

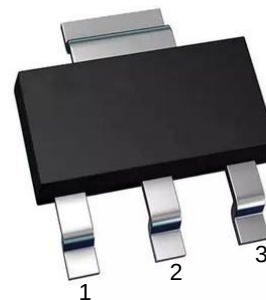
SOT-223 Plastic-Encapsulate Transistors

BCP53

TRANSISTOR (PNP)

• Features

- For AF driver and output stages
- High collector current
- Low collector-emitter saturation voltage
- Complementary types: BCP56



1. BASE
2.COLLECTOR
3.EMITTER

SOT-223

• MAXIMUM RATINGS

($T_C=25^{\circ}\text{C}$)

Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V_{CBO}	-100	V
Collector-Emitter Voltage	V_{CEO}	-80	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-1	A
Peak Pulse Collector Current	I_{CM}	-2	A
Collector Power Dissipation	P_C	1.5	W
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	94	$^{\circ}\text{C/W}$
Operation Junction and Storage Temperature Range	T_J, T_{stg}	-55~+150	$^{\circ}\text{C}$

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

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-0.1\text{mA}, I_E=0$	-100		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-10\text{mA}, I_B=0$	-80		V
Base-emitter breakdown voltage	$V_{(BR)EBO}$	$I_E=-10\mu\text{A}, I_C=0$	-5		V
Collector cut-off current	I_{CBO}	$V_{CB}=-30\text{V}, I_E=0$		-100	nA
DC current gain	$h_{FE(1)}$	$V_{CE}=-2\text{V}, I_C=-5\text{mA}$	25		
	$h_{FE(2)}$	$V_{CE}=-2\text{V}, I_C=-150\text{mA}$	63	250	
	$h_{FE(3)}$	$V_{CE}=-2\text{V}, I_C=-500\text{mA}$	25		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-500\text{mA}, I_B=-50\text{mA}$		-0.5	V
Base-emitter voltage	V_{BE}	$V_{CE}=-2\text{V}, I_C=-500\text{mA}$		-1	V
Transition frequency	f_T	$V_{CE}=-10\text{V}, I_C=-50\text{mA}, f=100\text{MHz}$	100		MHz

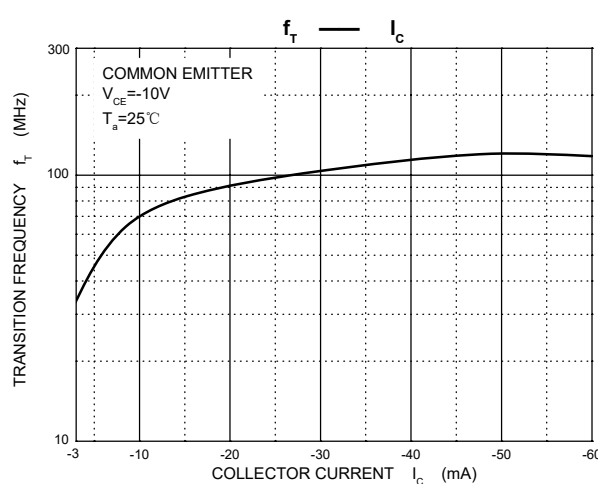
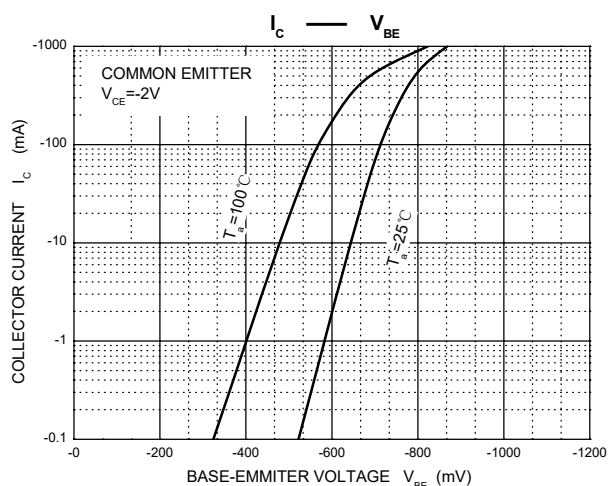
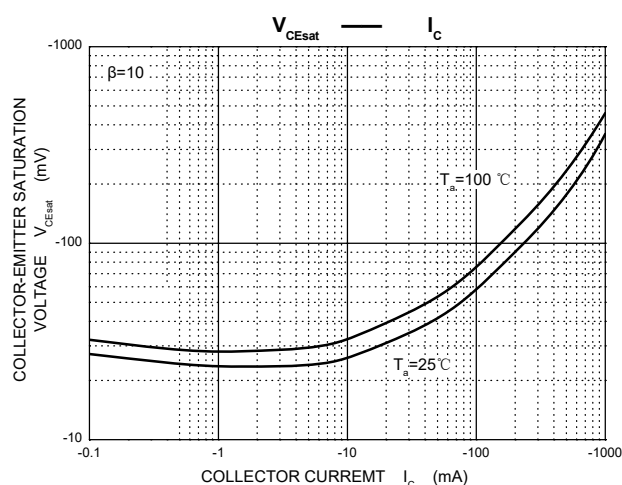
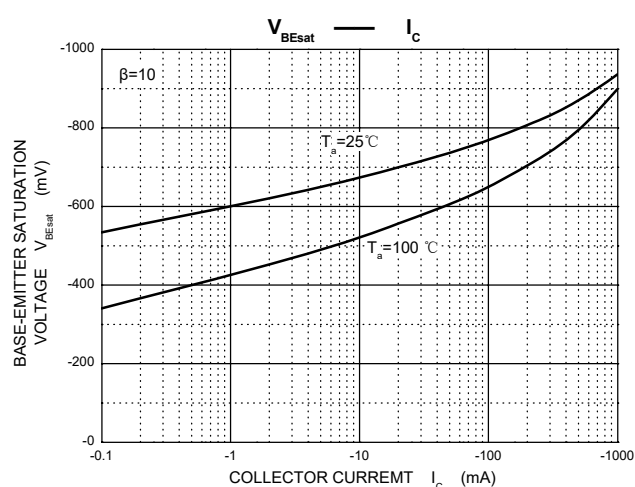
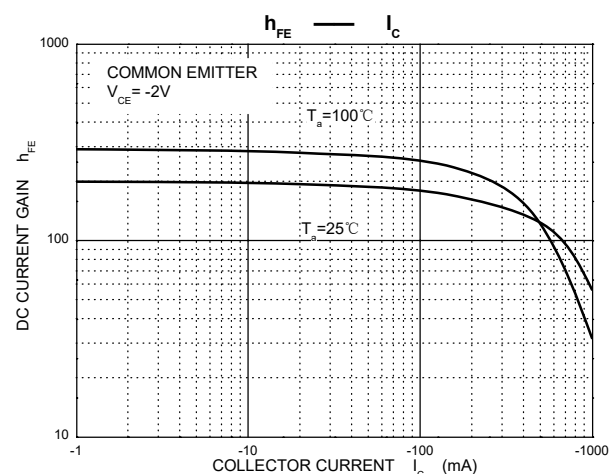
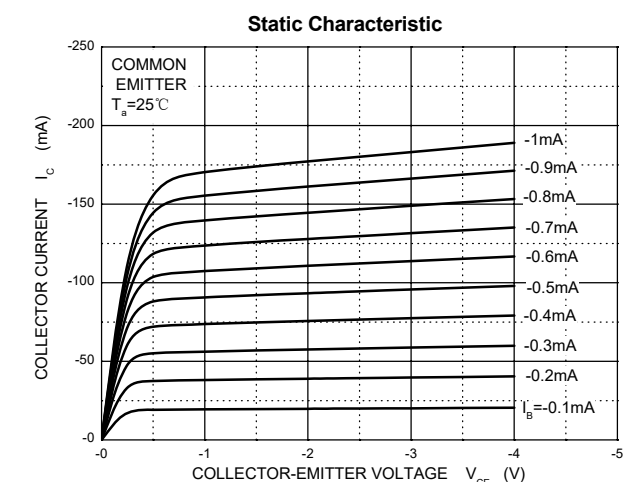
• CLASSIFICATION OF $h_{FE(1)}$

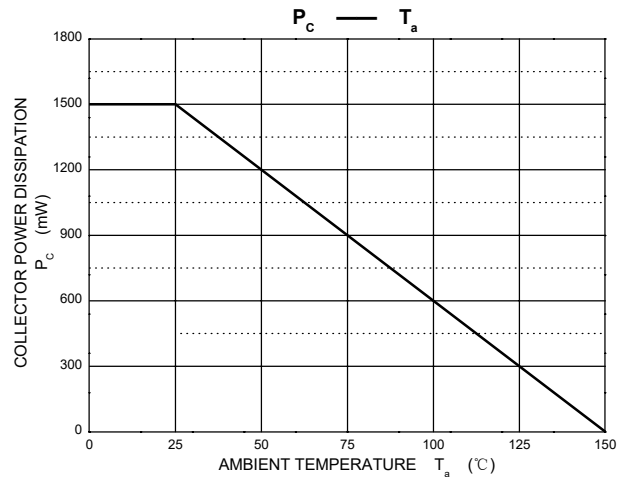
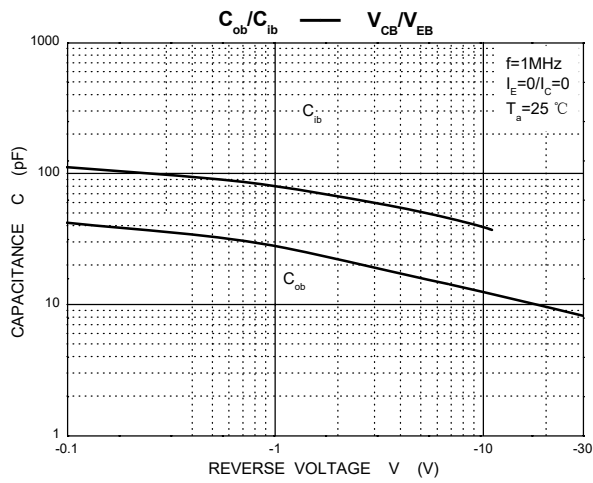
Rank	BCP53	BCP53-10	BCP53-16
Range	63-250	63-160	100-250

• Ordering Information:

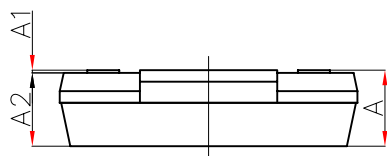
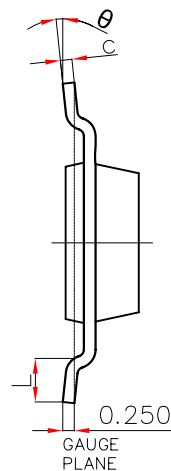
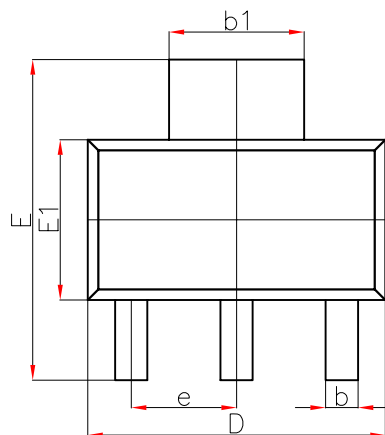
Part NO.	BCP53
Marking	BCP53/BCP53-10/BCP53-16
Packing Information	REEL TAPE
Basic ordering unit (pcs)	1000

• Typical Characteristics

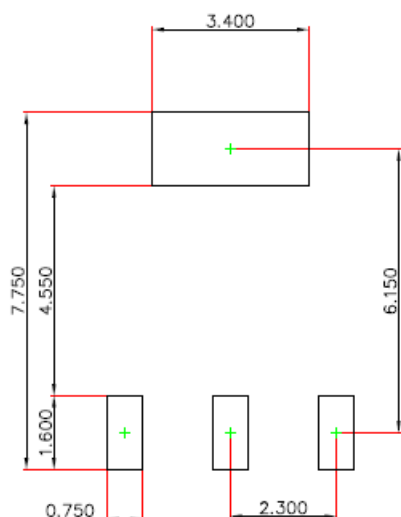




SOT-223 Package Outline Dimensions



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°



Note:

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