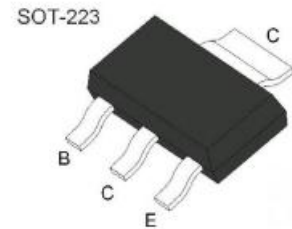


**SOT-223 Bipolar Transistor 双极型三极管**

■ **Features 特点**

NPN General Purpose 通用



■ **Absolute Maximum Ratings 最大额定值**

Characteristic 特性参数	Symbol 符号	BCP54	BCP55	BCP56	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	$R_{\theta JA}$	83			$^\circ\text{C}/\text{W}$
Junction and Storage Temperature 结温和储藏温度	$T_J, T_{stg}$	-55to+150 $^\circ\text{C}$			

■ **hFE Classification 放大倍数分档**

$H_{FE}(2)$		Type		
Classification	63-160	BCP54-10	BCP55-10	BCP56-10
	100-250	BCP54-16	BCP55-16	BCP56-16
	160-400	BCP54-25	BCP55-25	BCP56-25
	250-630	BCP54-40	BCP55-40	BCP56-40

■ 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 ( $I_C=100\mu\text{A}$ , $I_E=0$ )	BCP54 BCP55 BCP56	$BV_{CBO}$	45 60 100	—	—	V
Collector-Emitter Breakdown Voltage 集电极发射极击穿电压 ( $I_C=1\text{mA}$ , $I_B=0$ )	BCP54 BCP55 BCP56	$BV_{CEO}$	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	BCP54 ( $V_{CB}=30\text{V}, I_E=0$ ) BCP55 ( $V_{CB}=50\text{V}, I_E=0$ ) BCP56 ( $V_{CB}=80\text{V}, I_E=0$ )	$I_{CBO}$	—	—	100	nA
Emitter-Base Leakage Current 发射极基极漏电流( $V_{EB}=5\text{V}$ , $I_C=0$ )		$I_{EBO}$	—	—	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 ( $V_{CE}=2\text{V}, I_C=0.15\text{A}$ )	BCP54/BCP55/BCP56-10 BCP54/BCP55/BCP56-16 BCP54/BCP55/BCP56-25 BCP54/BCP55/BCP56-40	$H_{FE}(2)$	63 100 160 250	—	160 250 400 630	
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( $V_{CE}=5\text{V}$ , $I_C=10\text{mA}$ )		$f_T$	—	130	—	MHz
Output Capacitance 输出电容( $V_{CB}=10\text{V}$ , $I_E=0$ , $f=1\text{MHz}$ )		$C_{ob}$	—	15	—	pF

■ Typical Characteristic Curve 典型特性曲线

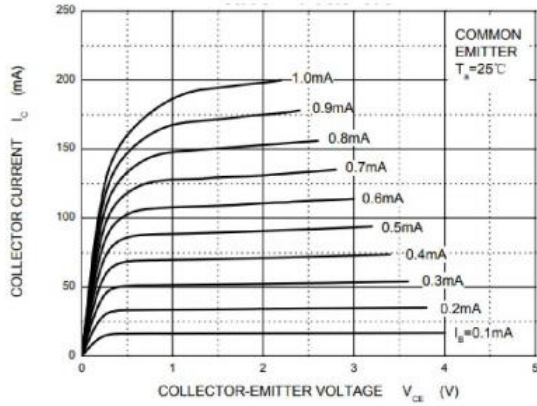


Figure 1. Static Characteristic

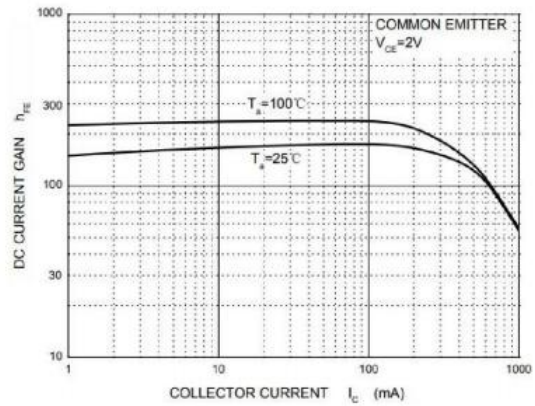


Figure 2. DC current Gain

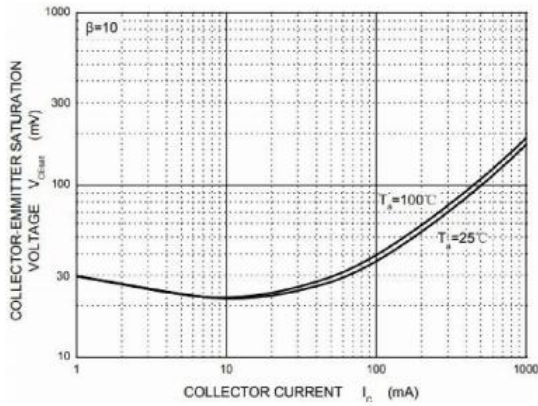


Figure 3. Collector-Emitter Saturation Voltage

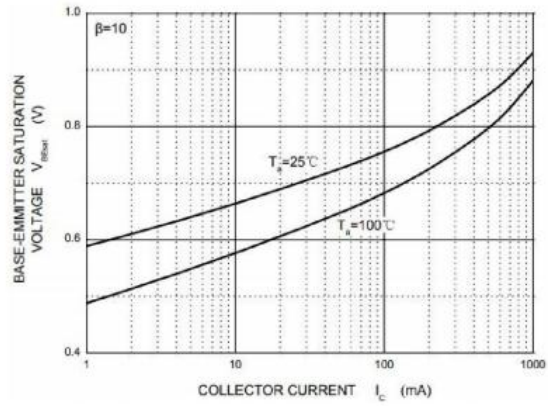


Figure 4. Base-Emitter Saturation Voltage

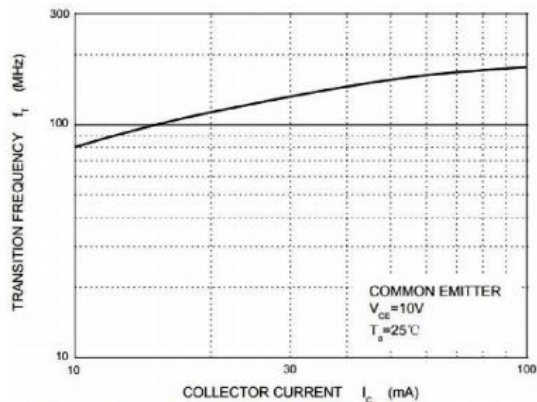


Figure 5. Current Gain Bandwidth Product

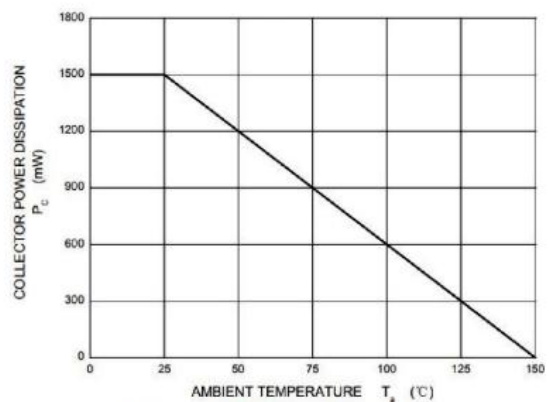
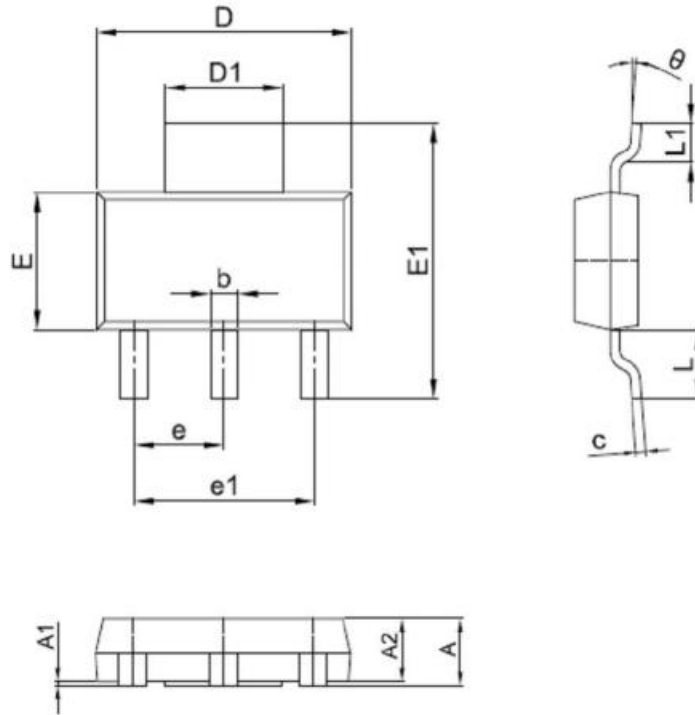


Figure 6. Power Derating

■Dimension 外形封装尺寸



Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	1.50	1.80	0.059	0.071
A1	0.00	0.10	0.000	0.004
A2	1.50	1.70	0.059	0.067
b	0.65	0.75	0.026	0.030
c	0.20	0.30	0.008	0.012
D	6.40	6.60	0.252	0.260
D1	2.90	3.10	0.114	0.122
E	3.30	3.70	0.130	0.146
E1	6.85	7.15	0.270	0.281
e	2.20	2.40	0.087	0.094
e1	4.40	4.80	0.173	0.189
L	1.65	1.85	0.065	0.073
L1	0.90	1.15	0.035	0.045