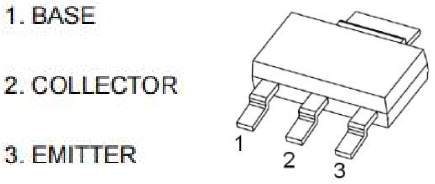
SOT-223 Bipolar Transistor 双极型三极管



■Features 特点

PNP General Purpose 通用

■Absolute Maximum Ratings 最大额定值

Characteristic 特性参数	Symbol 符号	BCP51/ -10/-16	BCP52/ -10/-16	BCP53/ -10/-16	Unit 单位
Collector-Base Voltage 集电极基极电压	V_{CBO}	-45	-60	-100	V
Collector-Emitter Voltage 集电极发射极电压	V_{CEO}	-45	-60	-80	V
Emitter-Base Voltage 发射极基极电压	V_{EBO}	-5			V
Collector Current 集电极电流	I_C	-1000			mA
Power dissipation 耗散功率	$P_C(T_a=25℃)$	1500			mW
Thermal Resistance Junction-Ambient 热阻	$R_{\Theta JA}$	94			℃/W
Junction and Storage Temperature 结温和储藏温度	T_J,T_{stg}	-55to+150℃			

■Device Rank 产品分档

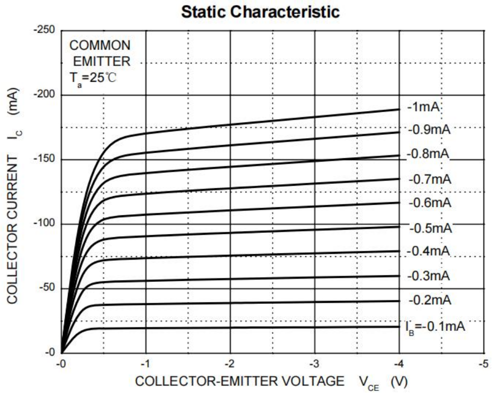
$H_{FE}(2)$ Range	63-160(-10)	100-250(-16)
BCP51	BCP51-10	BCP51-16
BCP52	BCP52-10	BCP52-16
BCP53	BCP53-10	BCP53-16

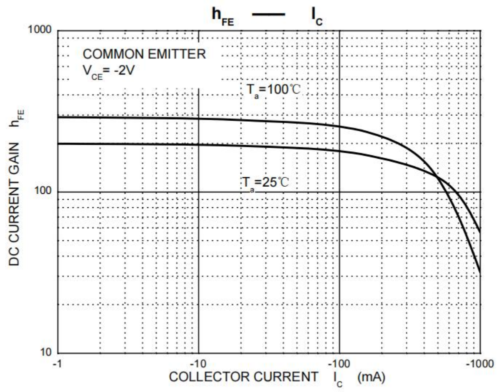
■Electrical Characteristics 电特性

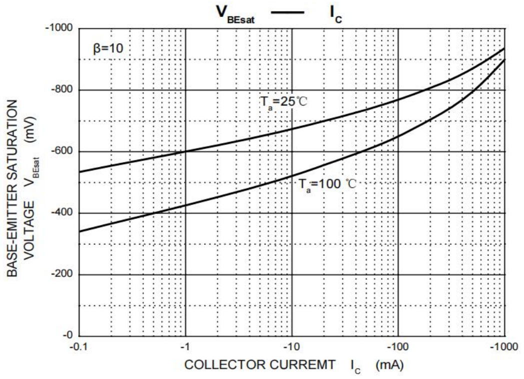
(T_A=25℃ unless otherwise noted 如无特殊说明，温度为 25℃)

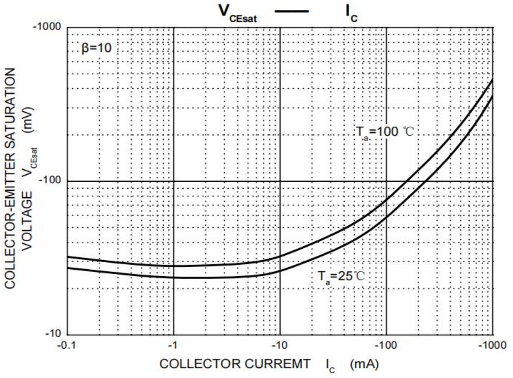
Characteristic 特性参数		Symbol 符号	Min 最小值	Type 典型值	Max 最大值	Unit 单位
Collector-Base Breakdown Voltage 集电极基极击穿电压 (I_C= -100uA，I_E=0)	BCP51/-10/-16	BV_{CBO}	-45	—	—	V
	BCP52/-10/-16		-60			
	BCP53/-10/-16		-100			
Collector-Emitter Breakdown Voltage 集电极发射极击穿电压 (I_C= -10mA，I_B=0)	BCP51/-10/-16	BV_{CEO}	-45	—	—	V
	BCP52/-10/-16		-60			
	BCP53/-10/-16		-80			
Emitter-Base Breakdown Voltage 发射极基极击穿电压(I_E= -100uA，I_C=0)		BV_{EBO}	-5	—	—	V
Collector-Base Leakage Current 集电极基极漏电流	BCP51/-10/-16 (V_{CB}= -30V,I_E=0)	I_{CBO}	—	—	-100	nA
	BCP52/-10/-16 (V_{CB}= -50V,I_E=0)					
	BCP53/-10/-16 (V_{CB}= -80V,I_E=0)					
Emitter-Base Leakage Current 发射极基极漏电流(V_{EB}= -4V，I_C=0)		I_{EBO}	—	—	-100	nA
DC Current Gain 直流电流增益(V_{CE}= -2V,I_C= -5mA)		$H_{FE}(1)$	25	—	—	
DC Current Gain 直流电流增益 (V_{CE}=-2V,I_C=-0.15A)	BCP51/BCP52/BCP53-10	$H_{FE}(2)$	63	—	160	
	BCP51/BCP52/BCP53-16		100		250	
DC Current Gain 直流电流增益(V_{CE}= -2V,I_C= -0.5A)		$H_{FE}(3)$	25	—	—	
Collector-Emitter Saturation Voltage 集电极发射极饱和压降(I_C= -0.5A，I_B= -50mA)		$V_{CE(sat)}$	—	—	-0.5	V
Base-Emitter Saturation Voltage 基极发射极饱和压降(I_C= -500mA，I_B= -50mA)		$V_{BE(sat)}$	—	—	-1	V
Base-Emitter On Voltage 基极发射极导通电压(V_{CE}= -2V,I_C= -0.5A)		$V_{BE(on)}$	—	—	-1	V
Transition Frequency 特征频率(V_{CE}= -10V，I_C= -50mA)		f_T	100	—	—	MHz
Output Capacitance 输出电容(V_{CB}= -10V，I_E=0, f=1MHz)		C_{ob}	—	15	—	pF

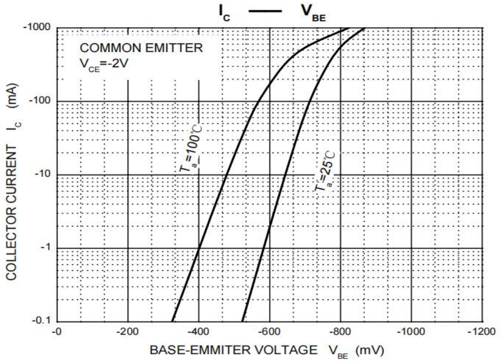
■Typical Characteristic Curve 典型特性曲线

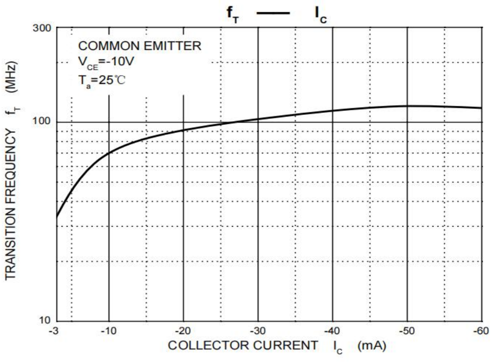


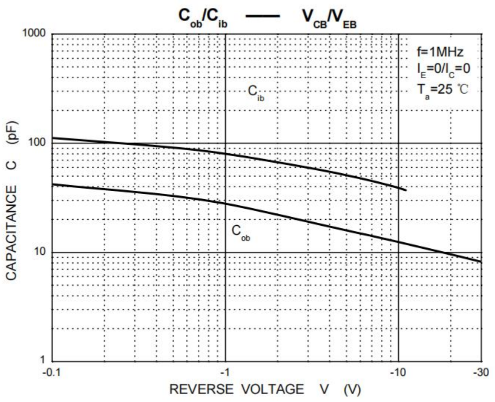


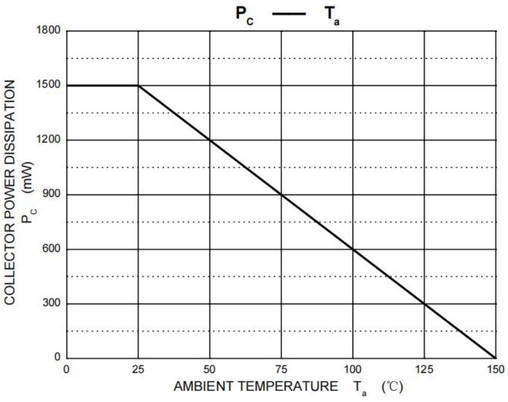




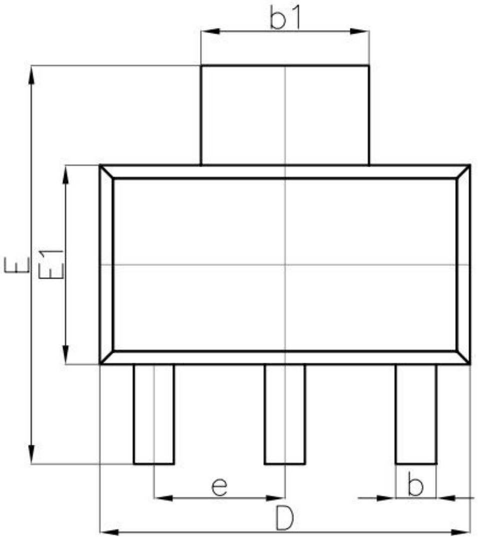


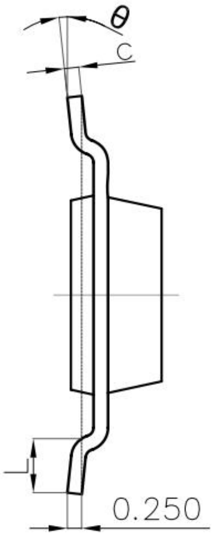


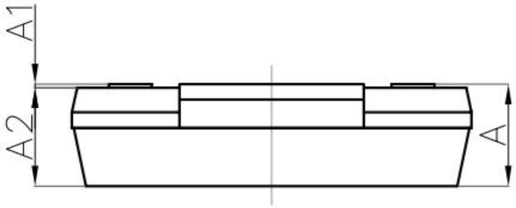




■**Dimension 外形封装尺寸**







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°