

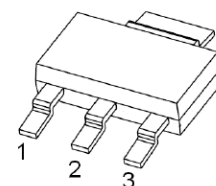


TRANSISTOR (PNP)

## FEATURES

- For AF driver and output stages
- High collector current
- Low collector-emitter saturation voltage
- Complementary types: BCP54...BCP56 (NPN)

SOT-223



1. BASE
2. COLLECTOR
3. EMITTER

## MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)

Symbol	Parameter	BCP51	BCP52	BCP53	Unit
V <sub>CBO</sub>	Collector-Base Voltage	-45	-60	-100	V
V <sub>CEO</sub>	Collector-Emitter Voltage	-45	-60	-80	V
V <sub>EBO</sub>	Emitter-Base Voltage	-5			V
I <sub>C</sub>	Collector Current -Continuous	-1			A
P <sub>C</sub>	Collector Power Dissipation	1.5			W
R <sub>θJA</sub>	Thermal Resistance Junction to Ambient	94			°C/W
T <sub>stg</sub>	Storage Temperature Range	-65~+150			°C

## ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)

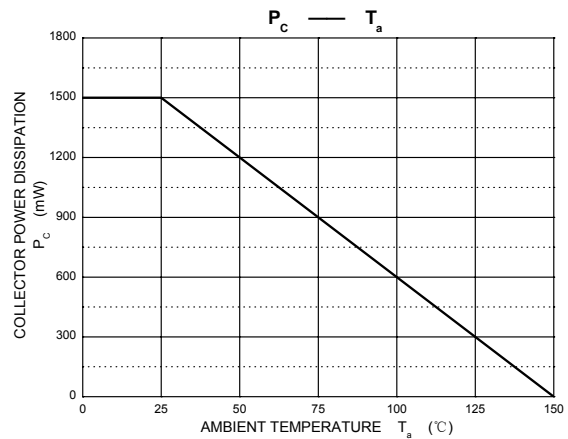
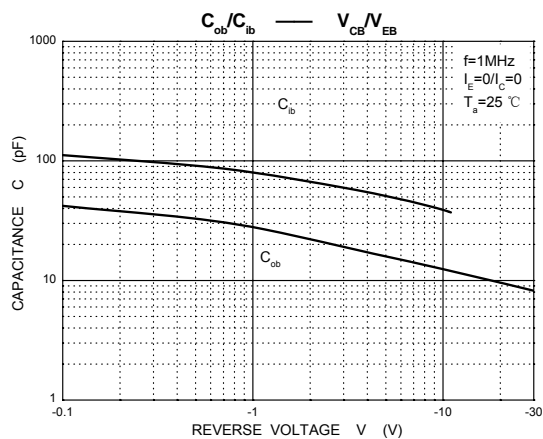
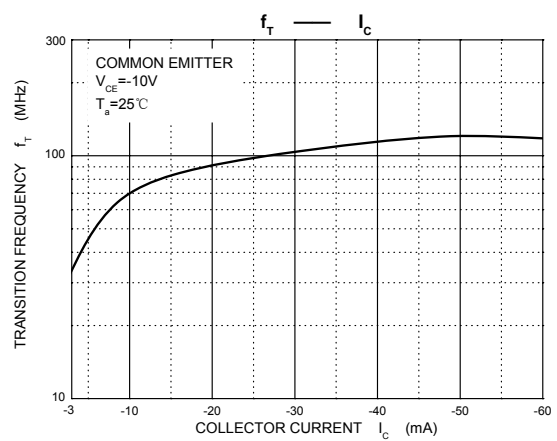
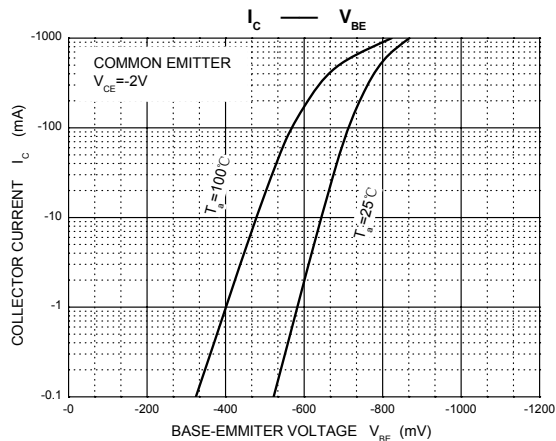
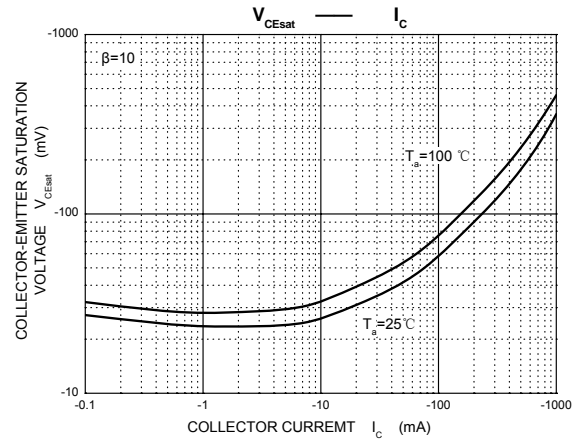
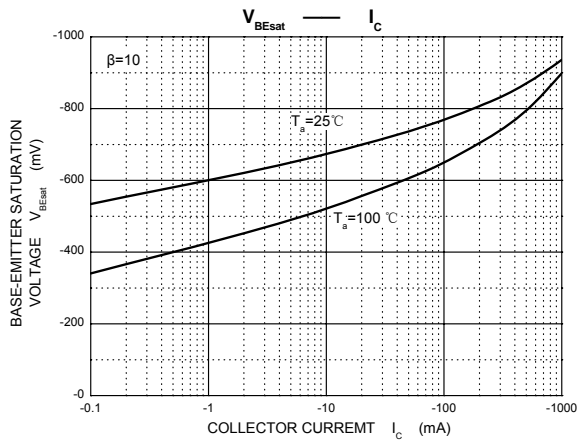
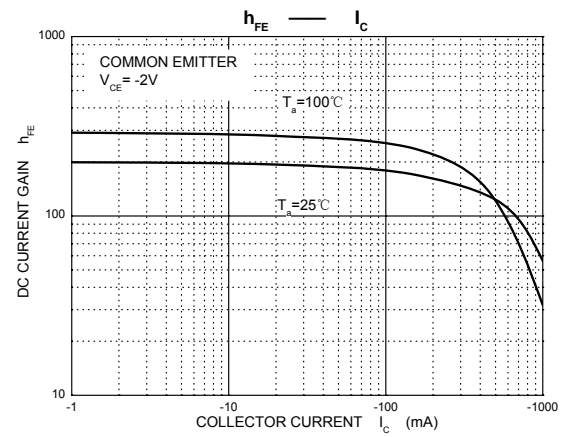
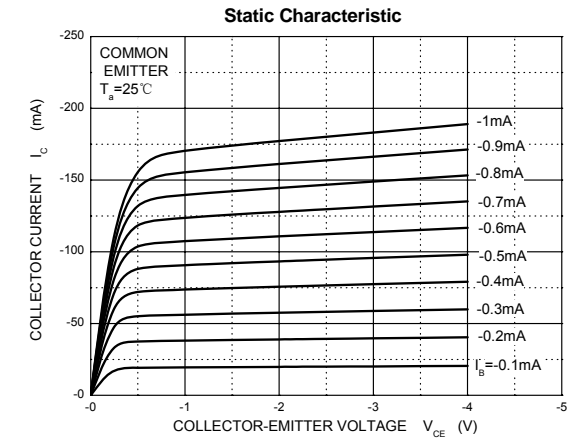
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	BCP51 BCP52 BCP53 V <sub>(BR)CBO</sub>	I <sub>C</sub> =- 0.1mA, I <sub>E</sub> =0	-45 -60 -100		V
Collector-emitter breakdown voltage	BCP51 BCP52 BCP53 V <sub>(BR)CEO</sub>	I <sub>C</sub> = -10mA, I <sub>B</sub> =0	-45 -60 -80		V
Base-emitter breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = -10μA, I <sub>C</sub> =0	-5		V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> = -30 V, I <sub>E</sub> =0		-100	nA
DC current gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-5mA	25		
	h <sub>FE(2)</sub>	V <sub>CE</sub> = -2V, I <sub>C</sub> =-150m A	63	250	
	h <sub>FE(3)</sub>	V <sub>CE</sub> = -2V, I <sub>C</sub> =-500m A	25		
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-500mA, I <sub>B</sub> =-50mA		-0.5	V
Base-emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-500m A		-1	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =-10V, I <sub>C</sub> =-50mA, f=100MHz	100		MHz

## CLASSIFICATION OF h<sub>FE(2)</sub>

Rank	BCP51-10, BCP52-10, BCP53-10	BCP51-16, BCP52-16, BCP53-16
Range	63-160	100-250

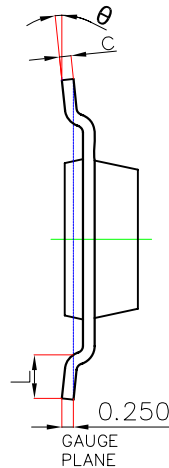
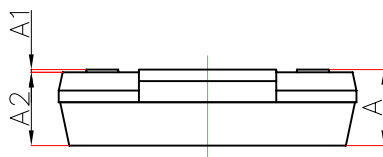
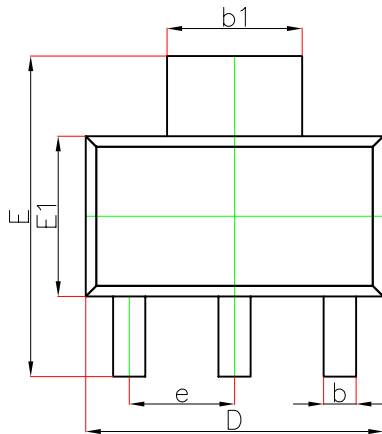


## Typical Characteristics



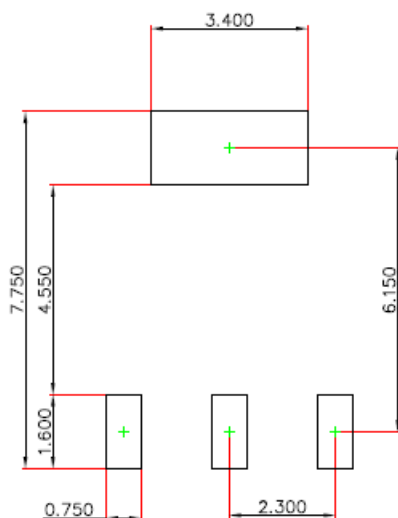


## SOT-223 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	—	1.800	—	0.071
A1	0.020	0.100	0.001	0.004
A2	1.500	1.700	0.059	0.067
b	0.660	0.840	0.026	0.033
b1	2.900	3.100	0.114	0.122
c	0.230	0.350	0.009	0.014
D	6.300	6.700	0.248	0.264
E	6.700	7.300	0.264	0.287
E1	3.300	3.700	0.130	0.146
e	2.300(BSC)		0.091(BSC)	
L	0.750	—	0.030	—
θ	0°	10°	0°	10°

## SOT-223 Suggested Pad Layout



### Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.050$  mm.
3. The pad layout is for reference purposes only.