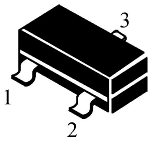
SOT-23 Bipolar Transistor 双极型三极管

SOT—23

1. BASE
2. EMITTER
3. COLLECTOR



■Features 特点

NPN General Purpose 通用

■Absolute Maximum Ratings 最大额定值

Characteristic 特性参数	Symbol 符号	BC846 A/B/C	BC847 A/B/C	BC848 A/B/C	Unit 单位
Collector-Base Voltage 集电极基极电压	V_{CBO}	80	50	30	V
Collector-Emitter Voltage 集电极发射极电压	V_{CEO}	65	45	30	V
Emitter-Base Voltage 发射极基极电压	V_{EBO}	6	6	5	V
Collector Current 集电极电流	I_C	100			mA
Power dissipation 耗散功率	$P_C(T_a=25℃)$	200			mW
Thermal Resistance Junction-Ambient 热阻	$R_{\Theta JA}$	625			℃/W
Junction and Storage Temperature 结温和储藏温度	T_J,T_{stg}	-55to+150℃			

■Device Marking 产品打标

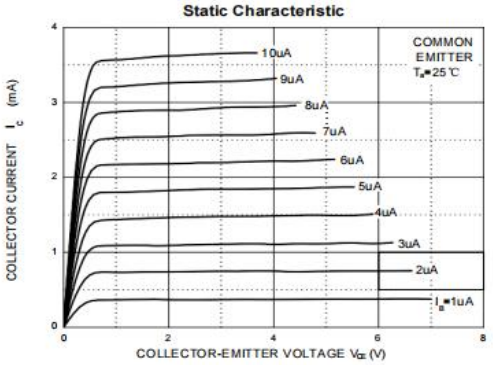
H_{FE}		110-220(A)	200-450(B)	420-800(C)
Mark	BC846	1A	1B	1C
	BC847	1E	1F	1G
	BC848	1J	1K	1L

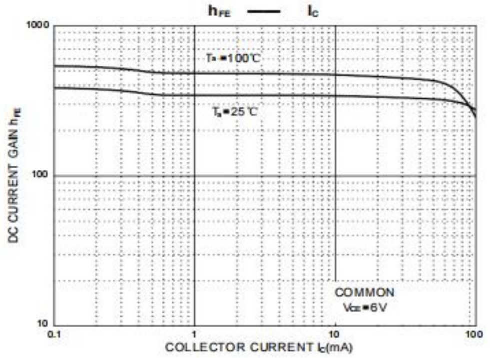
■Electrical Characteristics 电特性

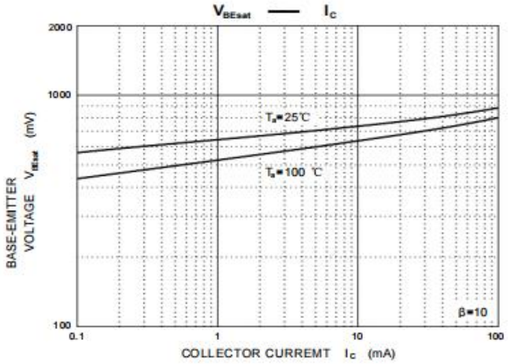
(T_A=25℃ unless otherwise noted 如无特殊说明，温度为 25℃)

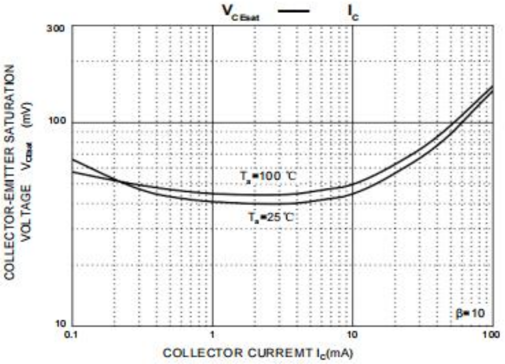
Characteristic 特性参数		Symbol 符号	Min 最小值	Type 典型值	Max 最大值	Unit 单位
Collector-Base Breakdown Voltage 集电极基极击穿电压 (I_C=10uA，I_E=0)	BC846A/B/C BC847A/B/C BC848A/B/C	BV_{CBO}	80 50 30	—	—	V
Collector-Emitter Breakdown Voltage 集电极发射极击穿电压 (I_C=10mA，I_B=0)	BC846A/B/C BC847A/B/C BC848A/B/C	BV_{CEO}	65 45 30	—	—	V
Emitter-Base Breakdown Voltage 发射极基极击穿电压 (I_E=10uA，I_C=0)		BV_{EBO}	5	—	—	V
Collector-Base Leakage Current 集电极基极漏电流	BC846A/B/C(V_{CB}=70V,I_E=0) BC847A/B/C(V_{CB}=50V,I_E=0) BC848A/B/C(V_{CB}=30V,I_E=0)	I_{CBO}	—	—	100	nA
Emitter-Base Leakage Current 发射极基极漏电流 (V_{EB}=5V，I_C=0)		I_{EBO}	—	—	100	nA
DC Current Gain 直流电流增益 (V_{CE}=5V,I_C=2mA)	BC846A/BC847A/BC848A BC846B/BC847B/BC848B BC846C/BC847C/BC848C	H_{FE}	110 200 420	180 290 520	220 450 800	
Collector-Emitter Saturation Voltage 集电极发射极饱和压降 (I_C=100mA，I_B=5mA)		$V_{CE(sat)}$	—	—	0.5	V
Base-Emitter Saturation Voltage 基极发射极饱和压降 (I_C=100mA，I_B=5mA)		$V_{BE(sat)}$	—	—	1.1	V
Transition Frequency 特征频率 (V_{CE}=5V，I_C=10mA)		f_T	100	—	—	MHz
Output Capacitance 输出电容 (V_{CB}=10V，I_E=0, f=1MHz)		C_{ob}	—	4.5	—	pF

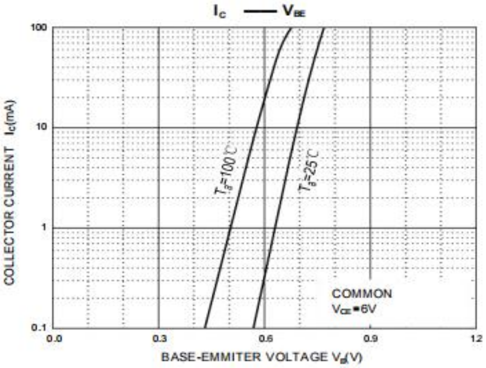
■Typical Characteristic Curve 典型特性曲线

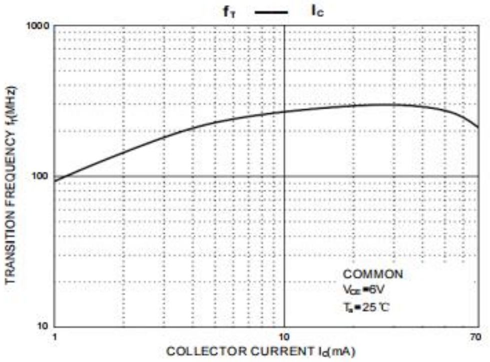


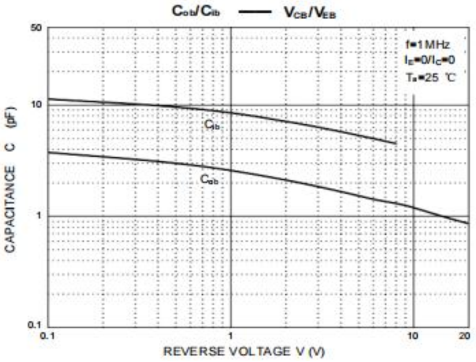


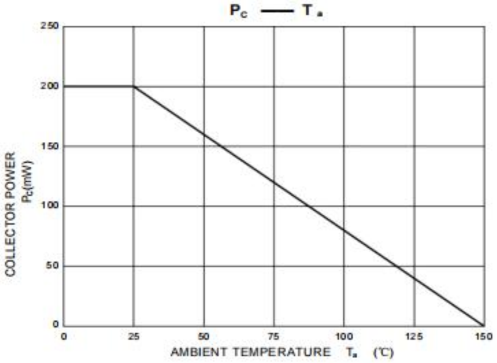




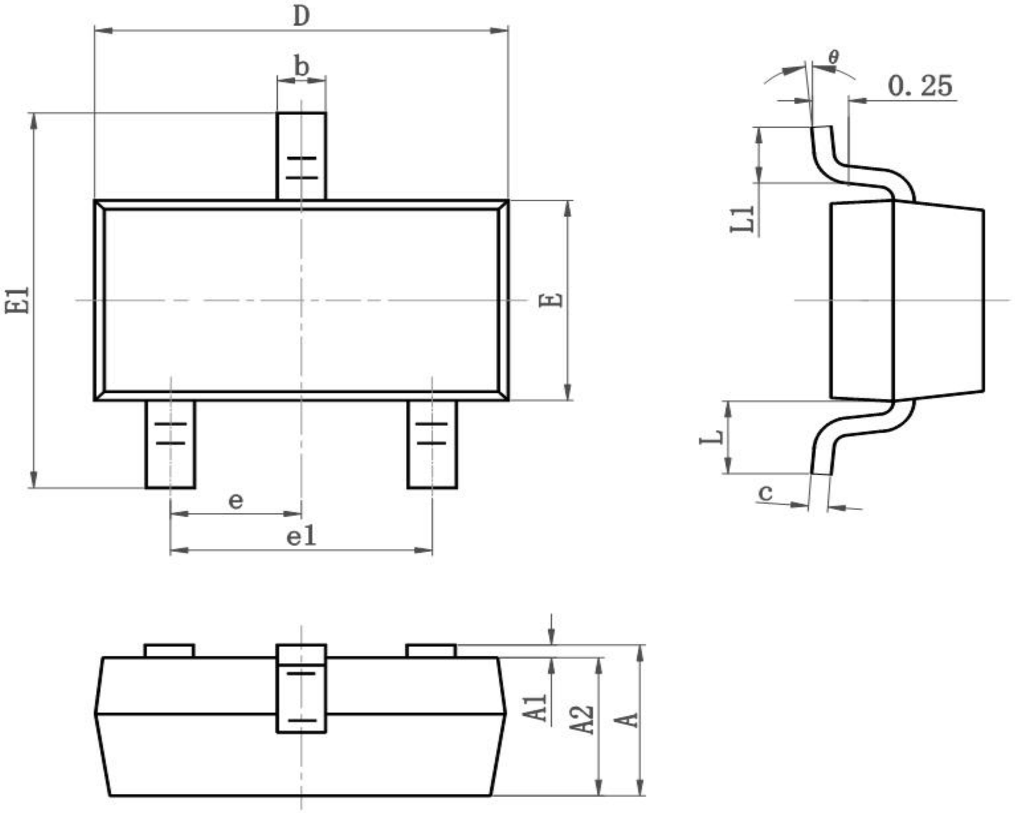








■Dimension 外形封装尺寸



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.050	0.055
E1	2.250	2.550	0.089	0.100
e	0.900	1.00	0.035	0.039
e1	1.800	2.000	0.071	0.079
L	0.500	0.600	0.020	0.024
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°