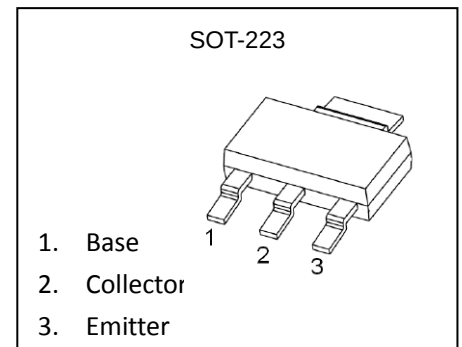


BCP54,55,56 Transistor(NPN)

Feature

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



MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	BCP54	BCP55	BCP56	Unit
Collector-Base Voltage	V_{CBO}	45	60	100	V
Collector-Emitter Voltage	V_{CEO}	45	60	80	V
Emitter-Base Voltage	V_{EBO}	5			V
Collector Current -Continuous	I_C	1			A
Power Dissipation	P_d	1.5			W
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	83.3			$^{\circ}\text{C}/\text{W}$
Storage Temperature	T_{STG}	$-65\sim+150$			$^{\circ}\text{C}$

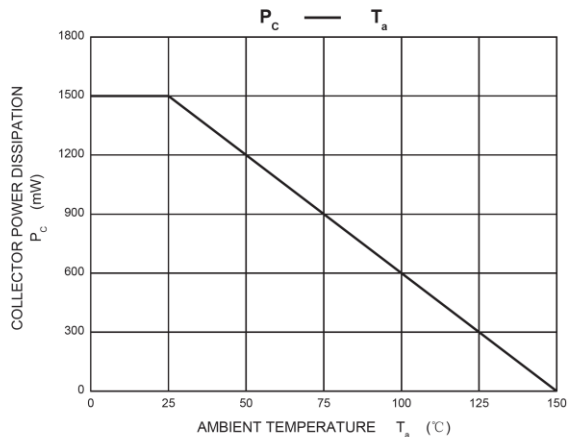
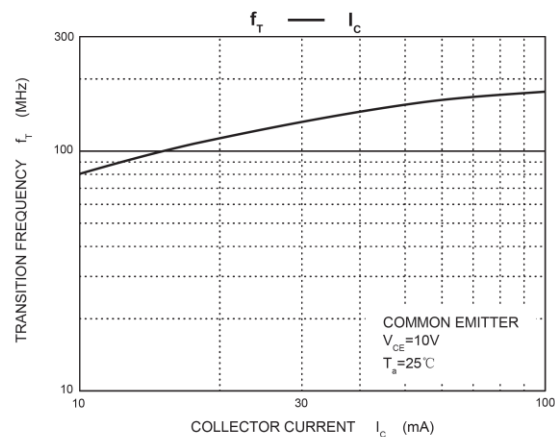
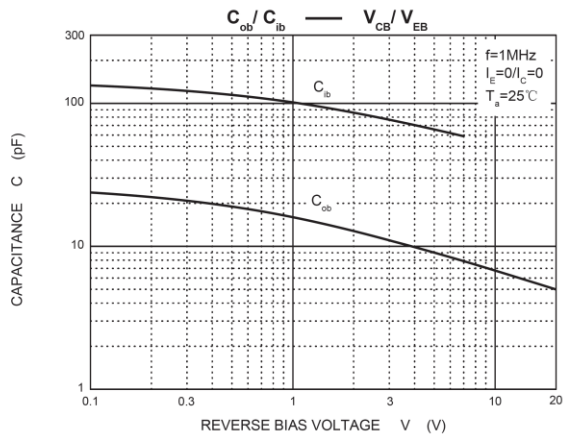
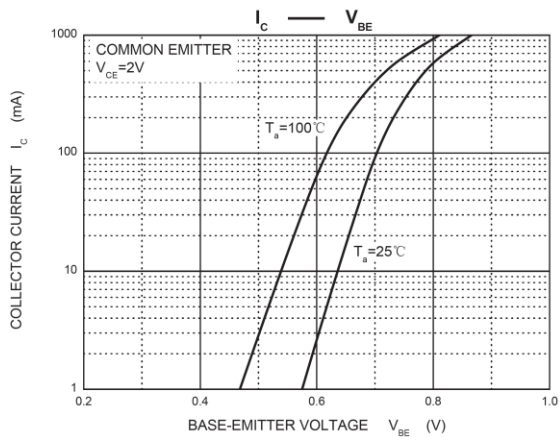
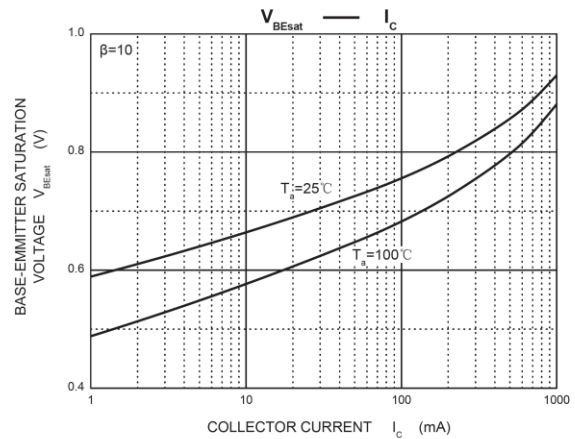
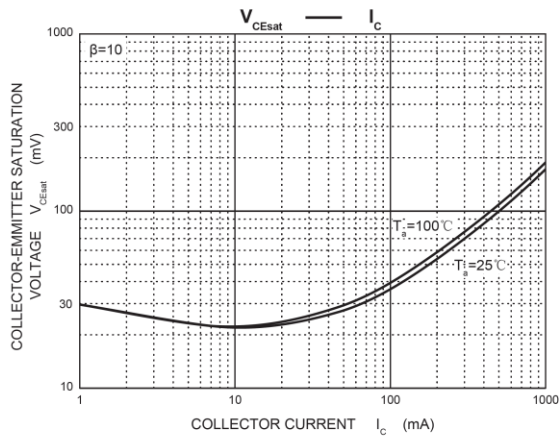
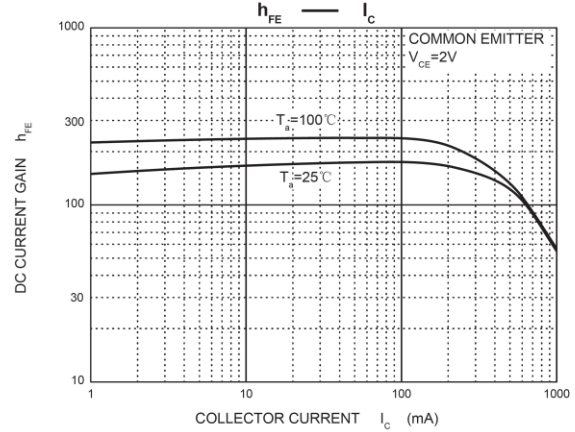
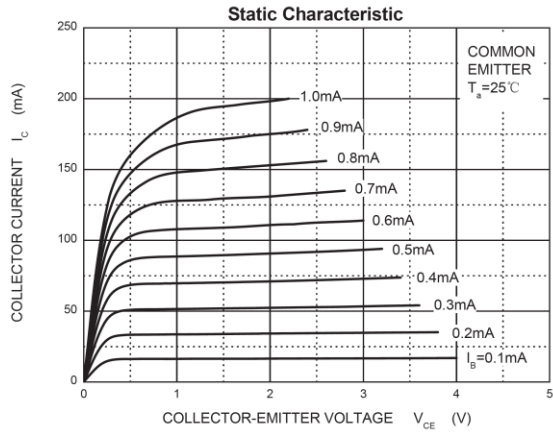
ELECTRICAL CHARACTERISTICS($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	BCP54	45	V
			BCP55	60	V
			BCP56	100	V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}, I_B=0$	BCP54	45	V
			BCP55	60	V
			BCP56	80	V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	5		V
Collector cut-off current	I_{CBO}	$V_{CB}=30\text{V}, I_E=0$		0.1	μA
DC current gain	h_{FE1}	$V_{CE}=2\text{V}, I_C=5\text{mA}$	25		
	h_{FE2}	$V_{CE}=2\text{V}, I_C=150\text{mA}$	63	250	
	h_{FE3}	$V_{CE}=2\text{V}, I_C=500\text{mA}$	25		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		0.5	V
Base-emitter saturation voltage	V_{BE}	$I_C=500\text{mA}, V_{CE}=2\text{V}$		1	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=50\text{mA}, f=100\text{MHz}$	100		MHZ

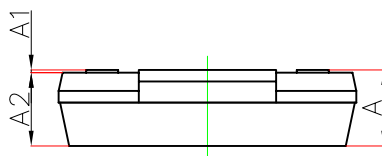
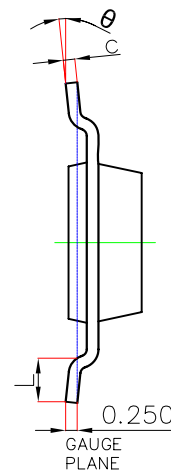
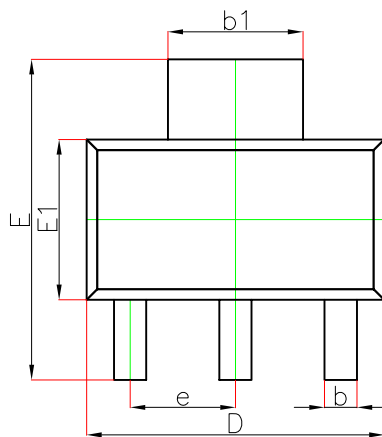
CLASSIFICATION OF $h_{FE(2)}$

Rank	BCP54-10,BCP55-10,BCP56-10	BCP54-16,BCP55-16,BCP56-16
Range	63~160	100~250
Marking	BCP54-10,BCP55-10,BCP56-10	BCP54-16,BCP55-16,BCP56-16

Typical Characteristics

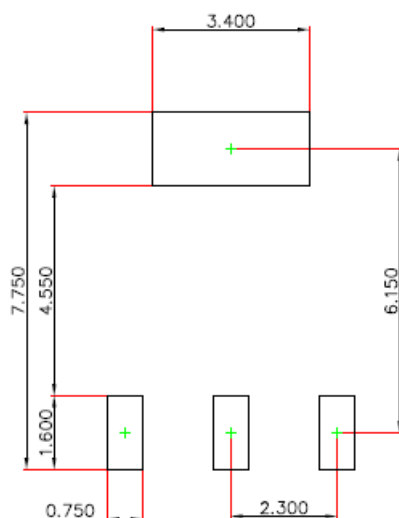


SOT-223 Package Information



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: $\pm 0.050\text{mm}$.
3. The pad layout is for reference purposes only.