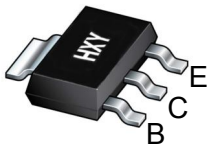
BCP51,52,53

PNP Plastic-Encapsulate Transistors

FEATURES

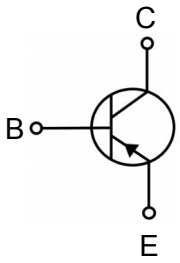
- Collector Current: I_C=-1A
- Power Dissipation of 1.5w



SOT-223

Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
BCP51	SOT-223	BCP51	1000
BCP52	SOT-223	BCP52	1000
BCP53	SOT-223	BCP53	1000



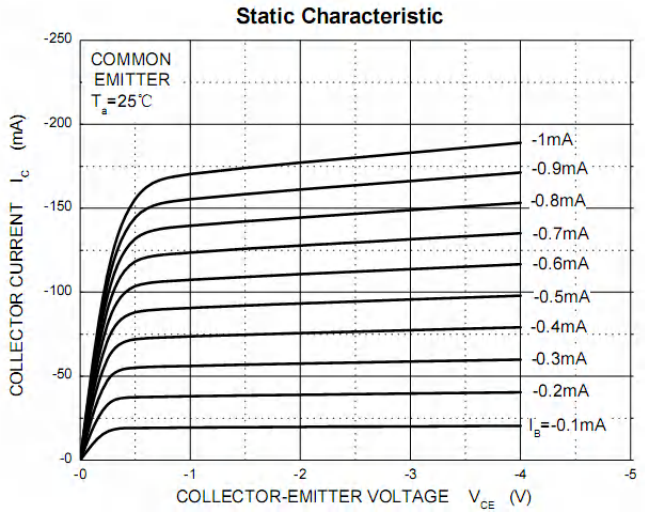
MAXIMUM RATINGS (Ta=25℃ unless otherwise noted)

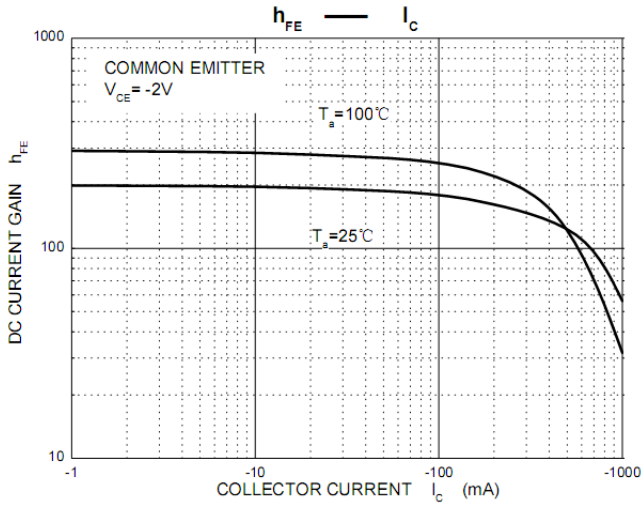
Parameter		Symbol	Limit	Unit
Collector-Base Voltage	BCP51 BCP52 BCP53	V_{CBO}	-45 -60 -100	V
Collector-Emitter Voltage	BCP51 BCP52 BCP53	V_{CEO}	-45 -60 -80	V
Emitter-Base Voltage		V_{EBO}	-5	V
Collector Current		I_C	-1	A
Collector Power Dissipation		P_C	1.5	W
Thermal Resistance From Junction To Ambient		$R_{\Theta JA}$	94	℃/W
Junction Temperature		T_j	150	℃
Storage Temperature		T_{stg}	-55～+150	℃

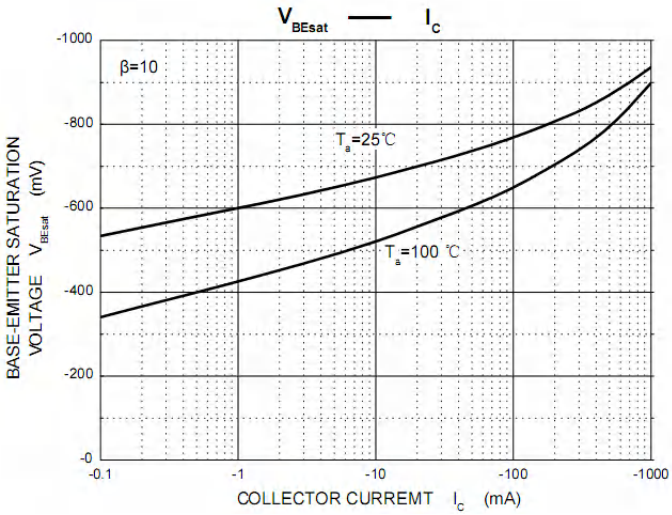
ELECTRICAL CHARACTERISTICS T_a=25℃ unless otherwise specified

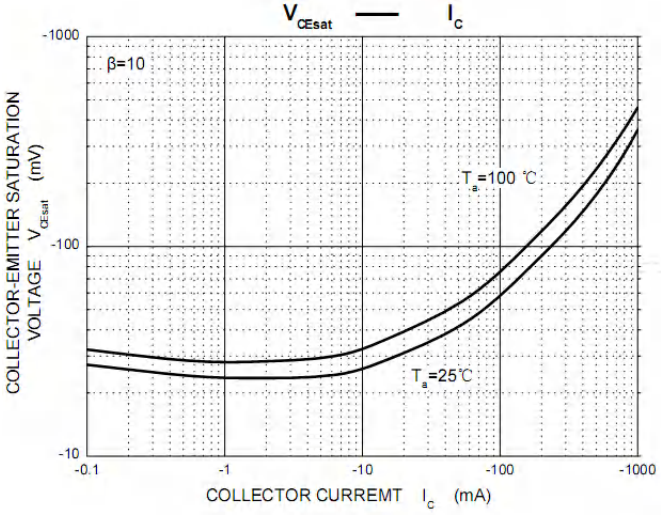
Parameter		Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	BCP51	$V_{(BR)CBO}$	I_C=- 0.1mA,I_E=0	-45		V
	BCP52			-60		
	BCP53			-100		
Collector-emitter breakdown voltage	BCP51	$V_{(BR)CEO}$	I_C= -10mA,I_B=0	-45		V
	BCP52			-60		
	BCP53			-80		
Base-emitter breakdown voltage		$V_{(BR)EBO}$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

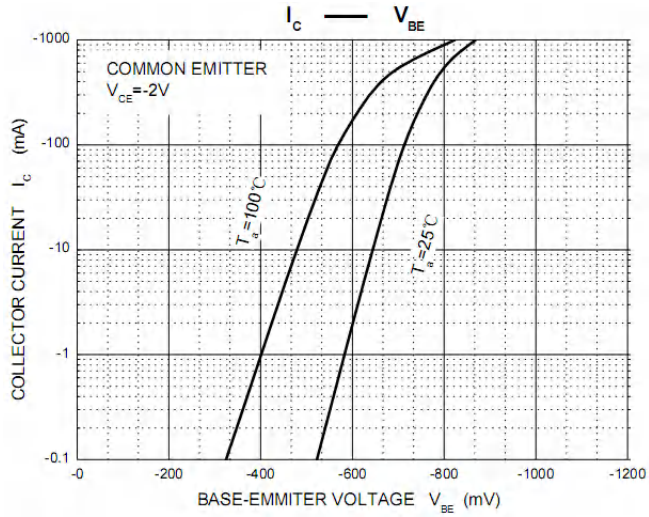
Typical Characteristics

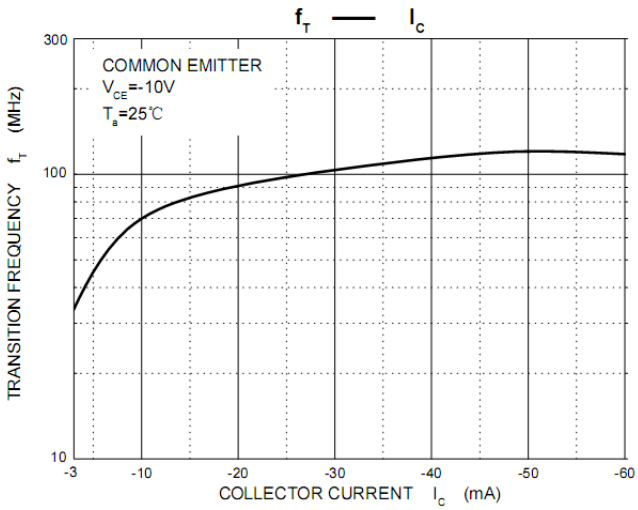


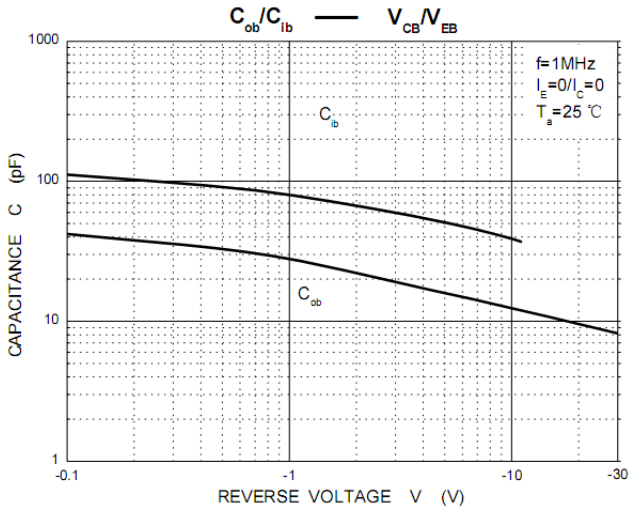


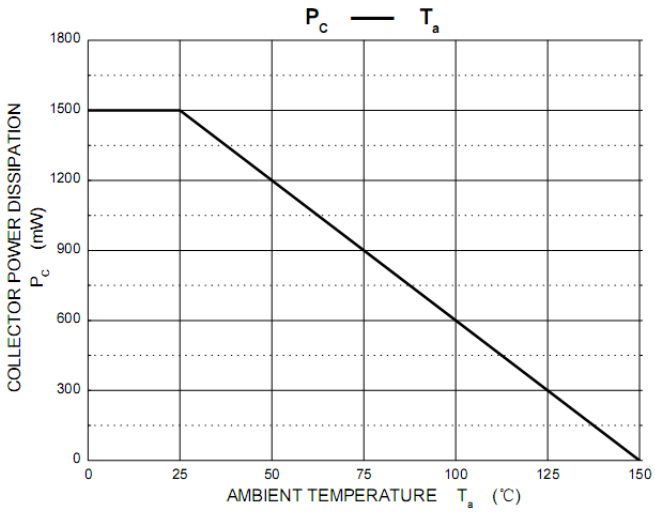

V_{BEsat} — I_C
β=10
T_a=25℃
T_a=100 ℃
BASE-EMITTER SATURATION VOLTAGE V_{BEsat} (mV)
COLLECTOR CURREMT I_C (mA)


V_{CEsat} — I_C
β=10
T_a=100 ℃
T_a=25℃
COLLECTOR-EMITTER SATURATION VOLTAGE V_{CEsat} (mV)
COLLECTOR CURREMT I_C (mA)

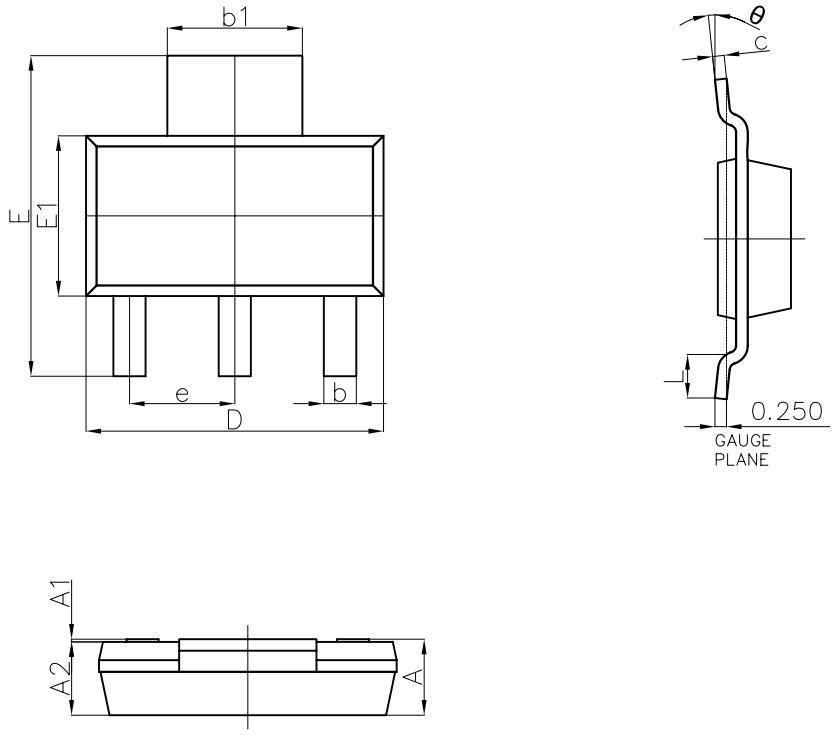

I_C — V_{BE}
COMMON EMITTER
V_{CE}=-2V
T_a=100℃
T_a=25℃
COLLECTOR CURRENT I_C (mA)
BASE-EMMITER VOLTAGE V_{BE} (mV)


f_T — I_C
COMMON EMITTER
V_{CE}=-10V
T_a=25℃
TRANSITION FREQUENCY f_T (MHz)
COLLECTOR CURRENT I_C (mA)


C_{ob}/C_{ib} — V_{CB}/V_{EB}
f=1MHz
I_E=0/I_C=0
T_a=25 ℃
C_{ib}
C_{ob}
CAPACITANCE C (pF)
REVERSE VOLTAGE V (V)


P_C — T_a
COLLECTOR POWER DISSIPATION P_C (mW)
AMBIENT TEMPERATURE T_a (℃)

SOT-223 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	——	1.800	——	0.071
A1	0.020	0.100	0.001	0.004
A2	1.500	1.700	0.059	0.067
b	0.660	0.840	0.026	0.033
b1	2.900	3.100	0.114	0.122
c	0.230	0.350	0.009	0.014
D	6.300	6.700	0.248	0.264
E	6.700	7.300	0.264	0.287
E1	3.300	3.700	0.130	0.146
e	2.300(BSC)		0.091(BSC)	
L	0.750	——	0.030	——
θ	0°	10°	0°	10°

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