BCP51,52,53 TRANSISTOR (PNP)

SOT-223

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℃ unless otherwise noted)

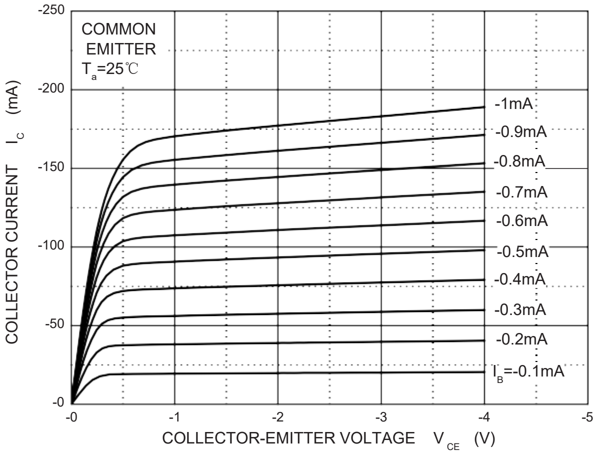
Symbol	Parameter	BCP51	BCP52	BCP53	Unit
V_{CBO}	Collector-Base Voltage	-45	-60	-100	V
V_{CEO}	Collector-Emitter Voltage	-45	-60	-80	V
V_{EBO}	Emitter-Base Voltage	-5			V
I_C	Collector Current -Continuous	-1			A
I_{CM}	Peak Pulse Collector Current	-2			A
I_B	Base Current-Continuous	-100			mA
I_{BM}	Peak Pulse Base Current	-200			mA
P_C	Collector Power Dissipation	1.5			W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150			℃
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	94			℃/W

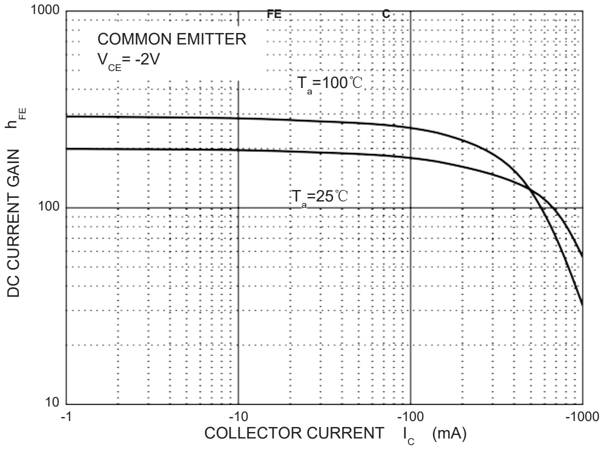
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

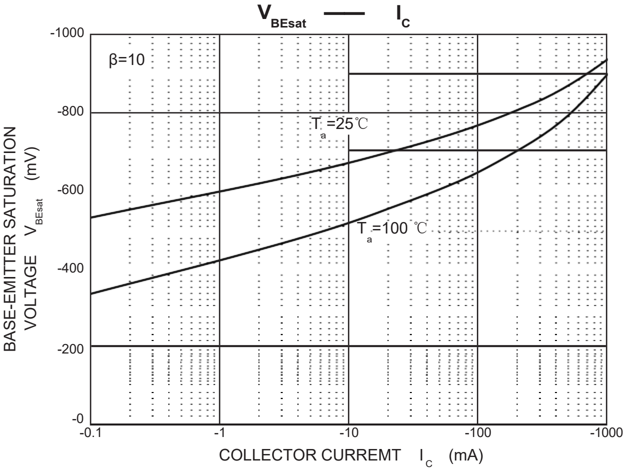
Parameter		Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	**BCP51**	$V_{(BR)CBO}$	I_C=- 0.1mA,I_E=0	-45		V
	BCP52			-60		
	BCP53			-100		
Collector-emitter breakdown voltage	**BCP51**	$V_{(BR)CEO}$	I_C= -10mA,I_B=0	-45		V
	BCP52			-60		
	BCP53			-80		
Base-emitter breakdown voltage		$V_{(BR)EBO}$	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

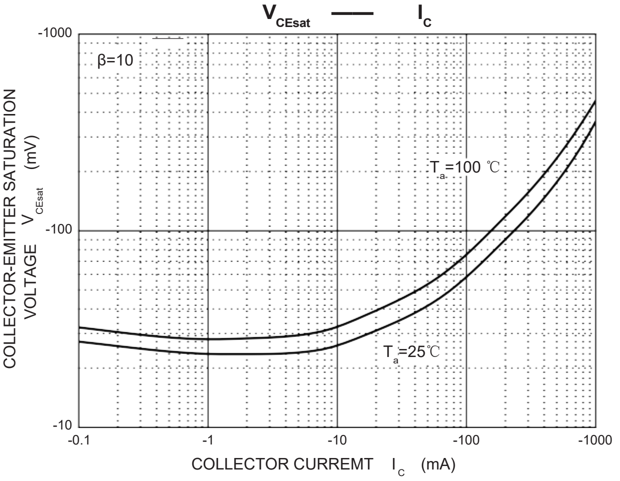
CLASSIFICATION OF $h_{FE(2)}$

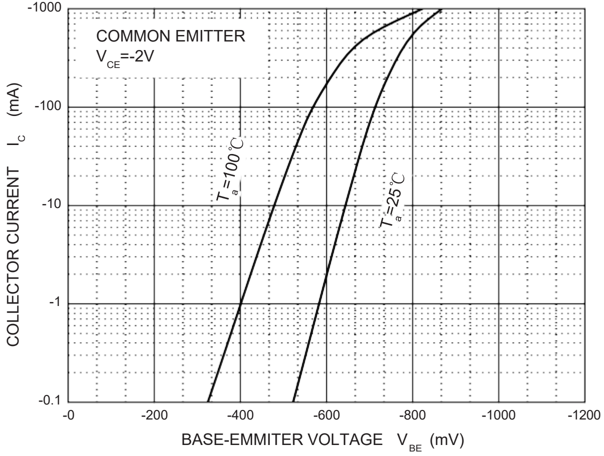
Rank	BCP51-10, BCP52-10, BCP53-10	BCP51-16, BCP52-16, BCP53-16
Range	63-160	100-250

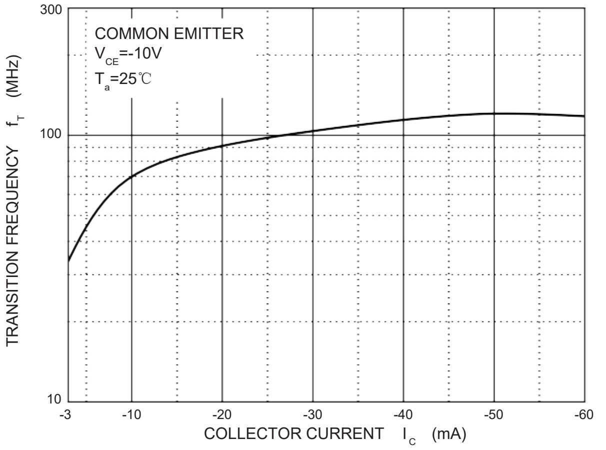

Static Characteristic

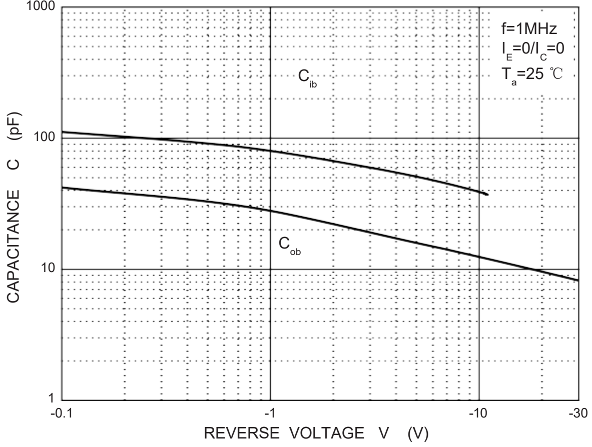

h_{FE} —— I_C

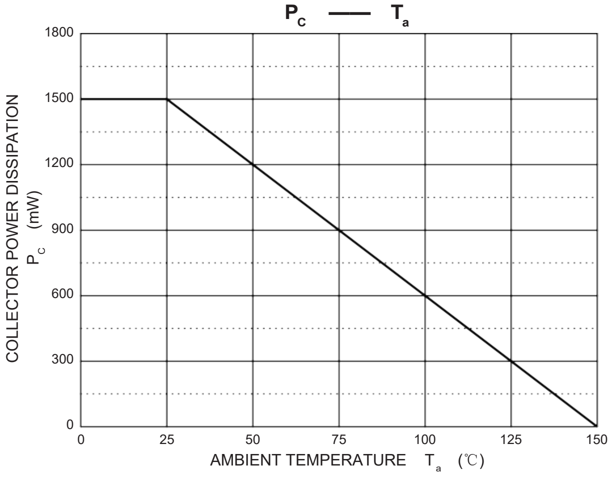

V_{BEsat} —— I_C


V_{CEsat} —— I_C


I_C —— V_{BE}


f_T —— I_C


C_{ob}/C_{ib} —— V_{CB}/V_{EB}


P_C —— T_a