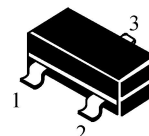


SOT-23

1. BASE
2. EMITTER
3. COLLECTOR



■ Features

NPN General Purpose

■ Absolute Maximum Ratings

Characteristic	Symbol	BC846 A/B/C	BC847 A/B/C	BC848 A/B/C	Unit
Collector-Base Voltage	V_{CBO}	80	50	30	V
Collector-Emitter Voltage	V_{CEO}	65	45	30	V
Emitter-Base Voltage	V_{EBO}	6	6	5	V
Collector Current	I_C	100			mA
Power dissipation	$P_C(T_a=25^{\circ}C)$	200			mW
Thermal Resistance Junction-Ambient	$R_{\theta JA}$	625			$^{\circ}C/W$
Junction and Storage Temperature	T_J, T_{stg}	-55to+150 $^{\circ}C$			

■ Device Marking

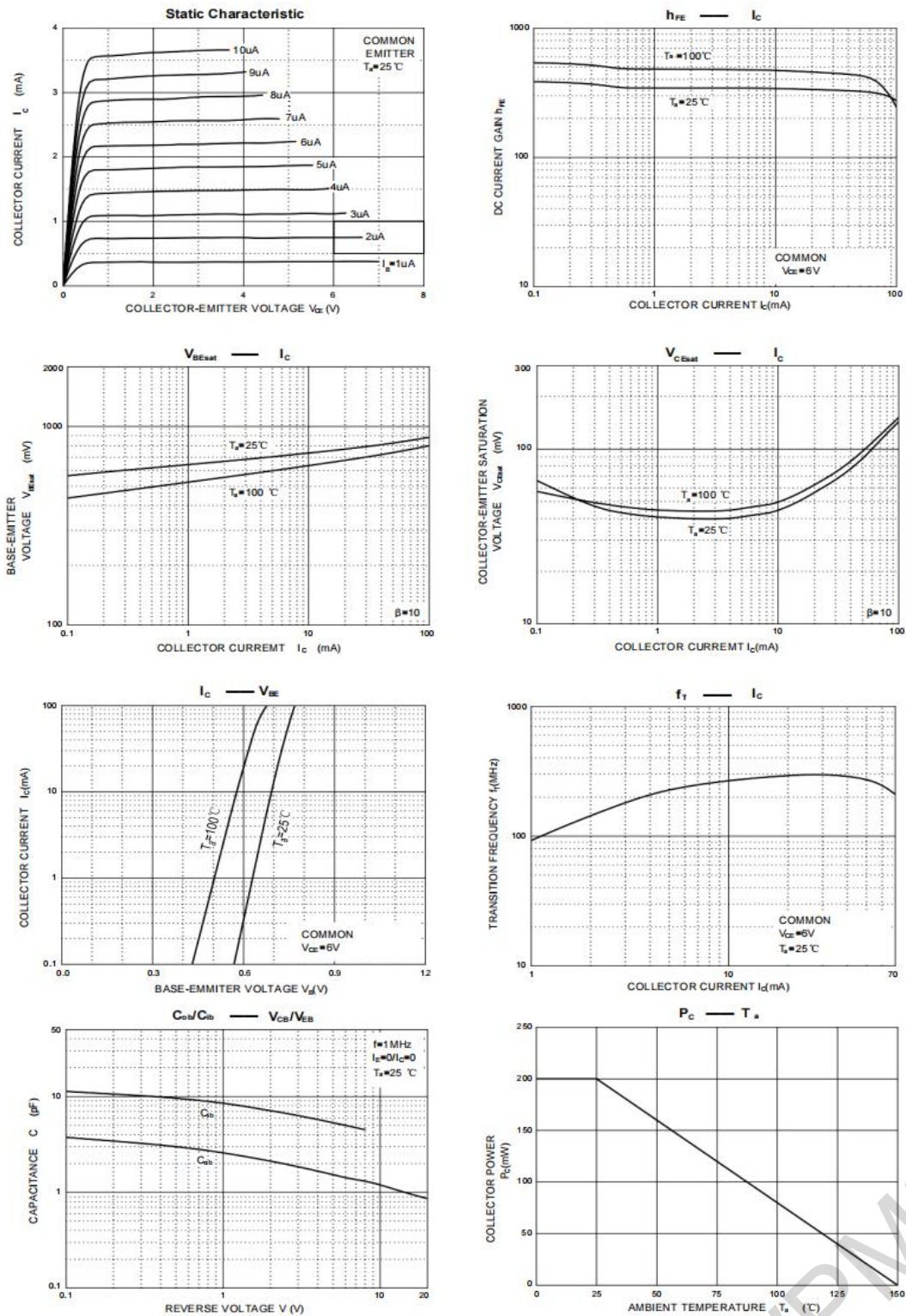
H_{FE}		110-220(A)	200-450(B)	420-800(C)
Mark	BC846	1A	1B	1C
	BC847	1E	1F	1G
	BC848	1J	1K	1L

■Electrical Characteristics

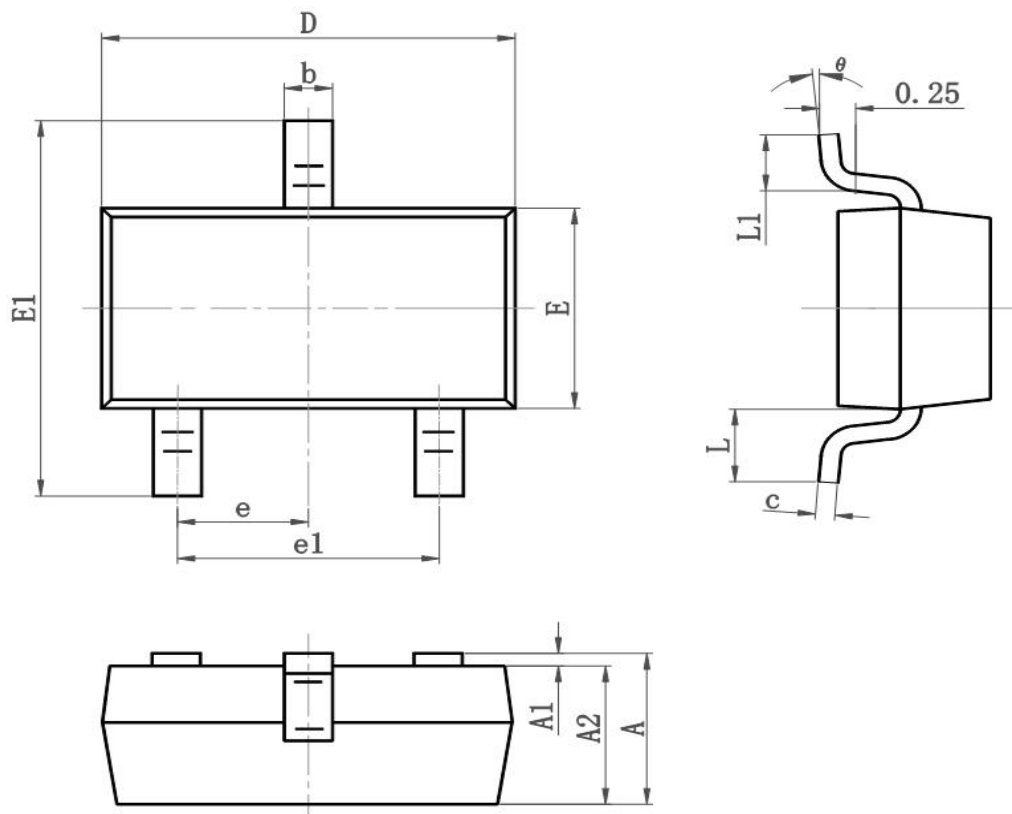
($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Characteristic		Symbol	Min	Type	Max	Unit
Collector-Base Breakdown Voltage ($I_C=10\mu\text{A}$, $I_E=0$)	BC846A/B/C BC847A/B/C BC848A/B/C	BV_{CBO}	80 50 30	—	—	V
Collector-Emitter Breakdown Voltage ($I_C=10\text{mA}$, $I_B=0$)	BC846A/B/C BC847A/B/C BC848A/B/C	BV_{CEO}	65 45 30	—	—	V
Emitter-Base Breakdown Voltage ($I_E=10\mu\text{A}$, $I_C=0$)		BV_{EBO}	5	—	—	V
Collector-Base Leakage Current	BC846A/B/C($V_{CB}=70\text{V}$, $I_E=0$) BC847A/B/C($V_{CB}=50\text{V}$, $I_E=0$) BC848A/B/C($V_{CB}=30\text{V}$, $I_E=0$)	I_{CBO}	—	—	100	nA
Emitter-Base Leakage Current ($V_{EB}=5\text{V}$, $I_C=0$)		I_{EBO}	—	—	100	nA
DC Current Gain ($V_{CE}=5\text{V}$, $I_C=2\text{mA}$)	BC846A/BC847A/BC848A BC846B/BC847B/BC848B BC846C/BC847C/BC848C	H_{FE}	110 200 420	180 290 520	220 450 800	
Collector-Emitter Saturation Voltage ($I_C=100\text{mA}$, $I_B=5\text{mA}$)		$V_{CE(sat)}$	—	—	0.5	V
Base-Emitter Saturation Voltage ($I_C=100\text{mA}$, $I_B=5\text{mA}$)		$V_{BE(sat)}$	—	—	1.1	V
Transition Frequency ($V_{CE}=5\text{V}$, $I_C=10\text{mA}$)		f_T	100	—	—	MHz
Output Capacitance ($V_{CB}=10\text{V}$, $I_E=0$, $f=1\text{MHz}$)		C_{ob}	—	4.5	—	pF

■ Typical Characteristic Curve



■ Dimension



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°

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