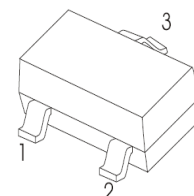


SOT-523 Plastic-Encapsulate Transistor

TRANSISTOR (NPN)

BC846AT, BT, CT
BC847AT, BT, CT
BC848AT, BT, CT

SOT-523



- 1. BASE
- 2. EMITTER
- 3. COLLECTOR

FEATURES

- Ideally suited for automatic insertion
- For Switching and AF Amplifier Applications

MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage		V
		BC846T	
		BC847T	
		BC848T	
V_{CEO}	Collector-Emitter Voltage		V
		BC846T	
		BC847T	
		BC848T	
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current –Continuous	0.1	A
P_{C^*}	Collector Power Dissipation	150	mW
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-65-150	$^{\circ}\text{C}$

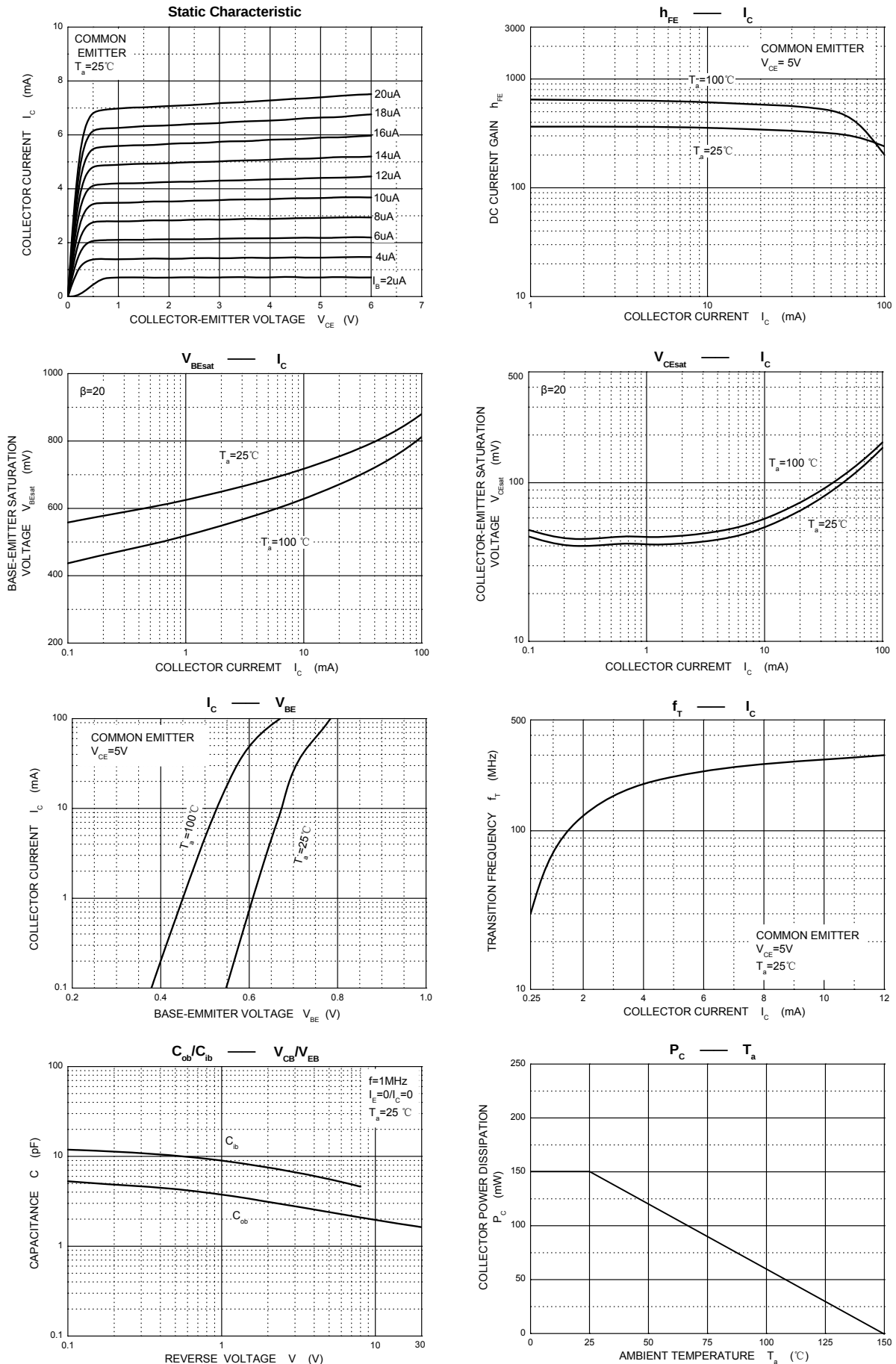
DEVICE MARKING

BC846AT=1A; BC846BT=1B;BC846CT=1C;
 BC847AT=1E; BC847BT=1F; BC847CT=1G;
 BC848AT=1J; BC848BT=1K: BC848CT=1L

ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	BC846T BC847T BC848T	V_{CBO}	$I_C = 10\mu A, I_E = 0$	80 50 30		V
Collector-emitter breakdown voltage	BC846T BC847T BC848T	V_{CEO}	$I_C = 10mA, I_B = 0$	65 45 30		V
Emitter-base breakdown voltage		V_{EBO}	$I_E = 10\mu A, I_C = 0$	6		V
Collector cut-off current	BC846T BC847T BC848T	I_{CBO}	$V_{CB} = 70V, I_E = 0$ $V_{CB} = 50V, I_E = 0$ $V_{CB} = 30V, I_E = 0$		15	nA
Emitter cut-off current		I_{EBO}	$V_{EB} = 5V, I_C = 0$		0.1	uA
DC current gain	BC846AT,847AT,848AT BC846BT,847BT,848BT BC846CT,847CT,848CT	h_{FE}	$V_{CE} = 5V, I_C = 2mA$	110 200 420	220 450 800	
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C = 100mA, I_B = 5mA$		0.6	V
Base-emitter saturation voltage		$V_{BE(sat)}$	$I_C = 100mA, I_B = 5mA$		1.1	V
Transition frequency		f_T	$V_{CE} = 5V, I_C = 10mA$ $f = 100MHz$	100		MHz
Collector output capacitance		C_{ob}	$V_{CB} = 5V, f = 1MHz$		4.5	pF

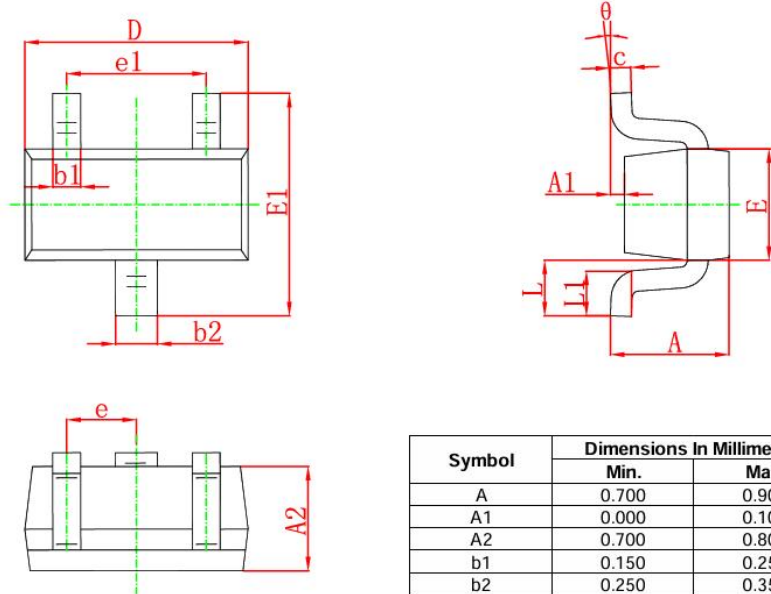
Typical Characteristics



The curve above is for reference only.

Outlitne Drawing

SOT-523 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

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