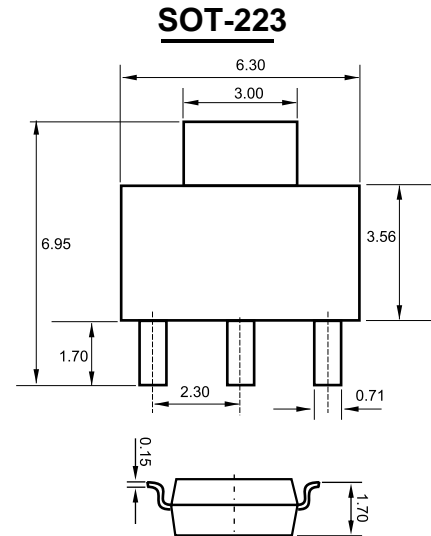




1. BASE
2. COLLECTOR
3. EMITTER

Features

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



MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

Dimensions in inches and (millimeters)

Symbol	Parameter	BCP51	BCP52	BCP53	Units
V _{CB0}	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 _{θJA}	Thermal Resistance Junction to Ambient	94			°C/W
T _{stg}	Storage Temperature Range	-65to+150			°C

ELECTRICAL CHARACTERISTICS (T_{amb}=25°C unless otherwise specified)

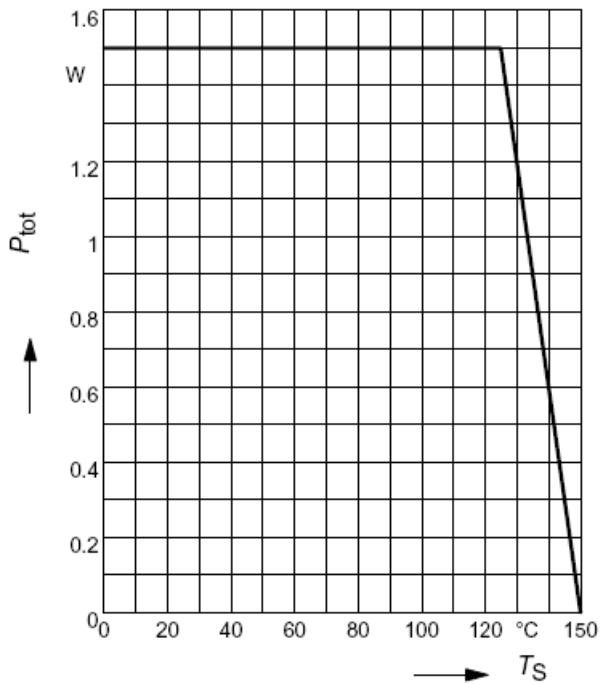
Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	BCP51	I _C =-0.1mA, I _E =0	-45		V
	BCP52		-60		
	BCP53		-100		
Collector-emitter breakdown voltage	BCP51	I _C =-10mA, I _B =0	-45		V
	BCP52		-60		
	BCP53		-80		
Base-emitter breakdown voltage	V _{(BR)EBO}	I _C =-10μA, I _E =0	-5		V
Collector cut-off current	I _{CB0}	V _{CB} =-30V, 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 =-150mA	63	250	
	h _{FE(3)}	V _{CE} =-2V, I _C =-500mA	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 =-500mA		-1	V
Transition frequency	f _T	V _{CE} =-10V, I _C =-50mA, f=100MHz	100		MHz

CLASSIFICATION OF h_{FE(2)}

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

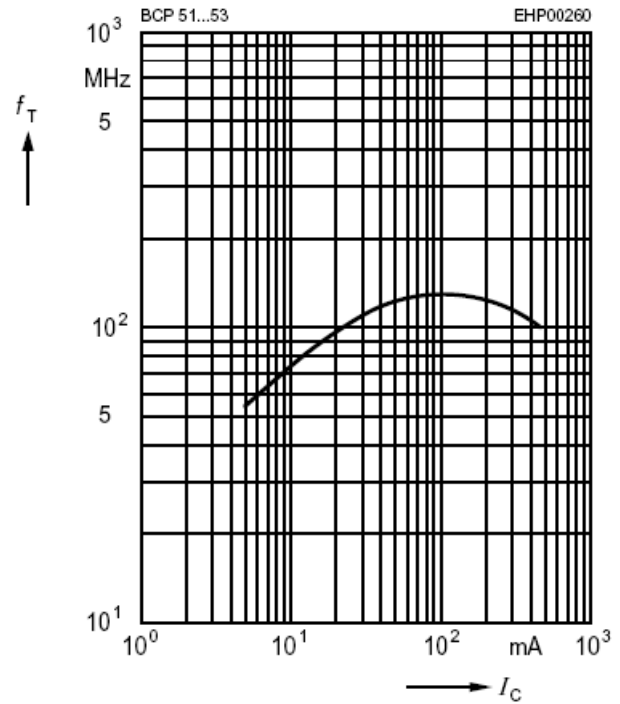
Typical Characteristics

Total power dissipation $P_{tot} = f(T_S)$



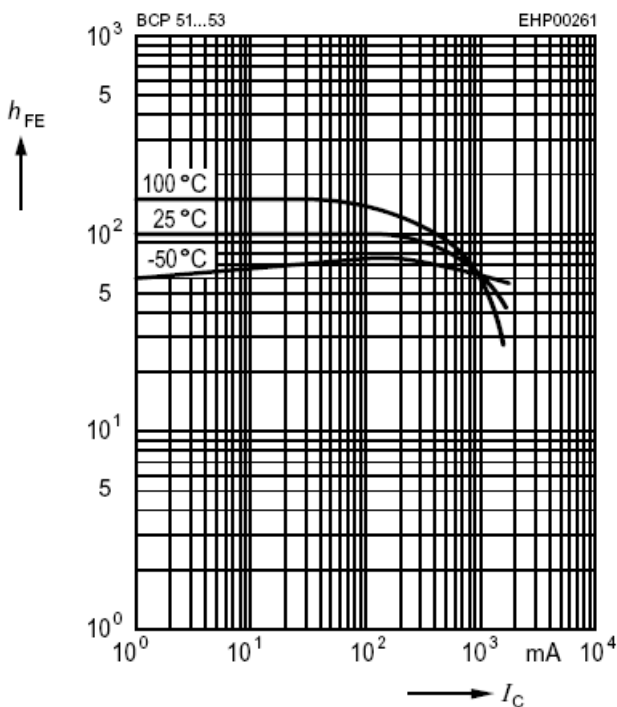
Transition frequency $f_T = f(I_C)$

$V_{CE} = 10V$



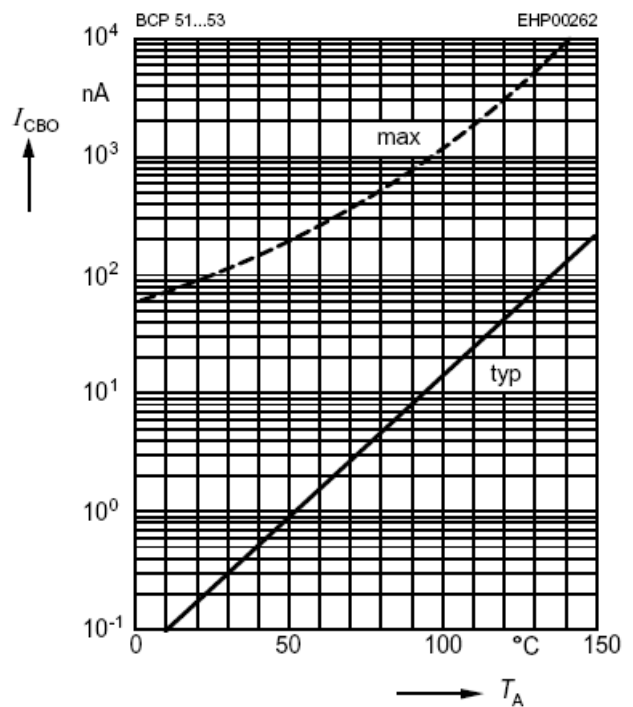
DC current gain $h_{FE} = f(I_C)$

$V_{CE} = 2V$



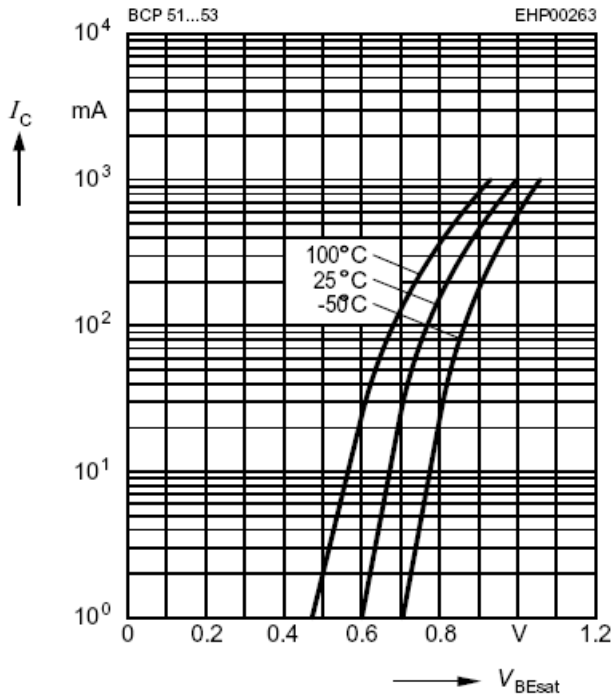
Collector cutoff current $I_{CBO} = f(T_A)$

$V_{CB} = 30V$



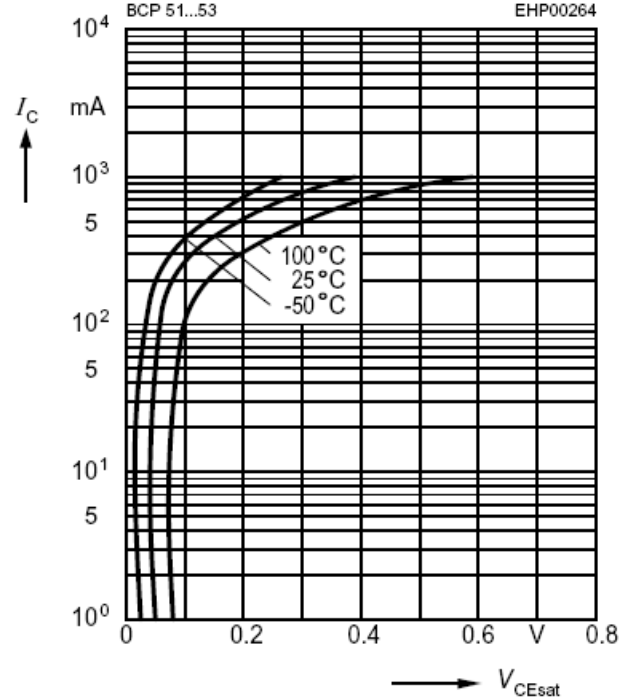
Base-emitter saturation voltage

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



Collector-emitter saturation voltage

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



Permissible pulse load

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

