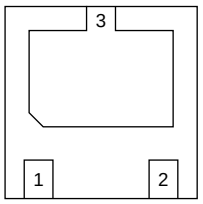
BCP54PA,55PA,56PA

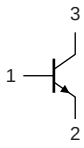
TRANSISTOR (NPN)

FEATURES

- For AF driver and output stages
- High collector current
- Low collector-emitter saturation voltage
- Complementary types: BCP51 ... BCP53PA (PNP)



Transparent top view



sym021

1 base
2 emitter
3 collector

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	BCP54PA	BCP55PA	BCP56PA	Unit
V_{CBO}	Collector-Base Voltage	45	60	100	V
V_{CEO}	Collector-Emitter Voltage	45	60	80	V
V_{EBO}	Emitter-Base Voltage	5			V
I_C	Collector Current -Continuous	1			A
P_C	Collector Power Dissipation	1.5			W
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	83.3			℃/W
T_{stg}	Storage Temperature Range	-65~+150			℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

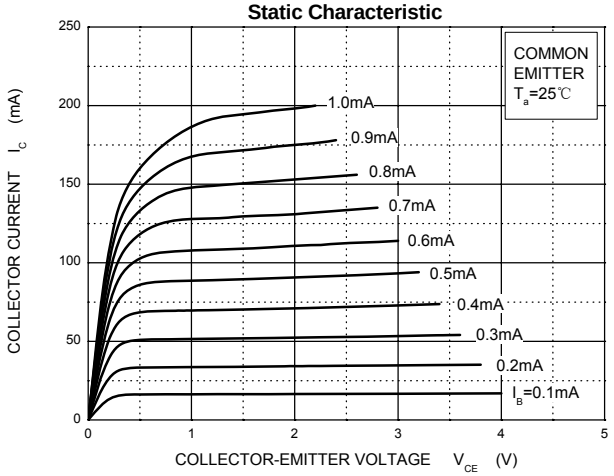
Parameter		Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	BCP54PA	$V_{(BR)CBO}$	I_C= 0.1mA,I_E=0	45		V
	BCP55PA			60		
	BCP56PA			100		
Collector-emitter breakdown voltage	BCP54PA	$V_{(BR)CEO}$	I_C= 10mA,I_B=0	45		V
	BCP55PA			60		
	BCP56PA			80		
Base-emitter breakdown voltage		$V_{(BR)EBO}$	I_E= 10μA,I_C=0	5		V
Collector cut-off current		I_{CBO}	V_{CB}= 30 V, 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=150m A	63	250	
		$h_{FE(3)}$	V_{CE}= 2V, I_C=500m A	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=500m A		1	V
Transition frequency		f_T	V_{CE}=10V,I_C=50mA,f=100MHz	100		MHz

CLASSIFICATION OF $h_{FE(2)}$

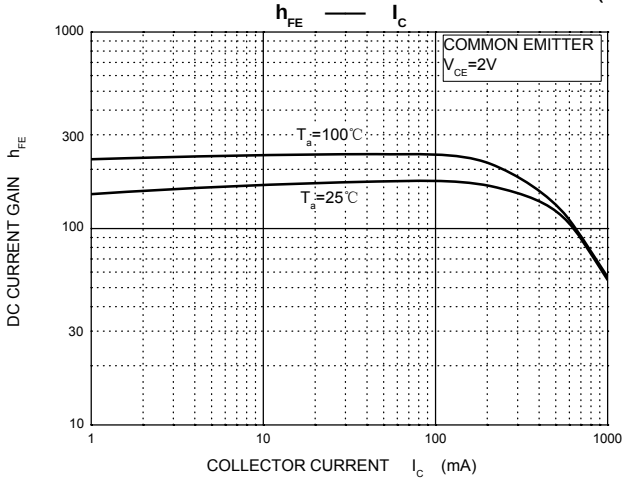
Rank	BCP54-10PA, BCP55-10PA, BCP56-10PA	BCP54-16PA, BCP55-16PA, BCP56-16PA
Range	63-160	100-250

Typical Characteristics

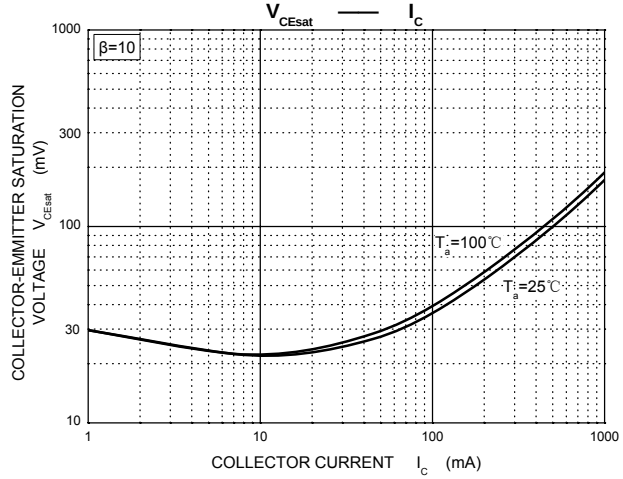
Static Characteristic



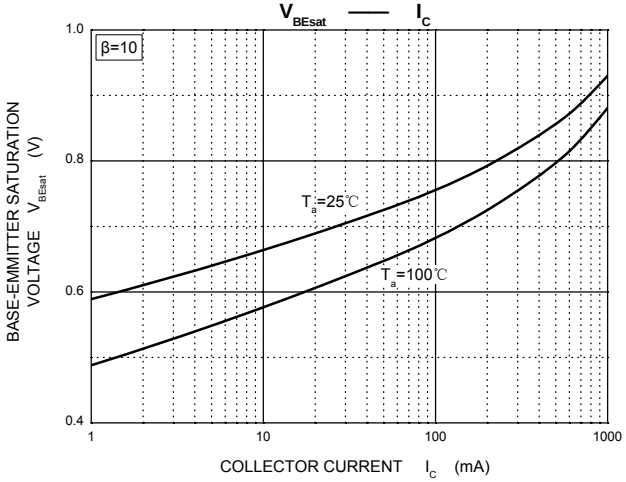
h_{FE} — I_C



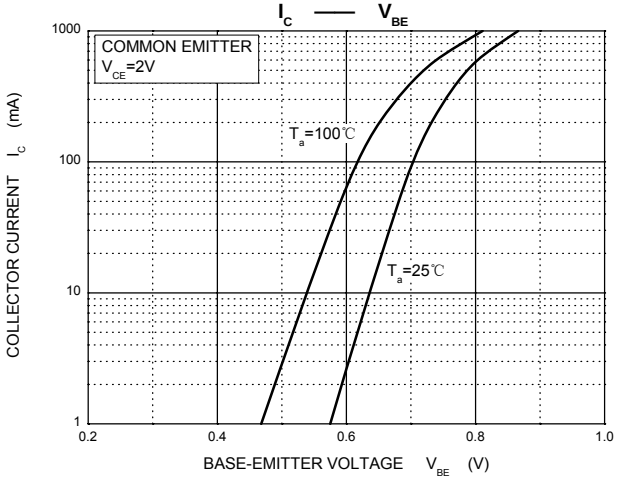
V_{CEsat} — I_C



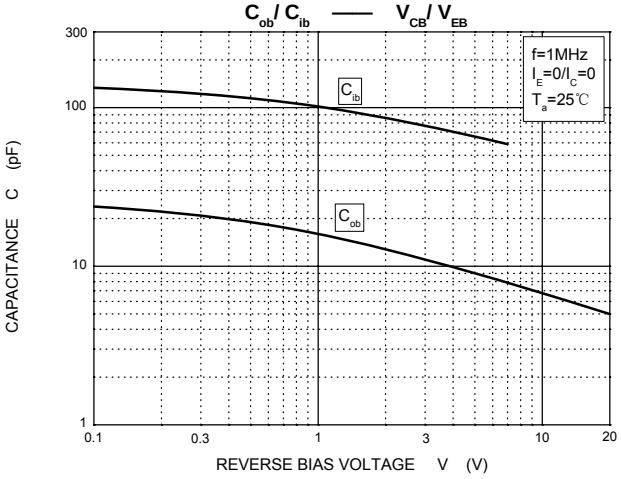
V_{BEsat} — I_C



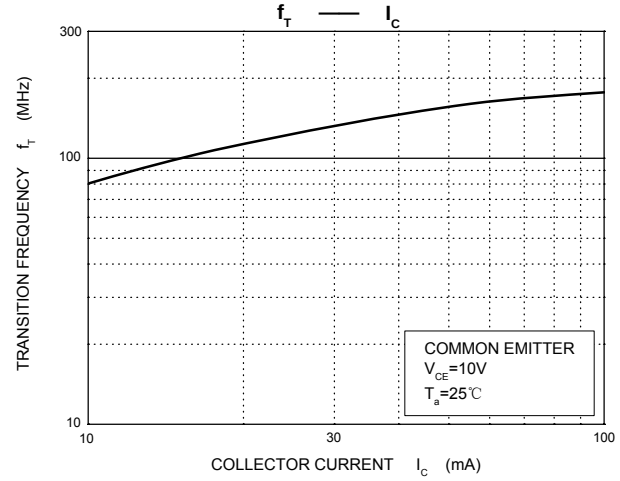
I_C — V_{BE}



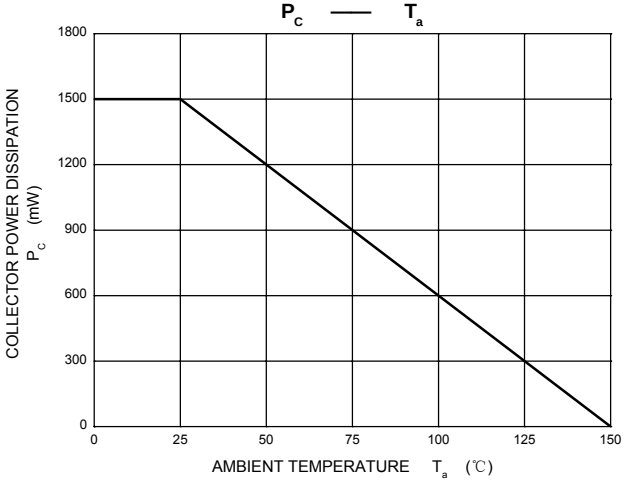
C_{ob} / C_{ib} — V_{CB} / V_{EB}

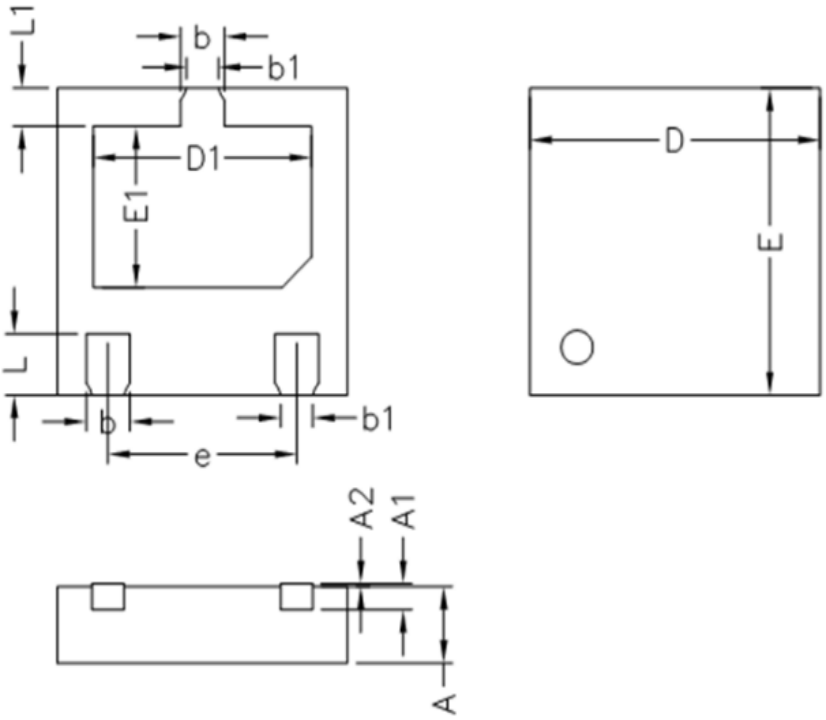


f_T — I_C



P_C — T_a





Units: mm

	Min	Nom	Max
D	1.95	2.00	2.05
E	1.95	2.00	2.05
D1	1.45	1.50	1.55
E1	1.00	1.05	1.10
L1	0.20	0.25	0.30
L	0.35	0.40	0.45
b1	0.22REF		
b	0.25	0.30	0.35
e	1.30BSC		
A1	0.15REF		
A2	0.00	0.02	0.05
A	0.45	0.50	0.55