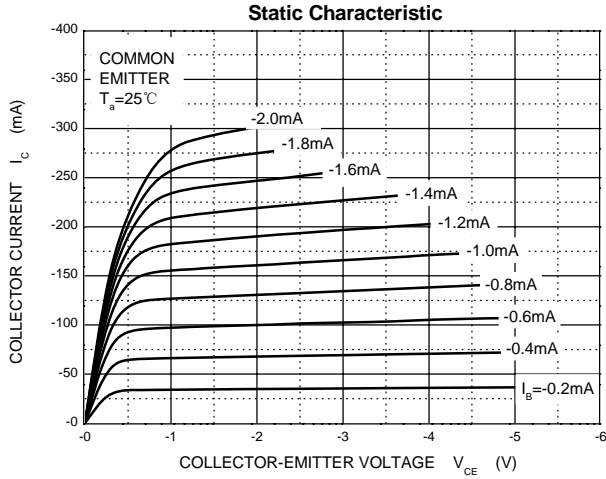
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =-100μA, I _E =0	BCX51-Q1	-45		V
			BCX52-Q1	-60		
			BCX53-Q1	-100		
Collector-emitter breakdown voltage	V _{(BR)CEO*}	I _C =-10mA, I _B =0	BCX51-Q1	-45		V
			BCX52-Q1	-60		
			BCX53-Q1	-80		
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =-100μA, I _C =0	-5		V	
Collector 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

* Pulse Test

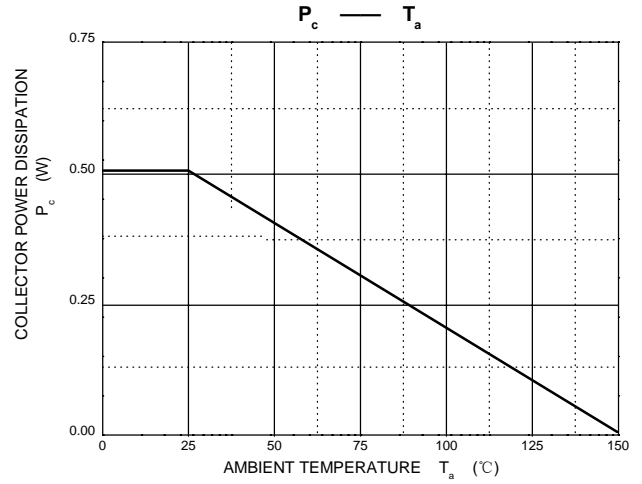
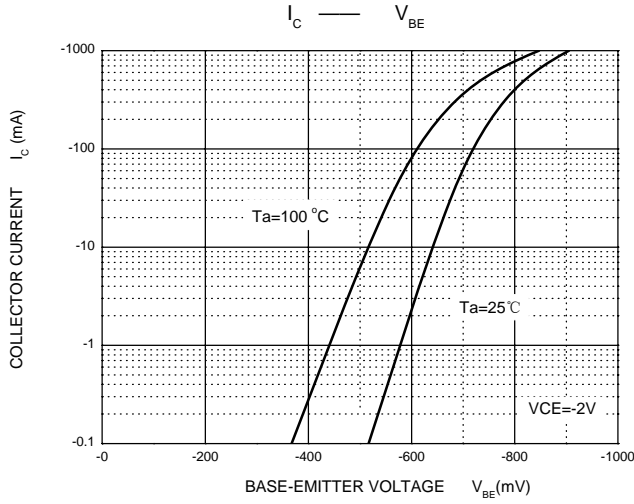
CLASSIFICATION OF h_{FE(2)}

Rank	BCX51-10-Q1,BCX52-10-Q1,BCX53-10-Q1	BCX51-16-Q1,BCX52-16-Q1,BCX53-16-Q1
Range	63-160	100-250

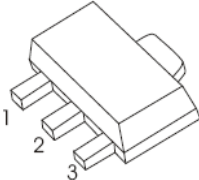
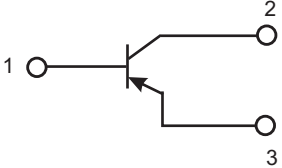
Typical Characteristics



Typical Characteristics



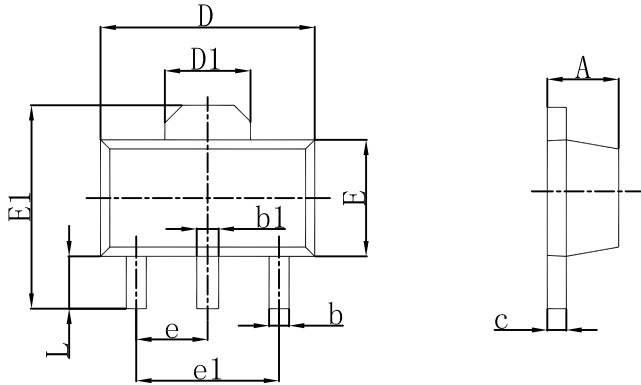
Pinning information

Pin	Simplified outline	Symbol
Pin1 Base Pin2 Collector Pin3 Emitter		

Marking

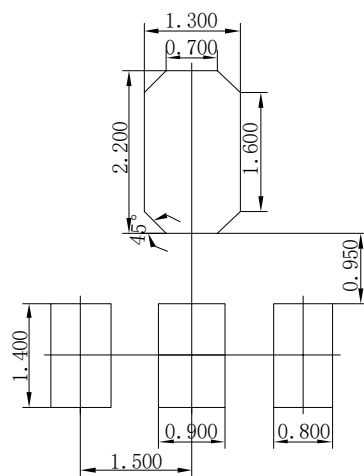
Type number	Marking code
BCX51-Q1	AA
BCX51-10-Q1	AC
BCX51-16-Q1	AD
BCX52-Q1	AE
BCX52-10-Q1	AG
BCX52-16-Q1	AM
BCX53-Q1	AH
BCX53-10-Q1	AK
BCX53-16-Q1	AL

Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF.		0.061 REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP.		0.060 TYP.	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047

Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.