

**SOT-223 Bipolar Transistor 双极型三极管**

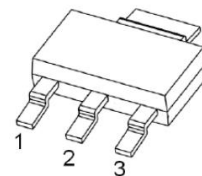
■ Features 特点

PNP General Purpose 通用

1. BASE

2. COLLECTOR

3. EMITTER



■ 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	$P_C(T_a=25^\circ\text{C})$	1500			mW
Thermal Resistance Junction-Ambient 热阻	$R_{\theta JA}$	94			$^\circ\text{C}/\text{W}$
Junction and Storage Temperature 结温和储藏温度	$T_J, T_{stg}$	-55to+150 $^\circ\text{C}$			

■ 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

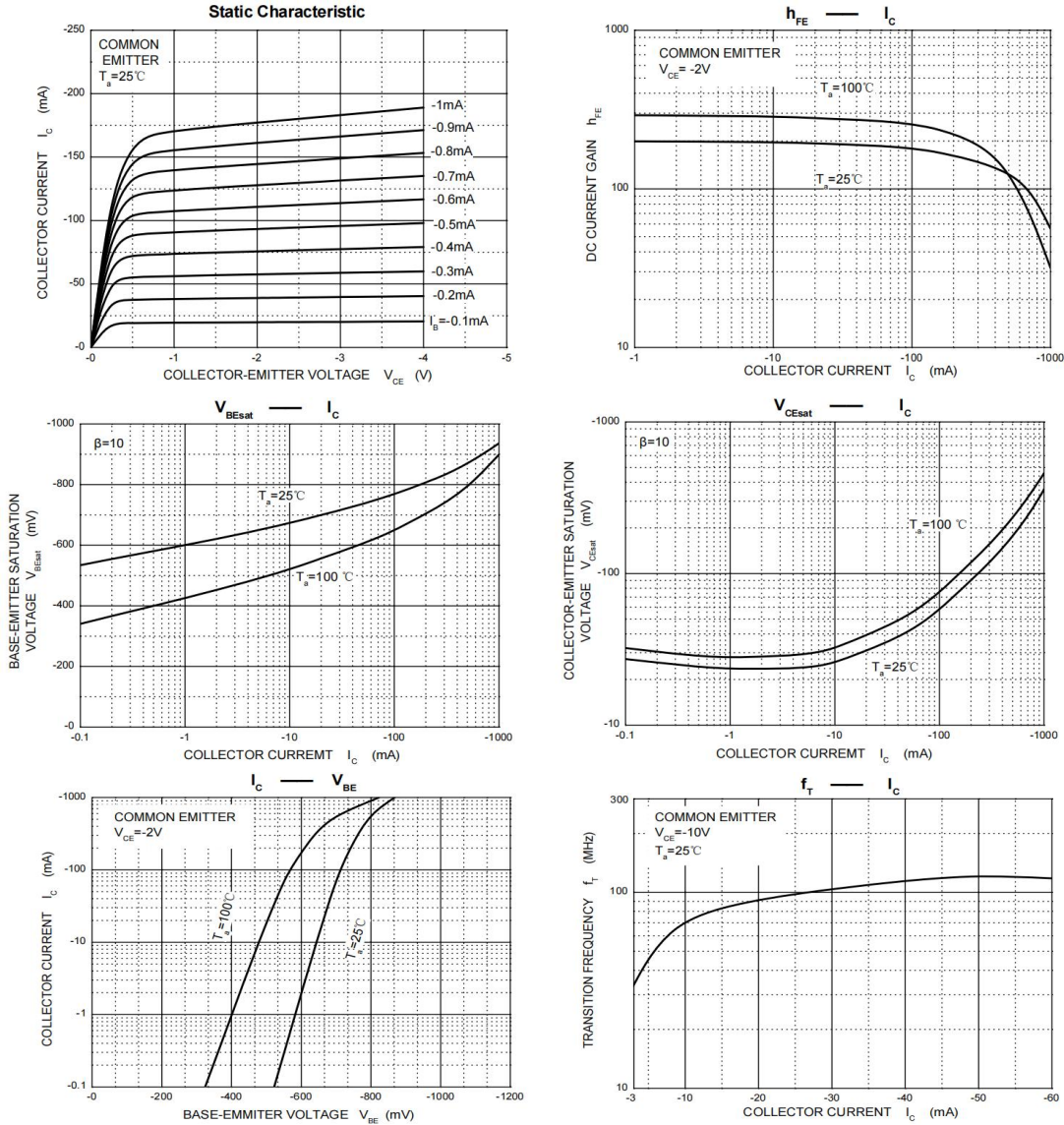
( $T_A=25^{\circ}\text{C}$  unless otherwise noted 如无特殊说明, 温度为  $25^{\circ}\text{C}$ )

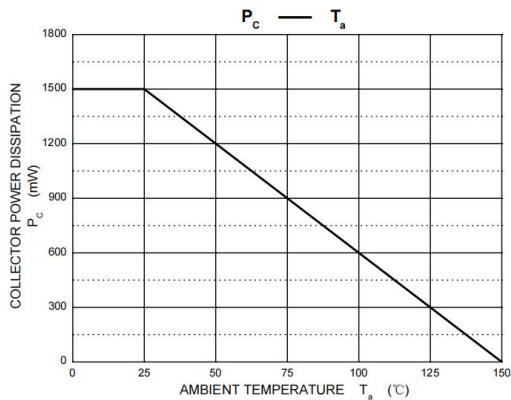
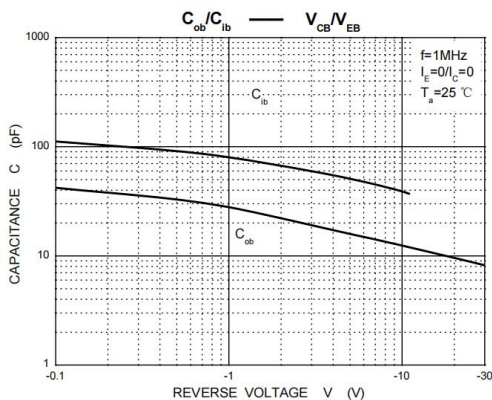
Characteristic 特性参数		Symbol 符号	Min 最小值	Type 典型值	Max 最大值	Unit 单位
Collector-Base Breakdown Voltage 集电极基极击穿电压 ( $I_C = -100\mu\text{A}$ , $I_E = 0$ )	BCP51/-10/-16 BCP52/-10/-16 BCP53/-10/-16	$BV_{CBO}$	-45 -60 -100	—	—	V
Collector-Emitter Breakdown Voltage 集电极发射极击穿电压 ( $I_C = -10\text{mA}$ , $I_B = 0$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

Output Capacitance 输出电容( $V_{CB} = -10V, I_E = 0, f = 1MHz$ )	$C_{ob}$	—	15	—	pF
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BCP51/BCP52/BCP53

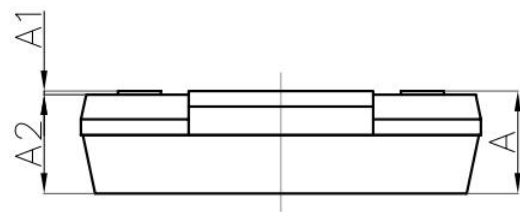
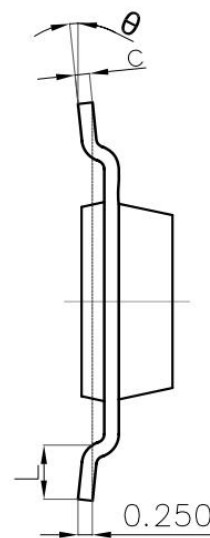
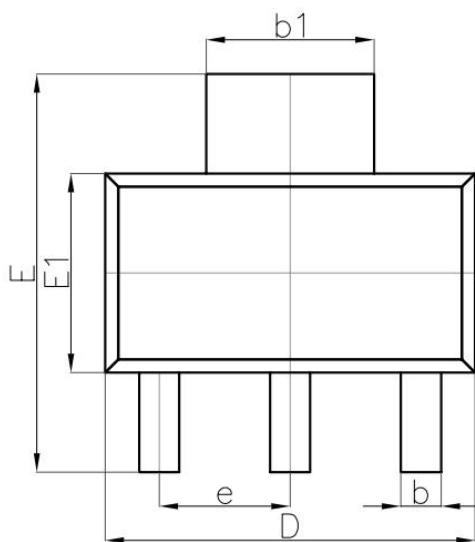
■ Typical Characteristic Curve 典型特性曲线





BCP51/BCP52/BCP53

■ 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	—
$\theta$	0°	10°	0°	10°