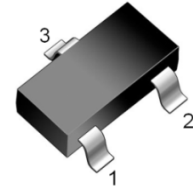


**REPLACEMENT TYPE : BC807**

**FEATURES**

- For general AF applications
- High collector current
- High current gain
- Low collector-emitter saturation voltage
- Complementary types: HABC817(NPN)



SOT-23

1: BASE 2: EMITTER 3: COLLECTOR

MARKING:

HABC807-16 5A

HABC807-25 5B

HABC807-40 5C

**MAXIMUM RATINGS (T<sub>A</sub> =25 °C unless otherwise noted)**

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V <sub>CBO</sub>	-50	V
Collector-Emitter Voltage	V <sub>CEO</sub>	-45	V
Emitter-Base Voltage	V <sub>EBO</sub>	-5	V
Collector Current -Continuous	I <sub>C</sub>	-500	mA
Collector Power Dissipation	P <sub>C</sub>	300	mW
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55to+150	°C
Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	417	°C /w

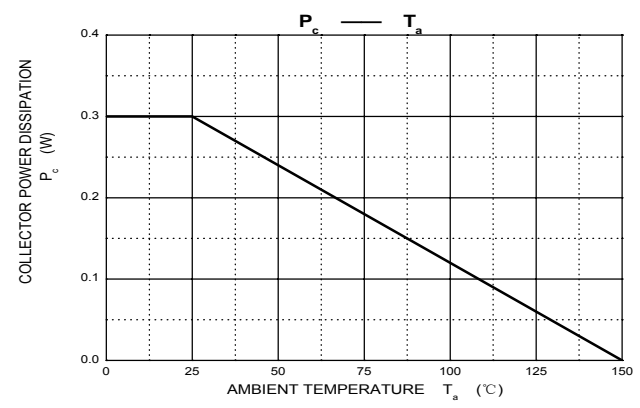
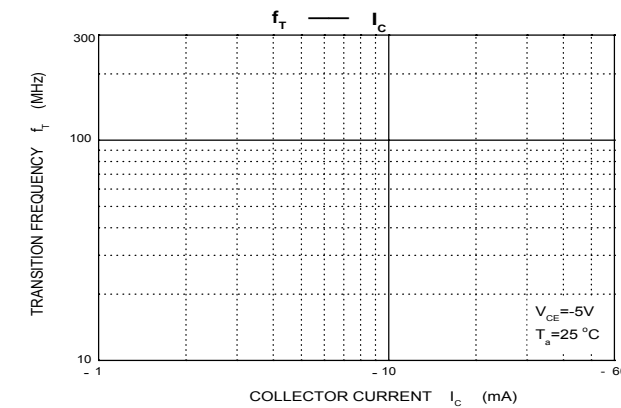
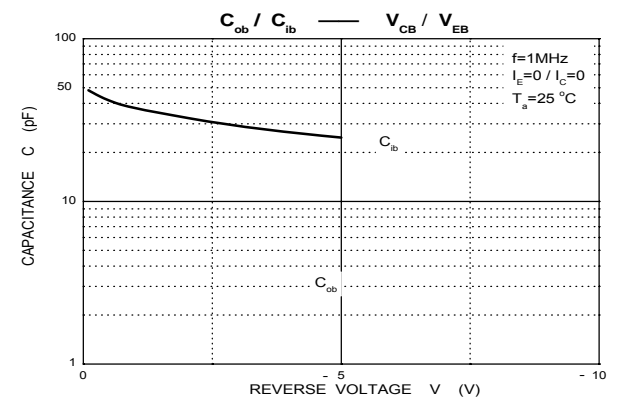
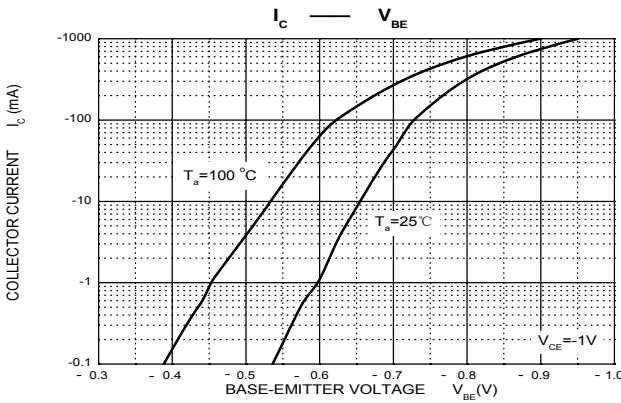
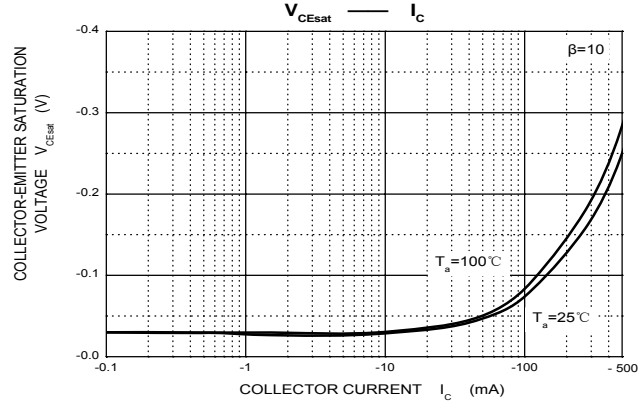
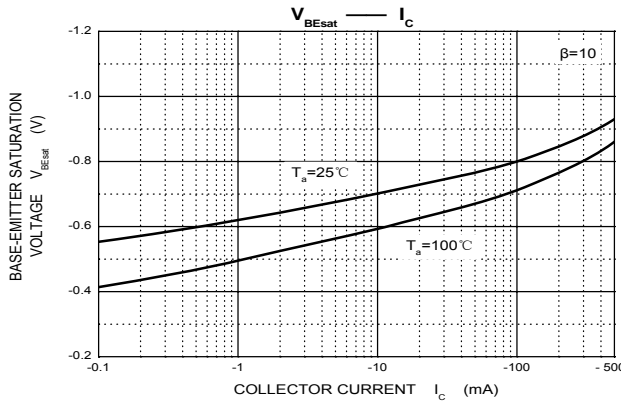
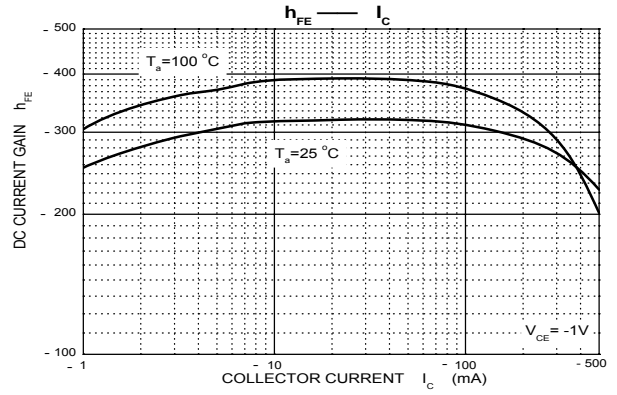
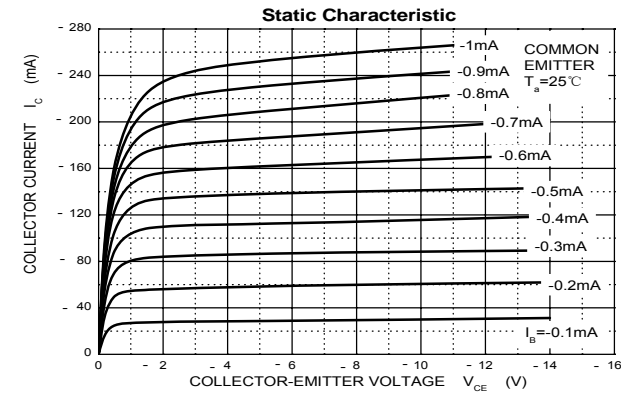
**ELECTRICAL CHARACTERISTICS (T<sub>A</sub> =25 °C unless otherwise noted)**

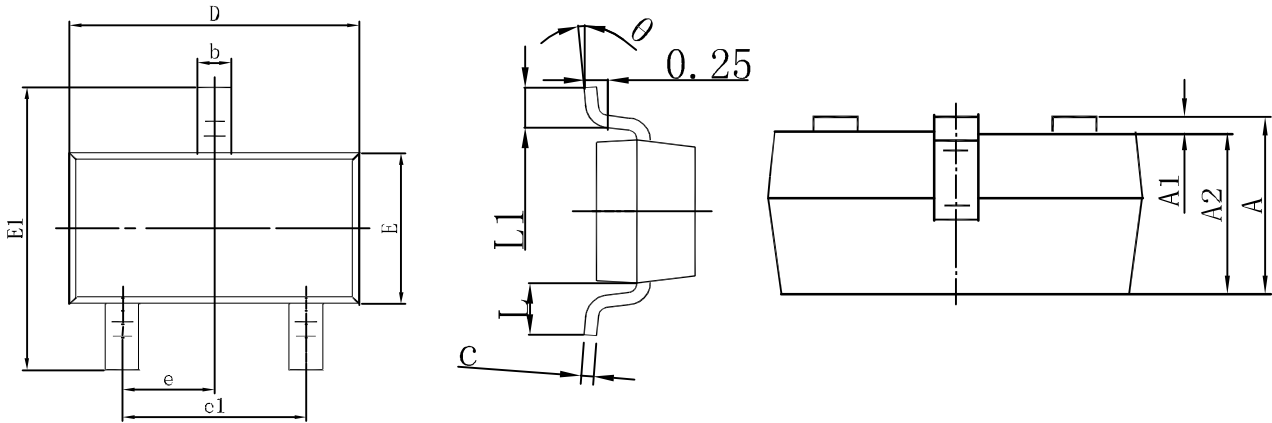
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-Base Breakdown Voltage	V <sub>CBO</sub>	I <sub>C</sub> =-10μA , I <sub>E</sub> =0	-50		V
Collector-Emitter Breakdown Voltage	V <sub>CEO</sub>	I <sub>C</sub> =-10mA , I <sub>B</sub> =0	-45		V
Emitter-Base Breakdown Voltage	V <sub>EBO</sub>	I <sub>E</sub> =-1μA , I <sub>C</sub> =0	-5		V
Collector Cut-off Current	I <sub>CBO</sub>	V <sub>CB</sub> =-45V , I <sub>E</sub> =0		-0.1	uA
Collector Cut-off Current	I <sub>CEO</sub>	V <sub>CE</sub> =-40V , I <sub>B</sub> =0		-0.2	uA
Emitter Cut-off Current	I <sub>EBO</sub>	V <sub>EB</sub> =-4V , I <sub>C</sub> =0		-0.1	uA
DC Current Gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =-1V , I <sub>C</sub> =-100mA	100	600	
	h <sub>FE(2)</sub>	V <sub>CE</sub> =-1V , I <sub>C</sub> =-300mA	60		
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-500mA , I <sub>B</sub> =-50mA		-0.7	V
Base-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =-500mA , I <sub>B</sub> =-50mA		-1.2	V
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> =-5V , I <sub>C</sub> =-10mA , f=100MHz	100		MHz
collector Capacitance	C <sub>C</sub>	I <sub>E</sub> = 0; V <sub>CB</sub> = -10 V , f = 1 MHz		9	pF

**CLASSIFICATION OF h<sub>FE</sub>**

Rank	6A	6B	6C
Range	100-250	160-400	250-600

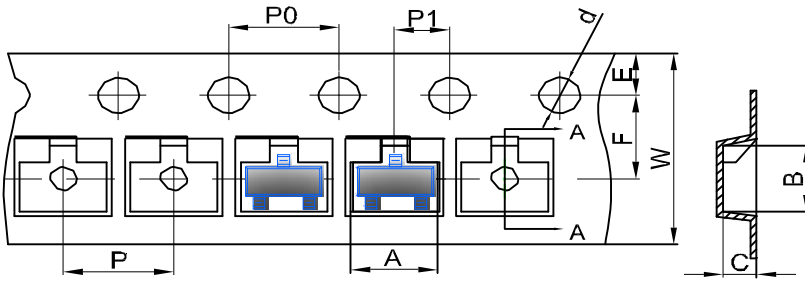
**Typical Characteristics**



**Typical Characteristics**


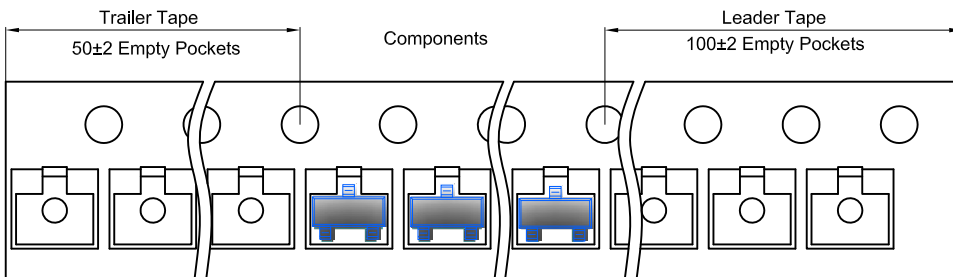
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		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**

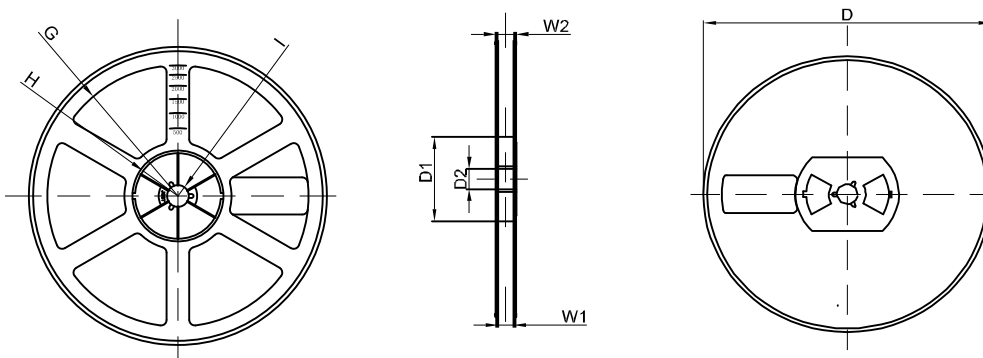


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	φ1.50	1.75	3.50	4.00	4.00	2.00	8.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

**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