



**BCP54-10/16HE3**  
**BCP55-10/16HE3**  
**BCP56-10/16HE3**

**NPN**  
**Plastic-Encapsulate**  
**Transistors**

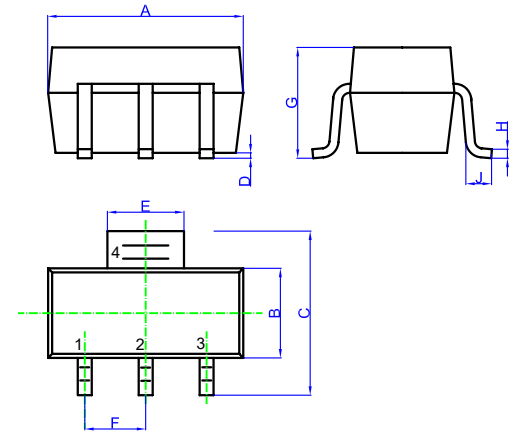
**Features**

- For AF driver and output stages
- High collector current
- Low collector-emitter saturation voltage
- Complementary types: BCP51 ... BCP53 (PNP)
- Lead Free Finish/Rohs Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- AEC-Q101 Qualified
- Halogen free available upon request by adding suffix "-HF"

**Maximum Ratings @ 25°C Unless Otherwise Specified**

Charateristic	Symbol	Value	Unit
Collector-Base Voltage	$V_{CB0}$	45	V
BCP54-10/16HE3		60	
BCP55-10/16HE3 BCP56-10/16HE3		100	
Collector-Emitter Voltage	$V_{CEO}$	45	V
BCP54-10/16HE3		60	
BCP55-10/16HE3 BCP56-10/16HE3		80	
Emitter-Base Voltage	$V_{EBO}$	5.0	V
Collector Current-Continuous	$I_C$	1.0	A
Thermal Resistance Junction to Ambient	$R_{thJA}$	83.3	°C/W
Collector Power Dissipation	$P_C$	1.5	W
Operating & Storage Temperature	$T_j, T_{STG}$	-55~150	°C

**SOT-223**



- 1.BASE
- 2.COLLECTOR
- 3.EMITTER
- 4.COLLECTOR

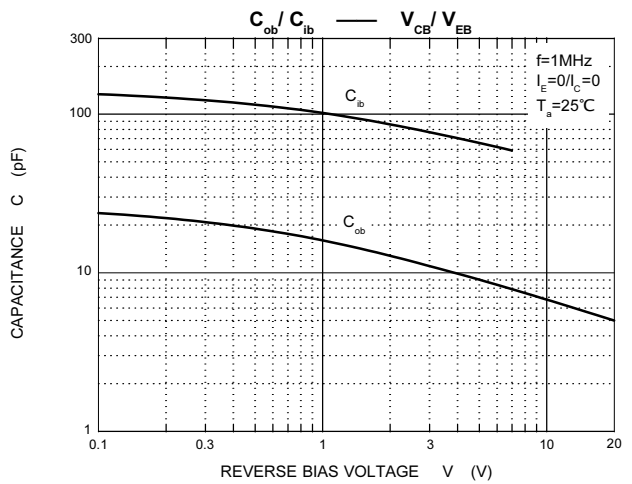
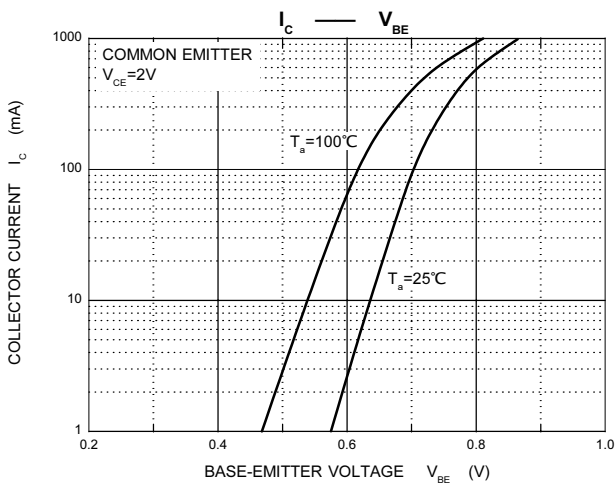
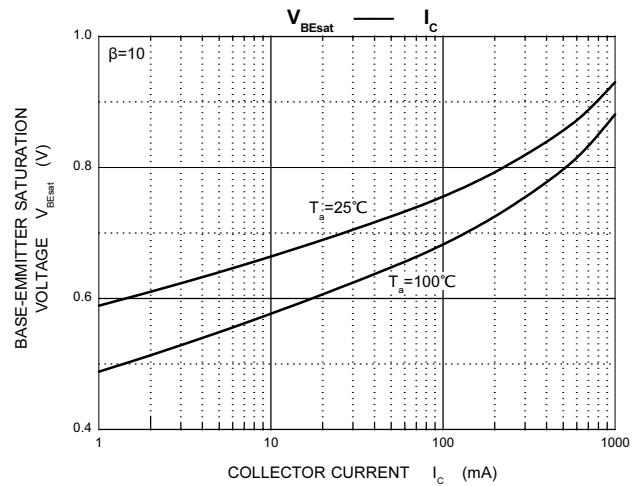
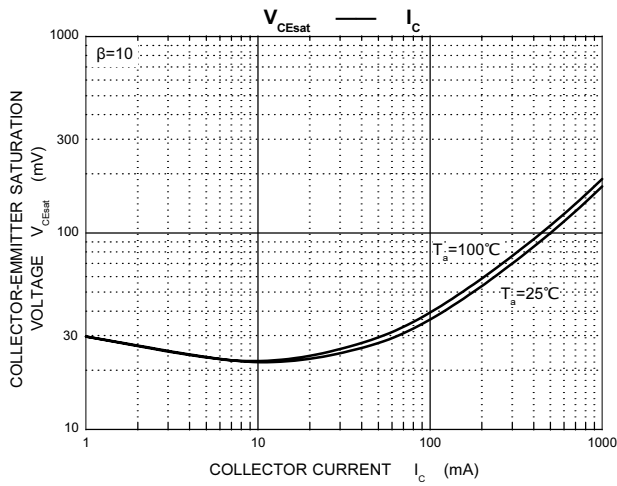
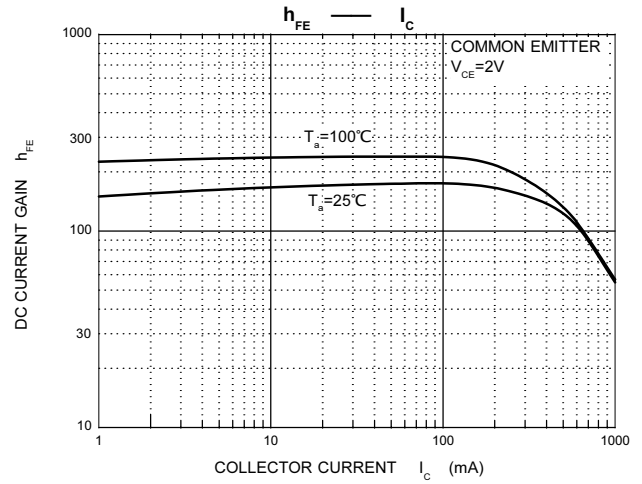
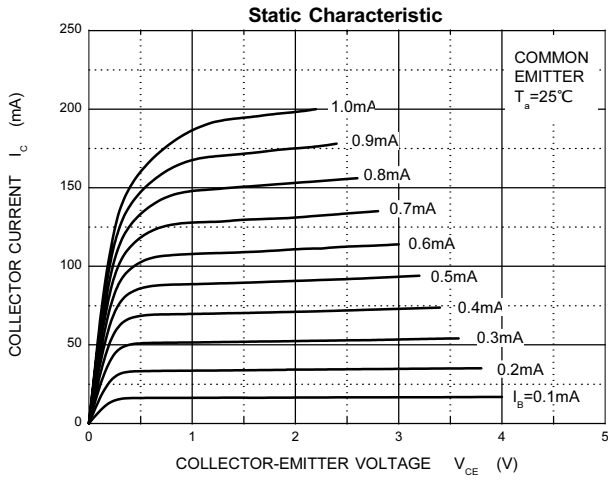
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.248	.264	6.30	6.70	
B	.130	.146	3.30	3.70	
C	.264	.287	6.70	7.30	
D	.001	.004	0.02	0.10	
E	.114	.122	2.90	3.10	
F		.091		2.30	
G	---	.071	---	1.80	
H	.009	.014	0.23	0.35	
J	.030	---	0.75	---	

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

Parameter	Symbol	Test conditions	Min	Max	Unit
<b>Collector-base breakdown voltage</b> BCP54-10/16HE3 BCP55-10/16HE3 BCP56-10/16HE3	V <sub>(BR)CBO</sub>	I <sub>C</sub> = 0.1mA, I <sub>E</sub> =0	45 60 100		V
<b>Collector-emitter breakdown voltage</b> BCP54-10/16HE3 BCP55-10/16HE3 BCP56-10/16HE3	V <sub>(BR)CEO</sub>	I <sub>C</sub> = 10mA, I <sub>B</sub> =0	45 60 80		V
<b>Base-emitter breakdown voltage</b>	V <sub>(BR)EBO</sub>	I <sub>C</sub> = 10μA, I <sub>E</sub> =0	5		V
<b>Collector cut-off current</b>	I <sub>CBO</sub>	V <sub>CB</sub> = 30 V, I <sub>E</sub> =0		100	nA
<b>DC current gain</b>	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		
<b>Collector-emitter saturation voltage</b>	V <sub>CE(sat)</sub>	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA		0.5	V
<b>Base-emitter voltage</b>	V <sub>BE</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =500m A		1	V
<b>Transition frequency</b>	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =50mA, f=100MHz	100		MHz

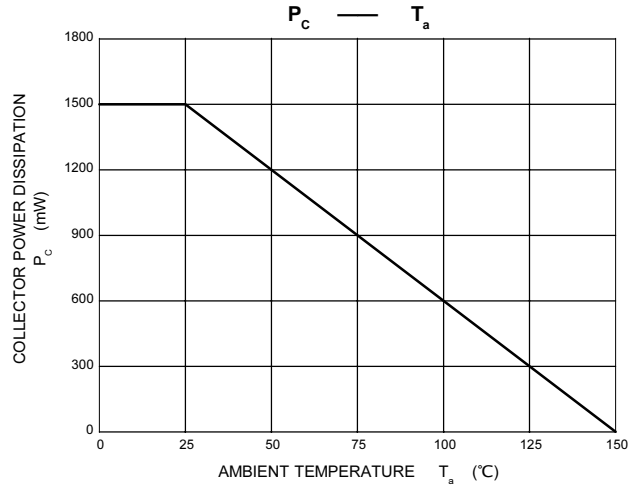
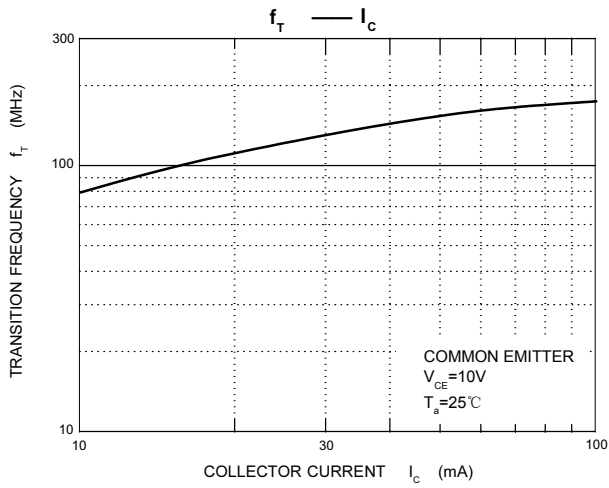
**CLASSIFICATION OF h<sub>FE(2)</sub>**

<b>Rank</b>	BCP54-10HE3, BCP55-10HE3, BCP56-10HE3	BCP54-16HE3, BCP55-16H3, BCP56-16HE3
<b>Range</b>	63-160	100-250
<b>Marking</b>	BCP54-10, BCP55-10, BCP56-10	BCP54-16, BCP55-16, BCP56-16



f — I

P — T





Micro Commercial Components

### Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel; 2.5Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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