

FEATURES

For AF driver and output stages

High collector current

Low collector-emitter saturation voltage

Complementary types: BCP54...BCP56 (NPN)

BCP51/52/53(PNP)



1. BASE
2. COLLECTO
3. EMITTER

SOT-223

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

Parameter	Symbol	BCP51	BCP52	BCP53	Unit
Collector-Base Voltage	V_{CBO}	-45	-60	-100	V
Collector-Emitter Voltage	V_{CEO}	-45	-60	-80	V
Emitter-Base Voltage	V_{EBO}	-5			V
Collector Current -Continuous	I_C	-1000			mA
Collector Power Dissipation	I_C	1.5			W
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	94			°C/W
Storage Temperature	T_{stg}	-55 to +150			°C

ELECTRICAL CHARACTERISTICS (Tamb=25 °C unless otherwise specified)

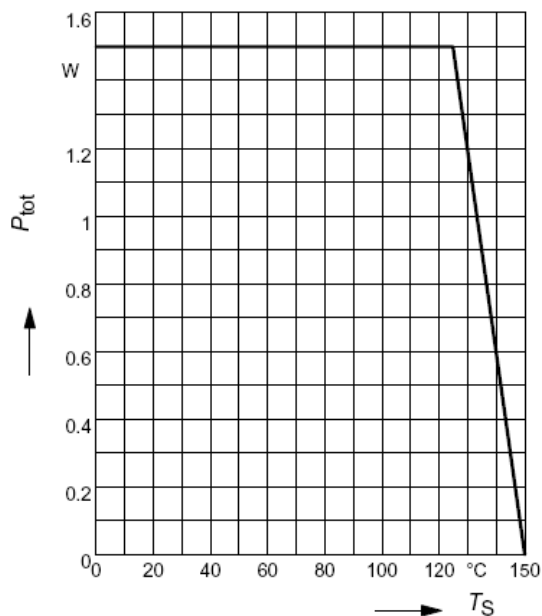
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	V_{CBO}	$I_C = -0.1mA, I_E = 0$	-45 -60 -100		V
Collector-emitter breakdown voltage	V_{CEO}	$I_C = -10mA, I_B = 0$	-45 -60 -80		V
Base-emitter breakdown voltage	V_{EBO}	$I_C = -10\mu A, I_E = 0$	-5		V
Collector cut-off current	I_{CBO}	$V_{CB} = -30V, I_E = 0$		-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

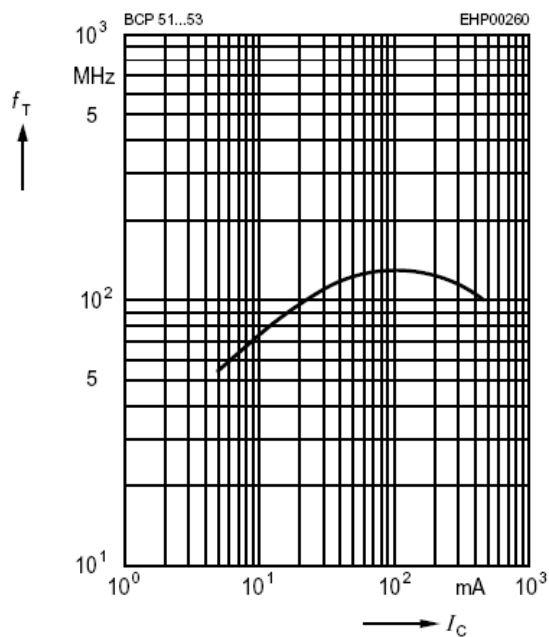
BCP51/52/53 Typical Characteristics

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



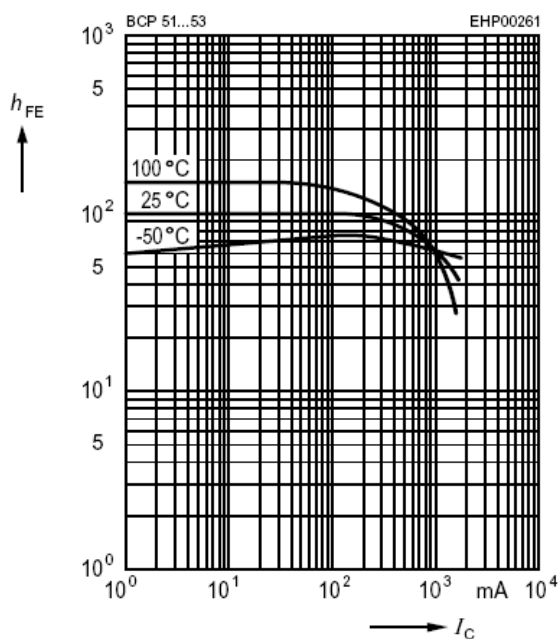
Transition frequency $f_T = f(I_C)$

$V_{CE} = 10V$



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

$V_{CE} = 2V$



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

$V_{CB} = 30V$

