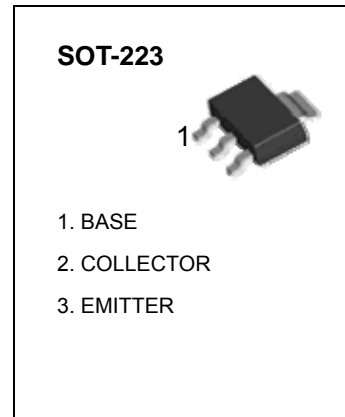


### BCP51,52,53 TRANSISTOR (PNP)

#### FEATURES

- For AF driver and output stages
- High collector current
- Low collector-emitter saturation voltage
- Complementary types: BCP54...BCP56 (NPN)



#### MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise noted)

Symbol	Parameter	BCP51	BCP52	BCP53	Units
V <sub>CB0</sub>	Collector-Base Voltage	-45	-60	-100	V
V <sub>CEO</sub>	Collector-Emitter Voltage	-45	-60	-80	V
V <sub>EBO</sub>	Emitter-Base Voltage	-5			V
I <sub>C</sub>	Collector Current -Continuous	-1			A
P <sub>C</sub>	Collector Power Dissipation	1.5			W
R <sub>θJA</sub>	Thermal Resistance Junction to Ambient	94			°C/W
T <sub>stg</sub>	Storage Temperature Range	-65to+150			°C

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

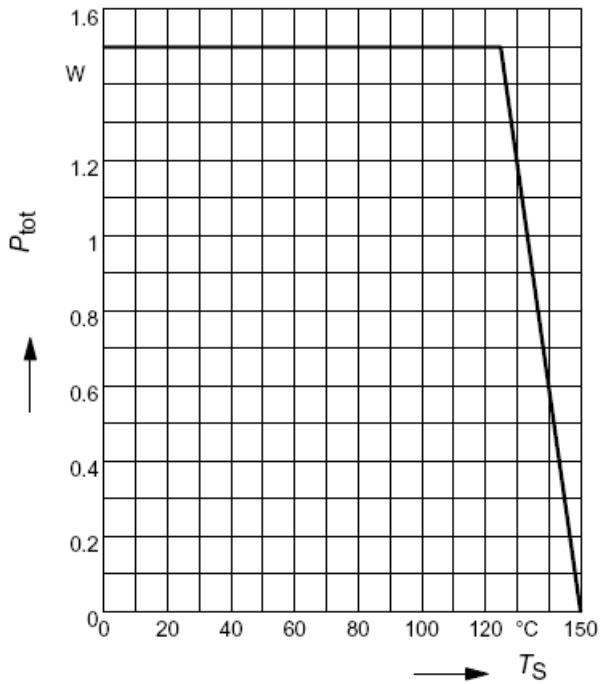
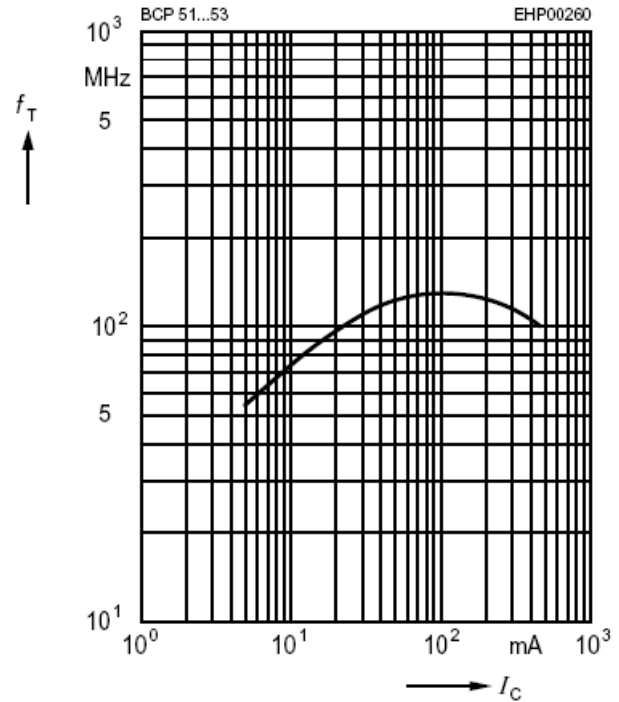
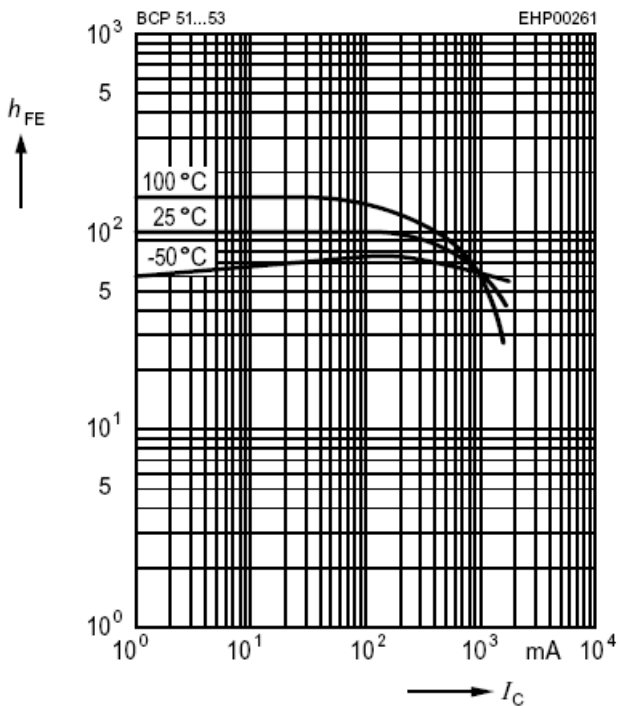
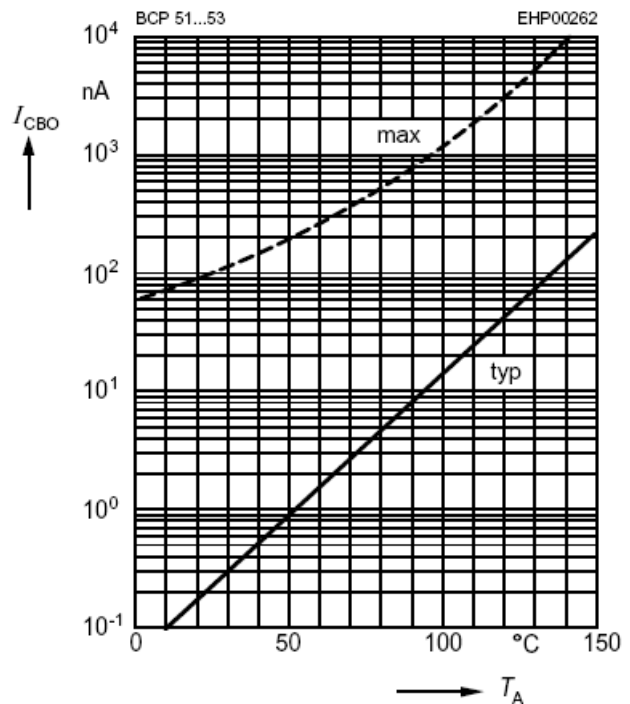
Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =-0.1mA, I <sub>E</sub> =0	BCP51	-45	V
			BCP52	-60	
			BCP53	-100	
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =-10mA, I <sub>B</sub> =0	BCP51	-45	V
			BCP52	-60	
			BCP53	-80	
Base-emitter breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>C</sub> =-10μA, I <sub>E</sub> =0	-5		V
Collector cut-off current	I <sub>CB0</sub>	V <sub>CB</sub> =-30V, I <sub>E</sub> =0		-100	nA
DC current gain	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> =-150mA	63	250	
	h <sub>FE(3)</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-500mA	25		
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-500mA, I <sub>B</sub> =-50mA		-0.5	V
Base-emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-500mA		-1	V
Transition frequency	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>

Rank	BCP51-10, BCP52-10, BCP53-10	BCP51-16, BCP52-16, BCP53-16
Range	63-160	100-250

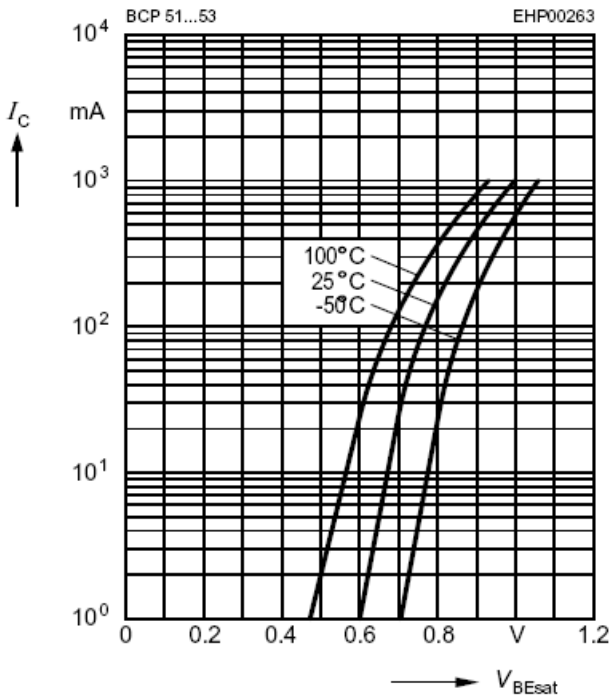
## Typical Characteristics

BCP51,52,53

Total power dissipation  $P_{tot} = f(T_S)$ Transition frequency  $f_T = f(I_C)$  $V_{CE} = 10V$ DC current gain  $h_{FE} = f(I_C)$  $V_{CE} = 2V$ Collector cutoff current  $I_{CBO} = f(T_A)$  $V_{CB} = 30V$ 

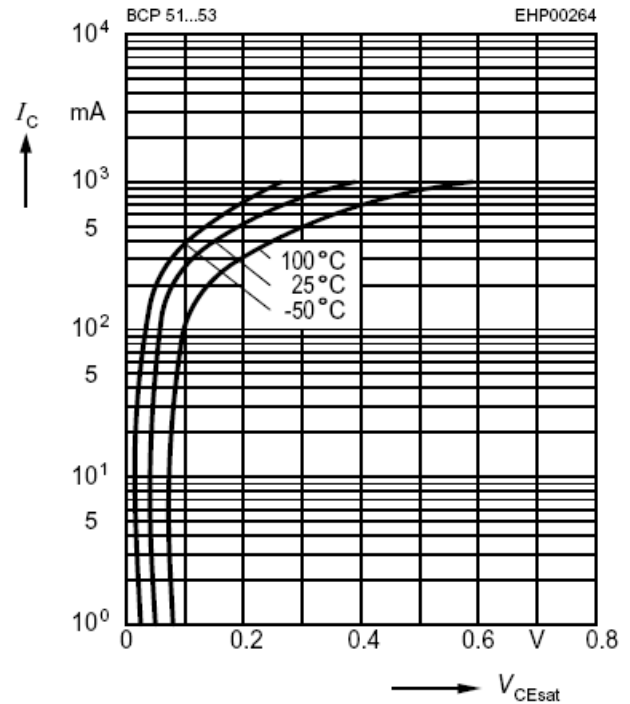
### Base-emitter saturation voltage

$$I_C = f(V_{BEsat}), h_{FE} = 10$$



### Collector-emitter saturation voltage

$$I_C = f(V_{CEsat}), h_{FE} = 10$$



### Permissible pulse load

$$P_{totmax} / P_{totDC} = f(t_p)$$

