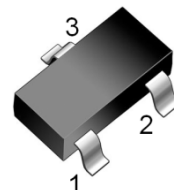


REPLACEMENT TYPE : BC846/BC847/BC848
FEATURES

- For general AF applications
- High collector current
- High current gain
- Low collector-emitter saturation voltage



SOT-23

1: BASE 2: EMITTER 3: COLLECTOR

MARKING:

HABC846A 1A HABC846B 1B

HABC847A 1E HABC847B 1F HABC847C 1G

HABC848A 1J HABC848B 1K HABC848C 1L

MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

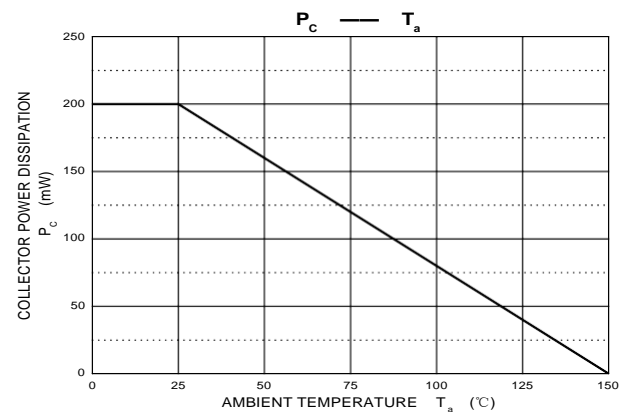
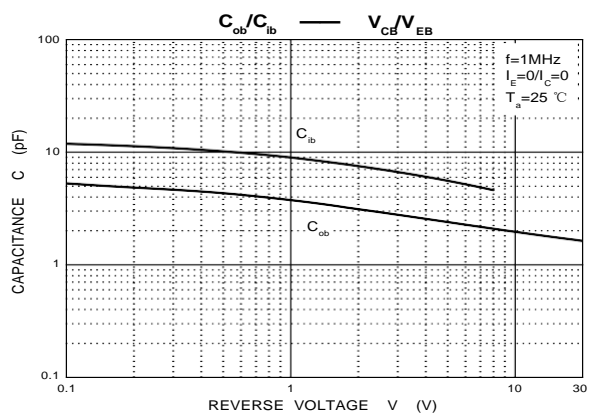
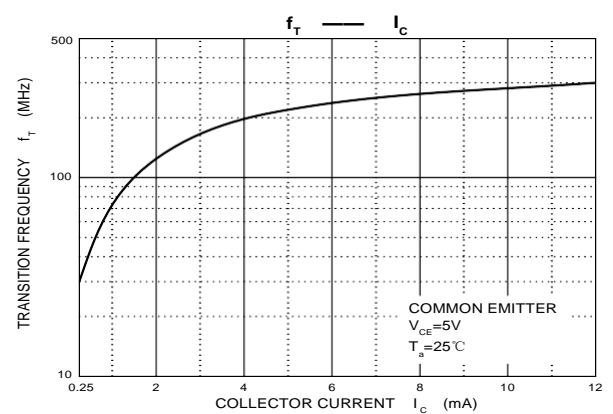
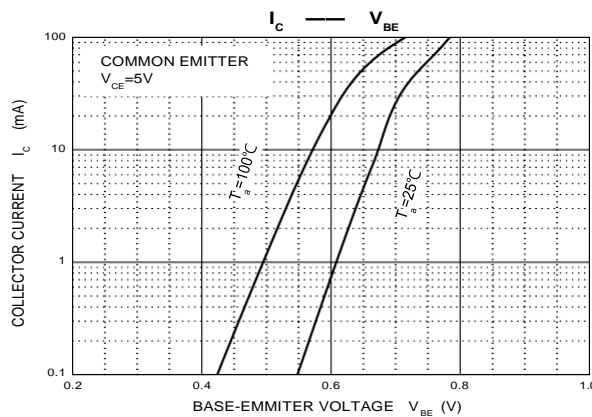
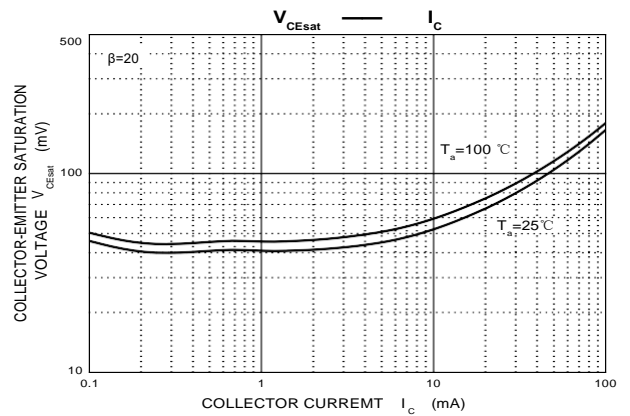
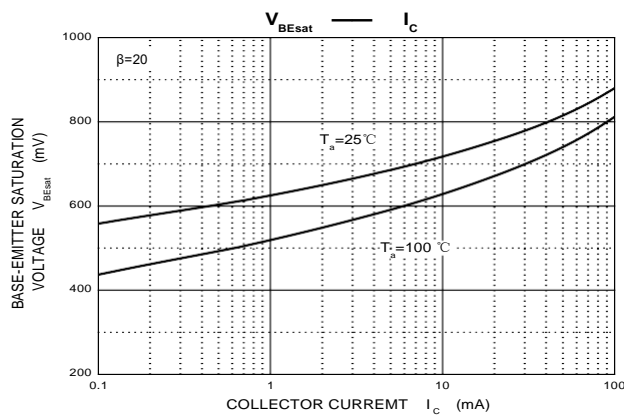
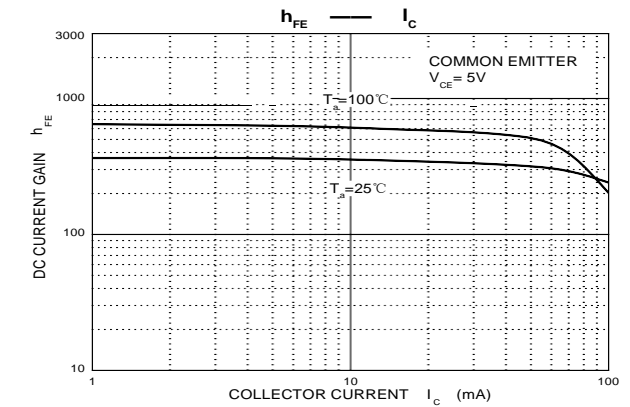
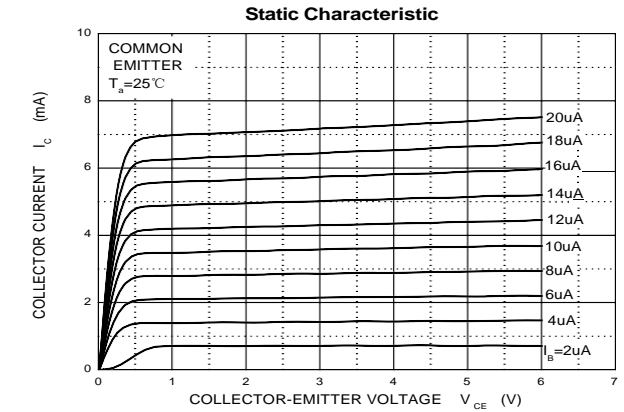
Parameter		Symbol	Value	Unit
Collector-Base Voltage	BC846	V _{CBO}	80	V
	BC847	V _{CBO}	50	
	BC848	V _{CBO}	30	
Collector-Emitter Voltage	BC846	V _{CEO}	65	V
	BC847	V _{CEO}	45	
	BC848	V _{CEO}	30	
Emitter-Base Voltage		V _{EBO}	6	V
Collector Current -Continuous		I _C	0.1	A
Collector Power Dissipation		P _C	0.2	W
Junction Temperature		T _J	150	°C
Storage Temperature		T _{stg}	-55 to +150	°C

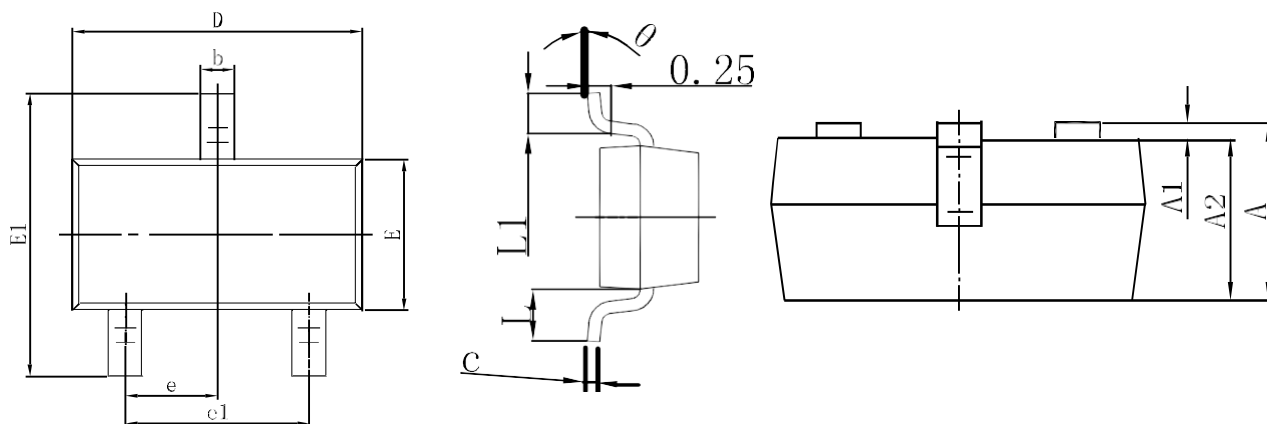
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-Base Breakdown Voltage	HABC846	$I_C = 10\mu\text{A}, I_E = 0$	80		V
	HABC847		50		
	HABC848		30		
Collector-Emitter Breakdown Voltage	HABC846	$I_C = 10\text{mA}, I_B = 0$	65		V
	HABC847		45		
	HABC848		30		
Emitter-Base Breakdown Voltage	V_{EBO}	$I_E = 10\mu\text{A}, I_C = 0$	6		V
Collector Cut-off Current	HABC846	$V_{CB} = 70\text{V}, I_E = 0$		0.1	μA
	HABC847	$V_{CB} = 50\text{V}, I_E = 0$			
	HABC848	$V_{CB} = 30\text{V}, I_E = 0$			
Collector Cut-off Current	HABC846	$V_{CE} = 60\text{V}, I_B = 0$		0.1	μA
	HABC847	$V_{CE} = 45\text{V}, I_B = 0$			
	HABC848	$V_{CE} = 30\text{V}, I_B = 0$			
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$		0.1	μA
DC Current Gain	HABC846A, 847A, 848A	$V_{CE} = 5\text{V}, I_C = 2\text{mA}$	10	220	
	HABC846B, 847B, 848B		200	450	
	HABC847C, 848C		420	800	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 100\text{mA}, I_B = 5\text{mA}$		0.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 100\text{mA}, I_B = 5\text{mA}$		1.1	V
Transition Frequency	f_T	$V_{CE} = 5\text{V}, I_C = 10\text{mA}$ $f = 100\text{MHz}$	100		MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}, f = 1\text{MHz}$		4.5	pF

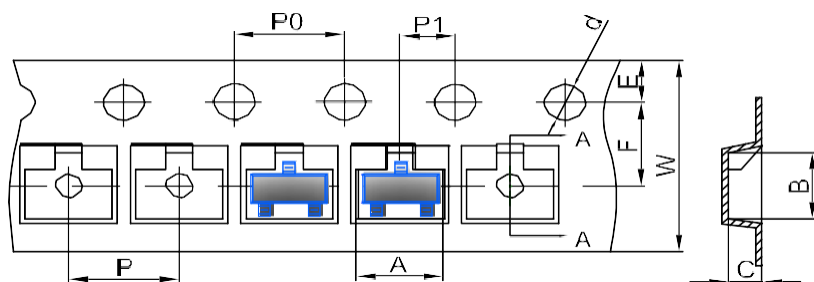
Typical Characteristics

GENERAL PURPOSE TRANSISTOR

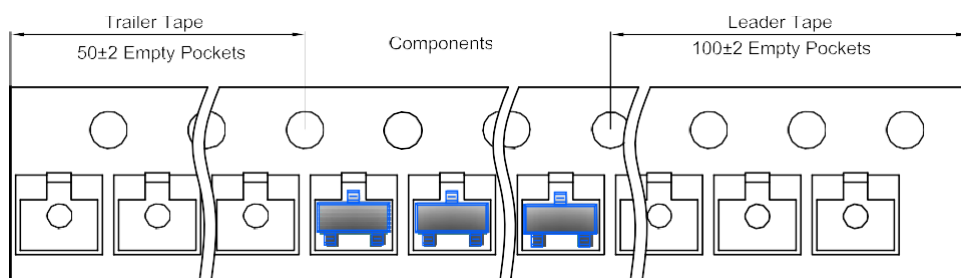
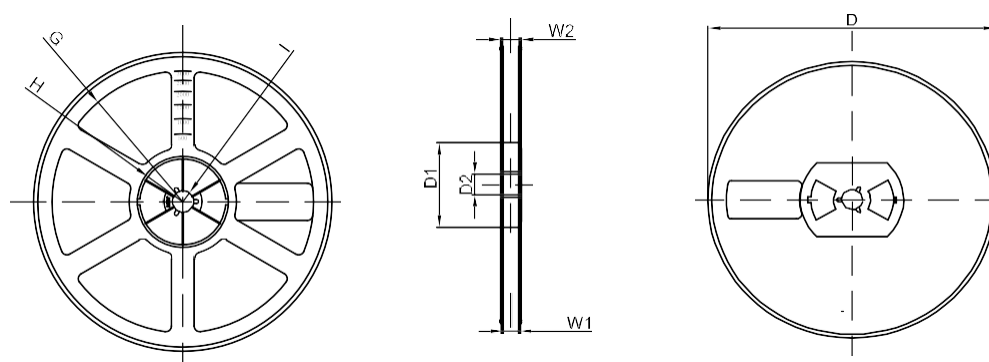


Typical Characteristics


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	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Embossed Carrier Tape


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	φ1.50	1.75	3.50	4.00	4.00	2.00	8.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

SOT-23 Tape Leader and Traller

SOT-23 Reel


DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
7" DIA	φ178	54.40	13.00	R78	R25.60	R6.50	9.50	12.30
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1