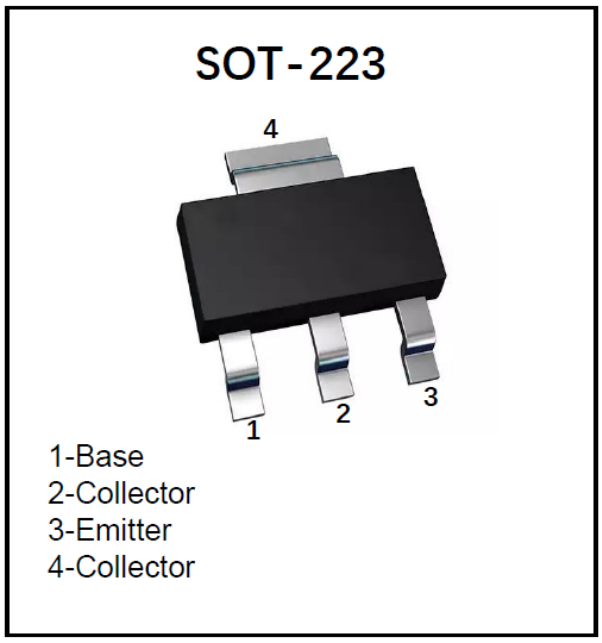
NPN General Purpose Amplifier



Features

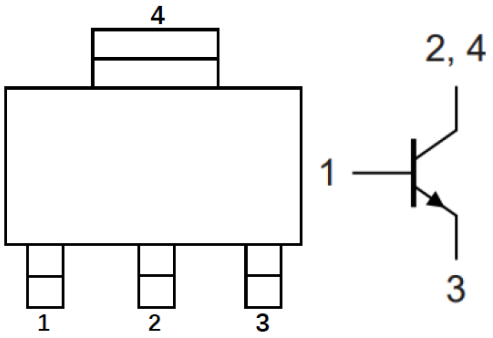
- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix ”HF”
- Moitsure Sensitivity Level 1
- Low collector-emitter saturation voltage

Mechanical Data

- **Package**: SOT-223
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking**:

Product	Marking
BCP55	BCP55-16
BCP55-16	BCP55-16

■Equivalent circuit



■Maximum Ratings (Ta=25℃ unless otherwise noted)

Item	Symbol	Unit	Conditions	Value
Minimum Collector-Emitter Voltage	V_{CEO}	V	I_C=10mA, I_B=0	60
Minimum Collector-Base Voltage	V_{CBO}	V	I_C=100uA, I_E=0	60
Minimum Emitter-Base Voltage	V_{EBO}	V	I_E=100uA, I_C=0	5
Collector Current	I_C	A		1
Power Dissipation（Note 1）	P_D	W		1
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	℃/W		125
Operation Junction Temperature	T_j	℃		-55 to +150
Storage Temperature	T_{stg}	℃		-55 to +150

Note 1： Device mounted on an FR4 PCB, mounting pad for collector 1 cm^2

■Electrical Characteristics (Ta=25℃ unless otherwise noted)

Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-Emitter Voltage	V_{CEO}	V	I_C=10mA, I_B=0	60	-	-
Collector-Base Voltage	V_{CBO}	V	I_C=100uA, I_E=0	60	-	-
Emitter-Base Voltage	V_{EBO}	V	I_E=100uA, I_C=0	5	-	-
Collector-Base cut-off current	I_{CBO}	nA	V_{CB}=30V	-	-	100
DC Current Gain	$h_{FE(1)}$		V_{CE}=2V I_C=5mA	25	-	-
	$h_{FE(2)}$		V_{CE}=2V I_C=150mA	63	-	250
	$h_{FE(3)}$		V_{CE}=2V I_C=500mA	25	-	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	I_C=500mA I_B=50mA	-	-	0.5
Base-Emitter Voltage	V_{BE}	V	V_{CE}=2V I_C=500mA	-	-	1
Transition Frequency	f_T	MHz	I_C=10mA, V_{CE}=6V,f=30MHz	80	-	-

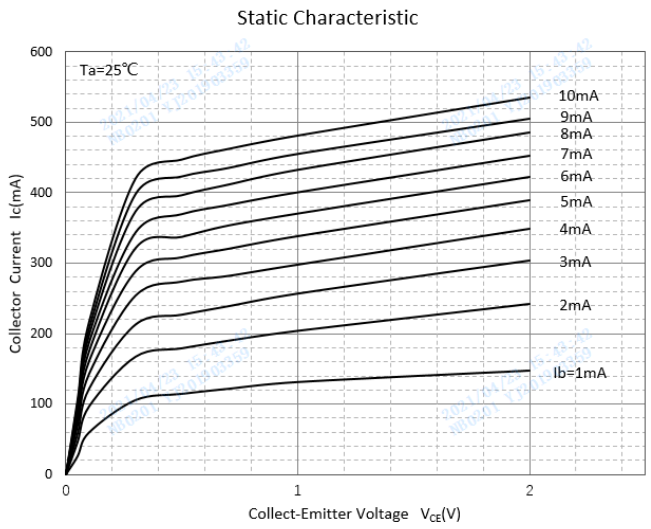
■CLASSIFICATION OF HFE

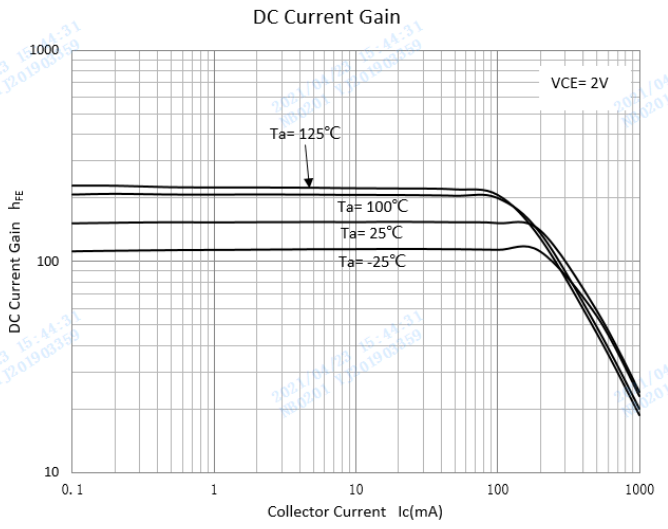
Rank	BCP55	BCP55-16
Range	63-250	100-250

■Ordering Information (Example)

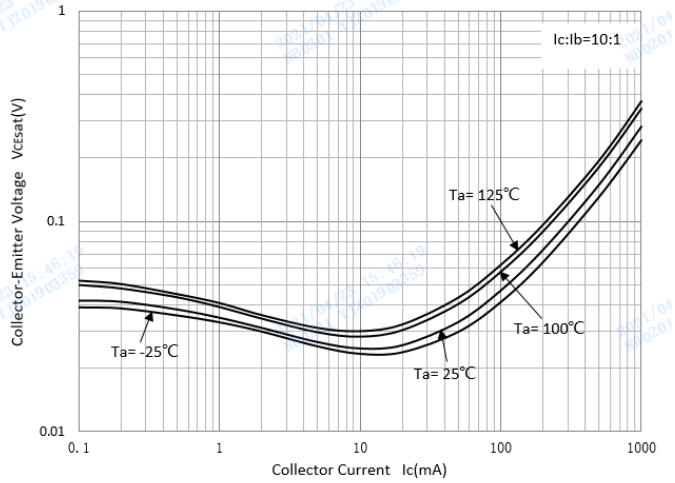
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BCP55	F2	Approximate 0.11	2500	5000	25000	13” reel

■Characteristics (Typical)

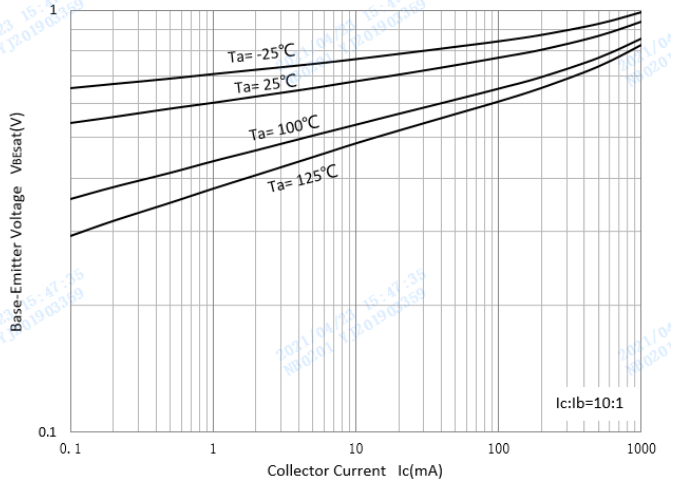




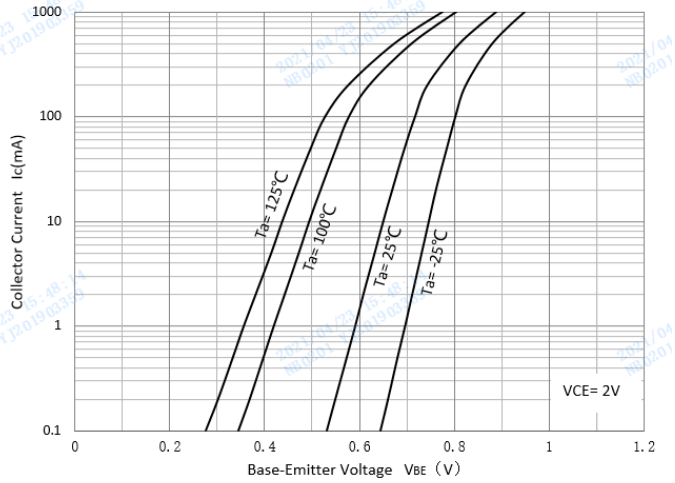
Collector-Emitter Saturation Voltage



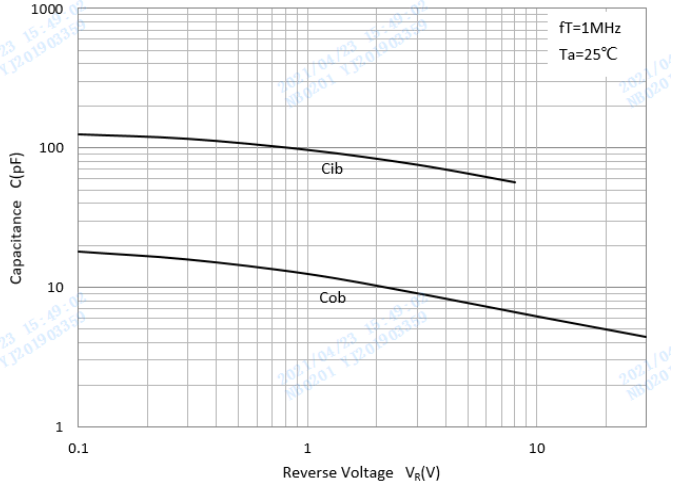
Base-Emitter Saturation Voltage



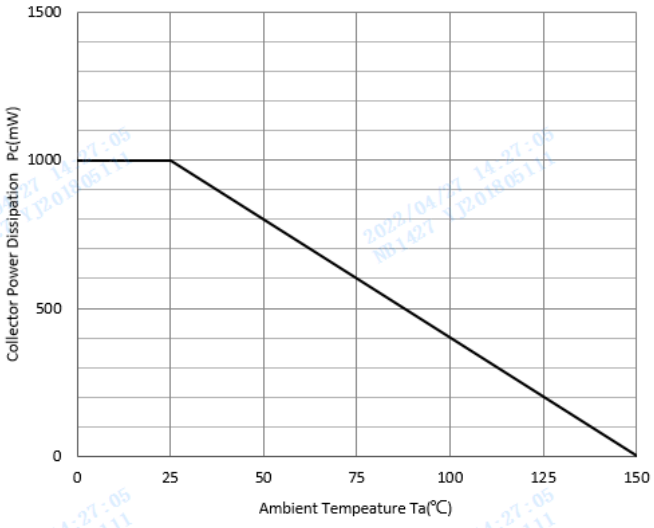
Base-Emitter On Voltage



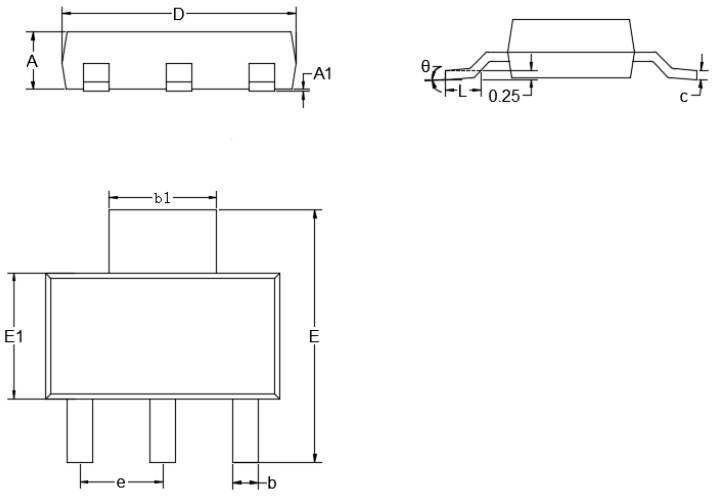
Cob/Cib-V_{CB}/V_{EB}



Collector Power Derating Curve

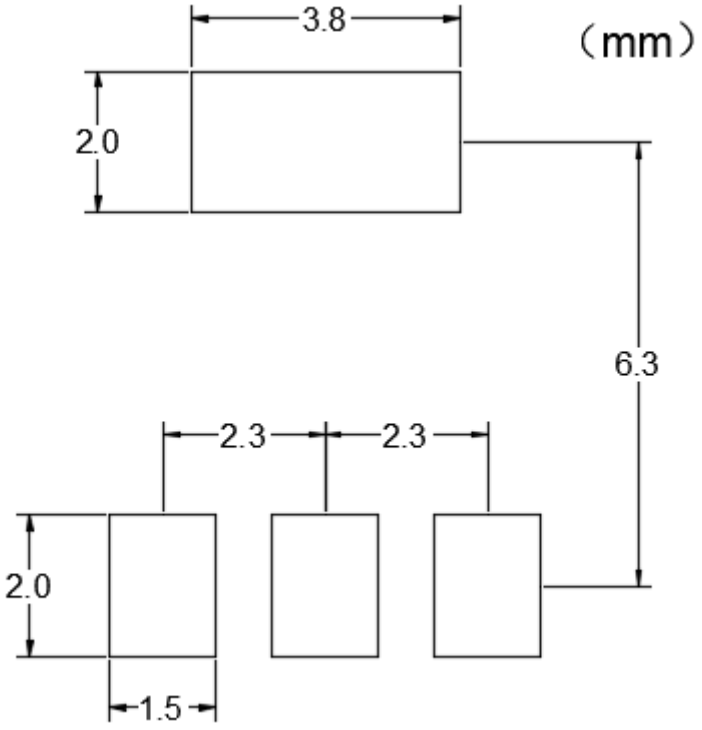


■SOT-223 Package Outline Dimensions



DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MN	MAX
A	0.0591	0.0670	1.5000	1.7000
A1	0.0008	0.0039	0.0200	0.1000
b	0.0259	0.0330	0.6600	0.8400
b1	0.1140	0.1220	2.9000	3.1000
c	0.0090	0.0138	0.2300	0.3500
D	0.2480	0.2640	6.3000	6.7000
E	0.2637	0.2874	6.7000	7.3000
E1	0.1290	0.1460	3.3000	3.7000
e	0.0866	0.0945	2.2000	2.4000
L	0.0295	0.0492	0.7500	1.2500
θ	0°	10°	0°	10°

■SOT-223 Suggested Pad Layout



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