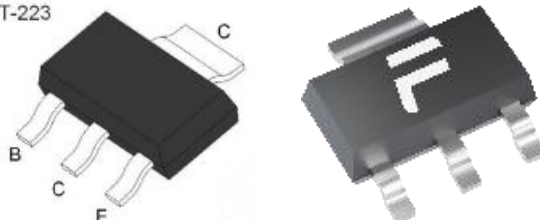


SOT-223 Bipolar Transistor 双极型三极管
■ Features 特点

NPN General Purpose 通用

SOT-223


■ 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	$P_C(T_a=25^{\circ}C)$	1500			mW
Thermal Resistance Junction-Ambient 热阻	$R_{\theta JA}$	83			$^{\circ}C/W$
Junction and Storage Temperature 结温和储藏温度	T_J, T_{stg}	-55to+150 $^{\circ}C$			

■ 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

(TA=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 (IC= 100uA, IE=0)	BCP54 BCP55 BCP56	BV _{CBO}	45 60 100	—	—	V
Collector-Emitter Breakdown Voltage 集电极发射极击穿电压 (IC= 1mA, IB=0)	BCP54 BCP55 BCP56	BV _{CEO}	45 60 80	—	—	V
Emitter-Base Breakdown Voltage 发射极基极击穿电压(IE= 100uA, IC=0)		BV _{EBO}	5	—	—	V
Collector-Base Leakage Current 集电极基极漏电流	BCP54 (V _{CB} = 30V,IE=0) BCP55 (V _{CB} = 50V,IE=0) BCP56 (V _{CB} = 80V,IE=0)	I _{CBO}	—	—	100	nA
Emitter-Base Leakage Current 发射极基极漏电流(V _{EB} = 5V, IC=0)		I _{EBO}	—	—	100	nA
DC Current Gain 直流电流增益(V _{CE} = 2V,IC= 5mA)		H _{FE} (1)	25	—	—	
DC Current Gain 直流电流增益 (V _{CE} =2V,IC=0.15A)	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} = 2V,IC= 0.5A)		H _{FE} (3)	25	—	—	
Collector-Emitter Saturation Voltage 集电极发射极饱和压降(IC= 0.5A, IB= 50mA)		V _{CE(sat)}	—	—	0.5	V
Base-Emitter Saturation Voltage 基极发射极饱和压降(IC= 500mA, IB= 50mA)		V _{BE(sat)}	—	—	1	V
Base-Emitter On Voltage 基极发射极导通电压(V _{CE} = 2V,IC= 0.5A)		V _{BE(on)}	—	—	1	V
Transition Frequency 特征频率(V _{CE} = 5V, IC= 10mA)		f _T	—	130	—	MHz
Output Capacitance 输出电容(V _{CB} = 10V, IE=0, f=1MHz)		C _{ob}	—	15	—	pF

■ Typical Characteristic Curve 典型特性曲线

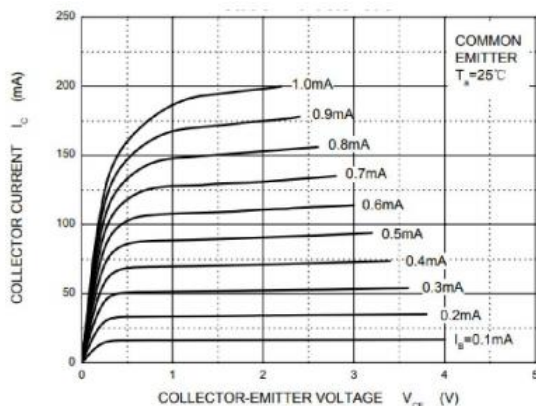


Figure 1. Static Characteristic

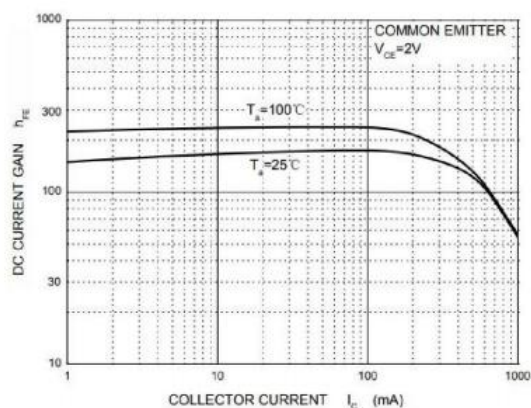


Figure 2. DC current Gain

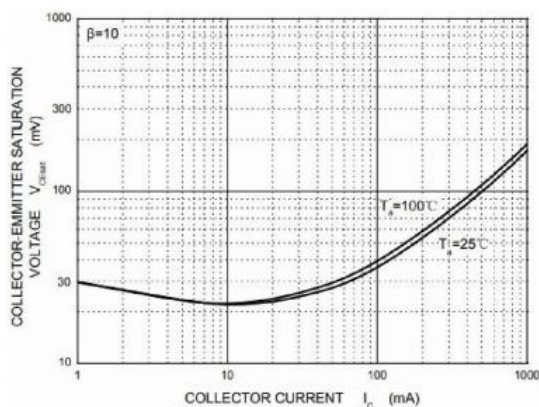


Figure 3. Collector-Emitter Saturation Voltage

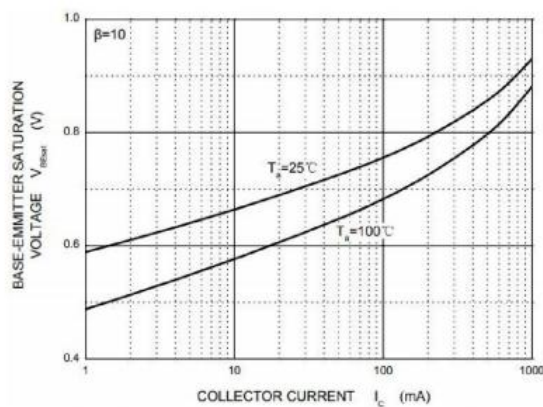


Figure 4. Base-Emitter Saturation Voltage

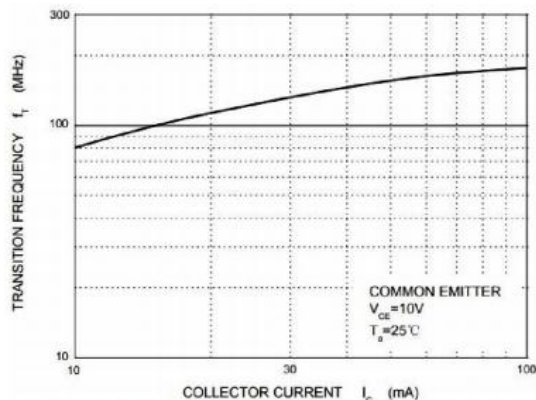


Figure 5. Current Gain Bandwidth Product

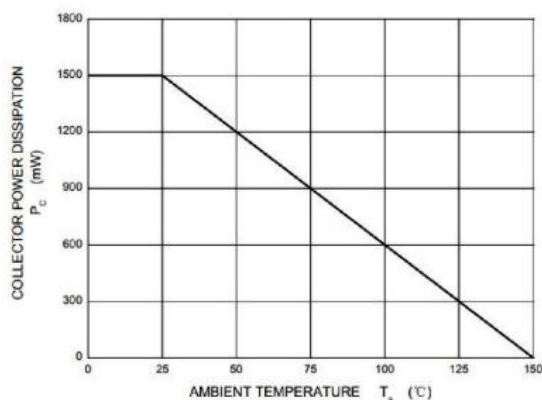
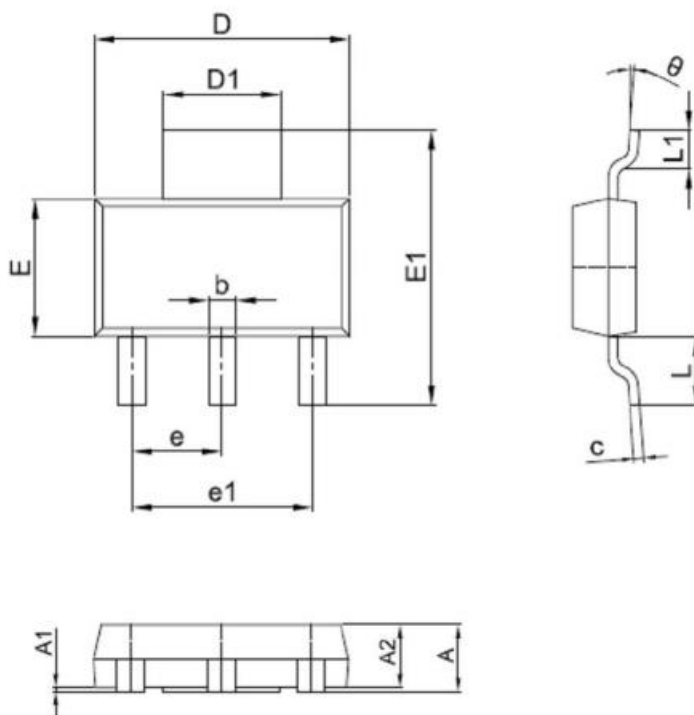


Figure 6. Power Derating

■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