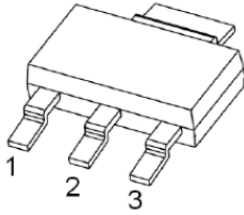


SOT-223



1. BASE
2. COLLECTOR
3. EMITTER

Features

- For AF driver and output stages
- High collector current
- Low collector-emitter saturation voltage

Mechanical Data

- SOT-223 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Epoxy UL: 94V-0
- Mounting Position: Any

Maximum Ratings & Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

Parameters	Symbol	BCP53-16,115-CN	Unit
Collector-Base Voltage	VCBO	-100	V
Collector-Emitter Voltage	VCEO	-80	V
Emitter-Base Voltage	VEBO	-5	V
Collector Current -Continuous	IC	-1	A
Collector Power Dissipation	PC	1.5	W
Thermal Resistance Junction to Ambient	RθJA	94	°C/W
Storage Temperature Range	Tstg	-65~+150	°C

RECOMMENDED OPERATING CONDITIONS

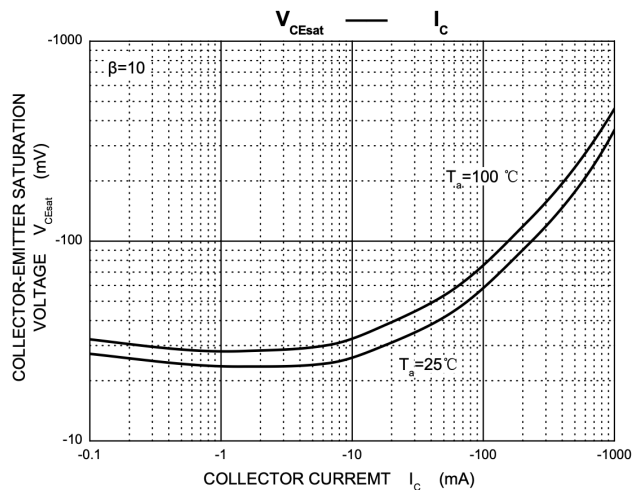
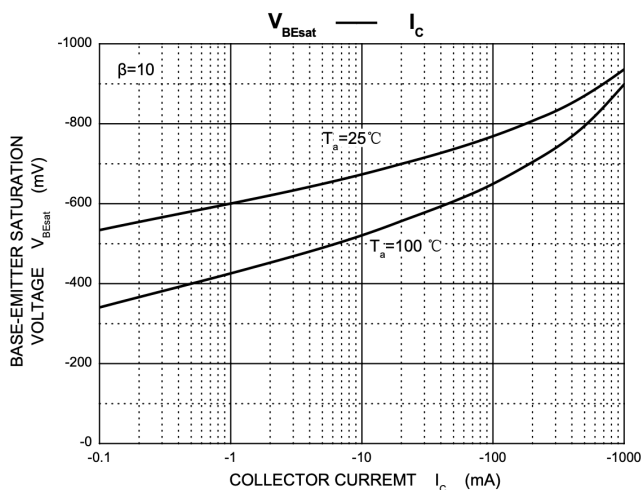
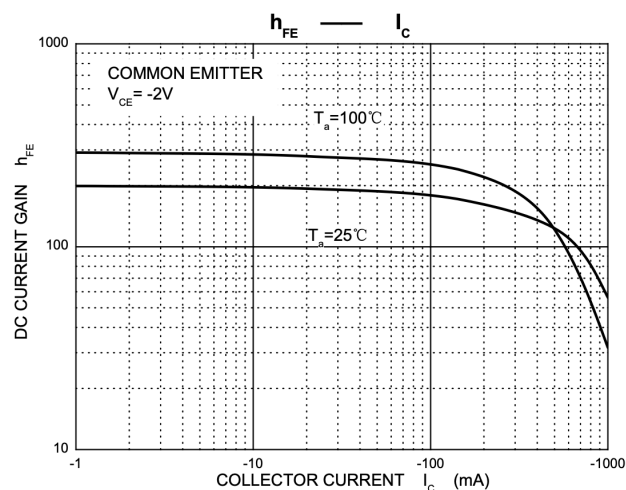
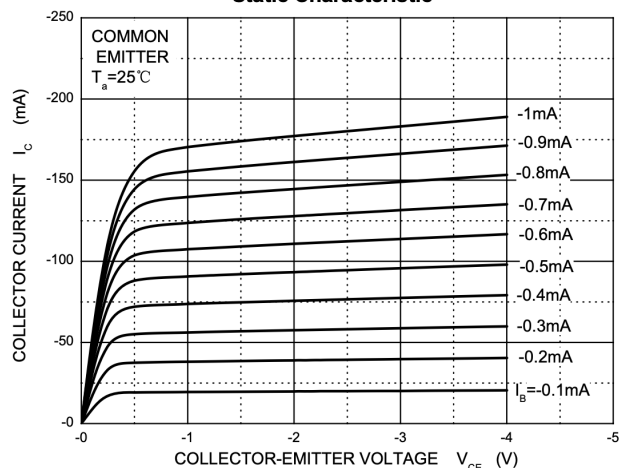
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -0.1mA, I_E = 0$	-100		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -10mA, I_B = 0$	-80		V
Base-emitter breakdown voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0$	-5		V
Collector cut-off current	I_{CBO}	$V_{CB} = -30V, I_E = 0$		-100	nA
DC current gain	$h_{FE(1)}$	$V_{CE} = -2V, I_C = -5mA$	25		
	$h_{FE(2)}$	$V_{CE} = -2V, I_C = -150mA$	63	580	
	$h_{FE(3)}$	$V_{CE} = -2V, I_C = -500mA$	25		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500mA, I_B = -50mA$		-0.5	V
Base-emitter voltage	V_{BE}	$V_{CE} = -2V, I_C = -500mA$		-1	V
Transition frequency	f_T	$V_{CE} = -10V, I_C = -50mA, f = 100MHz$	100		MHz

CLASSIFICATION OF $h_{FE(2)}$

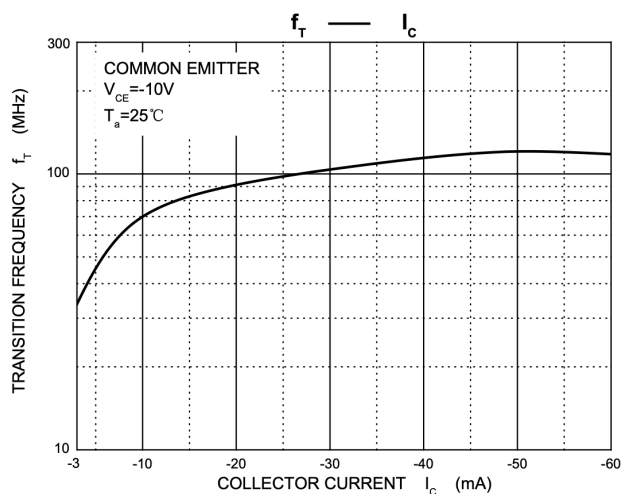
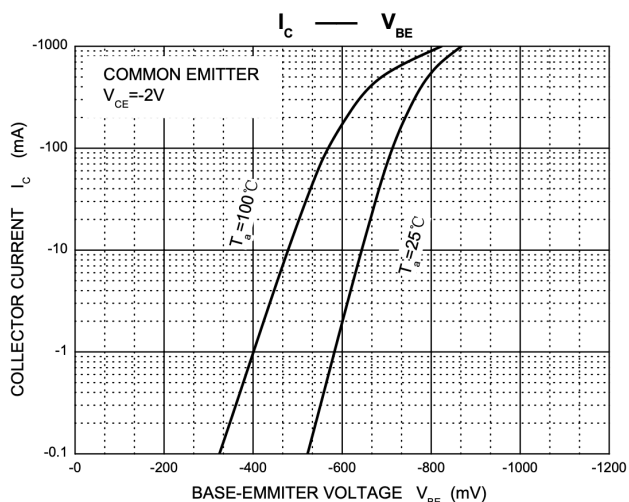
RANK	BCP53-16,115-CN
RANGE	100-250

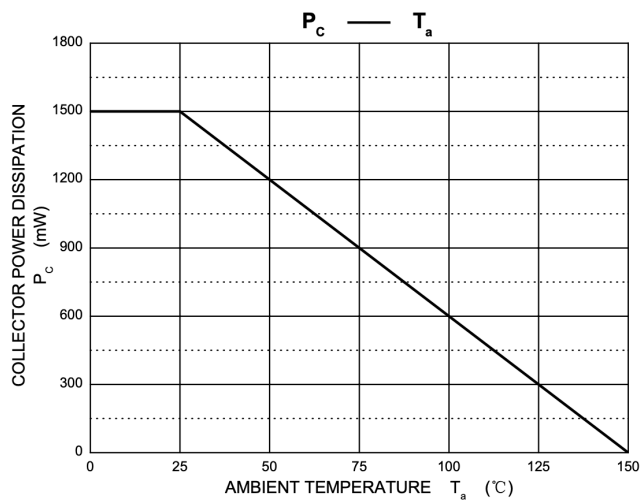
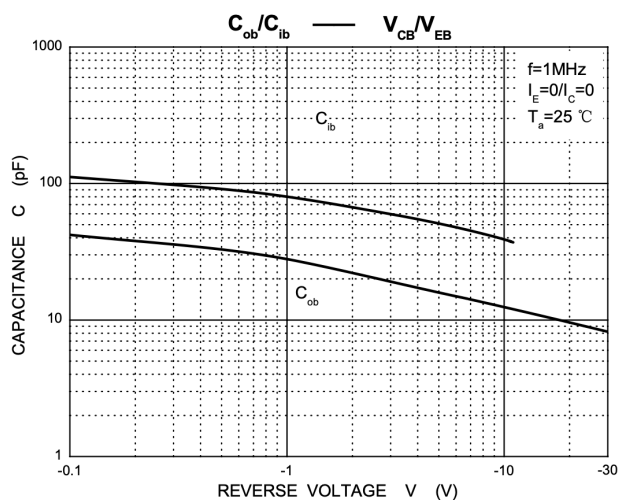
Typical Characteristics

Static Characteristic

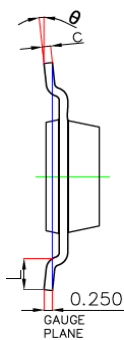
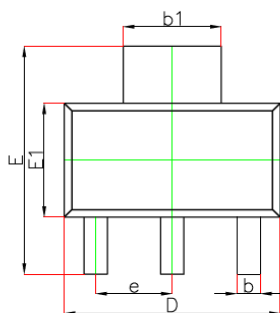


a



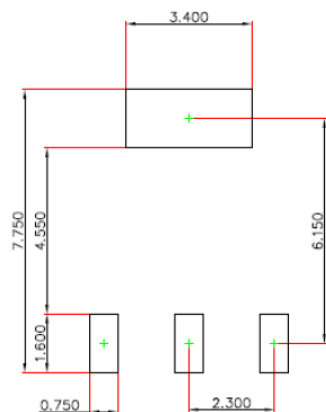


SOT-223 PACKAGE OUTLINE Plastic surface mounted package



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°

焊盘设计参考Precautions: PCB Design(Recommended land dimensions for SOT-223 transistor. Electrode patterns for PCBs)



Note:

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

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