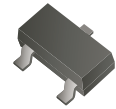


## ABC807-16-HF/25-HF/40-HF (PNP)

RoHS Device

Halogen Free

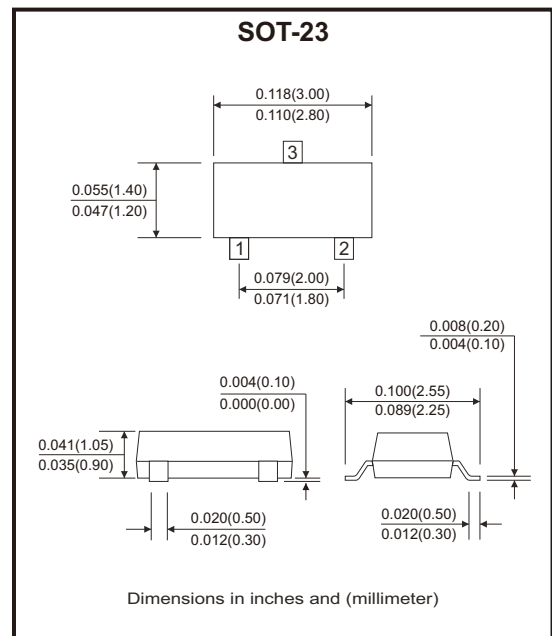


### Features

- Epoxy meets UL-94 V-0 flammability rating.
- Moisture sensitivity Level 1.
- AEC-Q101 Qualified

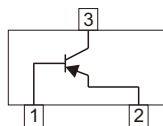
### Mechanical data

- Case: SOT-23, molded plastic.
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102.



### Circuit diagram

1. Base
2. Emitter
3. Collector



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

Parameter	Symbol	Value	Unit
Collector-emitter voltage	$V_{CEO}$	-45	V
Collector-base voltage	$V_{CBO}$	-50	V
Emitter-base voltage	$V_{EBO}$	-5	V
Collector current-continuous	$I_C$	-500	mA
Total device dissipation	$P_D$	300	mW
Junction temperature range	$T_J$	-55 to +150	$^{\circ}\text{C}$
Storage temperature range	$T_{STG}$	-55 to +150	$^{\circ}\text{C}$

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

Parameter	Symbol	Conditions	Min	Max	Unit
Collector-emitter breakdown voltage	$V_{CEO}$	$I_C = -10\text{mA}$ , $I_B = 0$	-45		V
Collector-base breakdown voltage	$V_{CBO}$	$I_C = -10\mu\text{A}$ , $I_E = 0$	-50		V
Emitter-base breakdown voltage	$V_{EBO}$	$I_E = -1\mu\text{A}$ , $I_C = 0$	-5		V
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -4\text{V}$ , $I_C = 0$		-0.1	$\mu\text{A}$
Collector cut-off current	$I_{CBO}$	$V_{CB} = -45\text{V}$ , $I_E = 0$		-0.1	$\mu\text{A}$
Collector cut-off current	$I_{CEO}$	$V_{CE} = -40\text{V}$ , $I_E = 0$		-0.2	$\mu\text{A}$
DC current gain	ABC807-16-HF	$h_{FE}$	100	250	
	ABC807-25-HF	$h_{FE}$	160	400	
	ABC807-40-HF	$h_{FE}$	250	600	
DC current gain	$h_{FE}$	$I_C = -500\text{mA}$ , $V_{CE} = -1\text{V}$	40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500\text{mA}$ , $I_B = -50\text{mA}$		-0.7	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -500\text{mA}$ , $I_B = -50\text{mA}$		-1.2	V
Current gain-bandwidth product	$f_T$	$I_C = -10\text{mA}$ , $V_{CE} = -5\text{V}$ , $f = 100\text{MHz}$	100		MHz

## Rating and Characteristic Curves (ABC807-16-HF/25-HF/40-HF)

Fig.1 -  $V_{BEsat} - I_c$

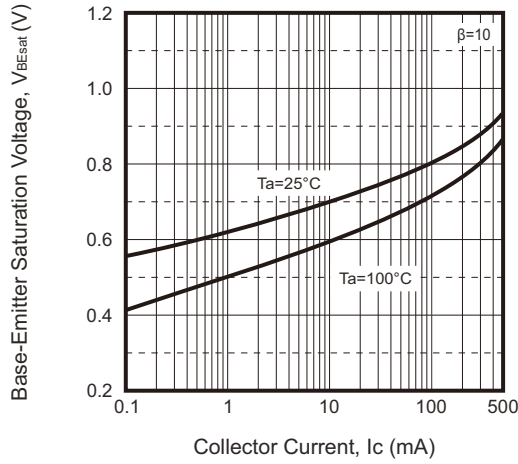


Fig.2 -  $V_{CEsat} - I_c$

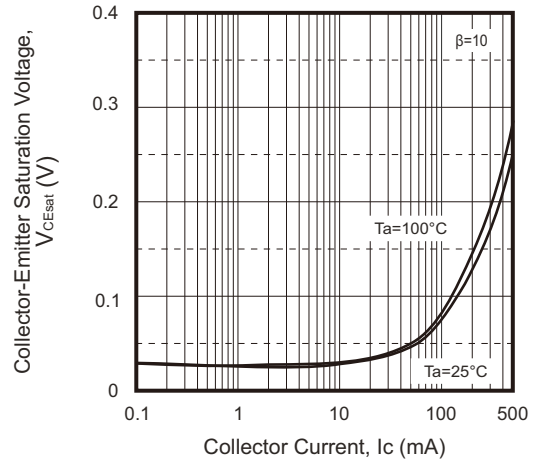


Fig.3 - Static Characteristic

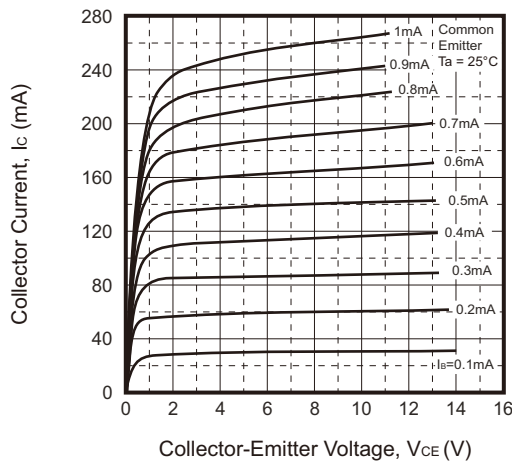
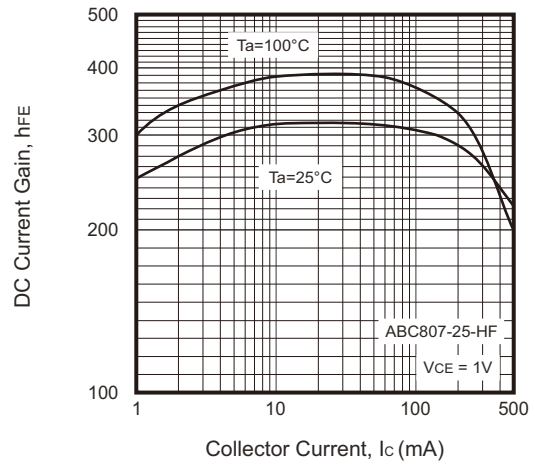
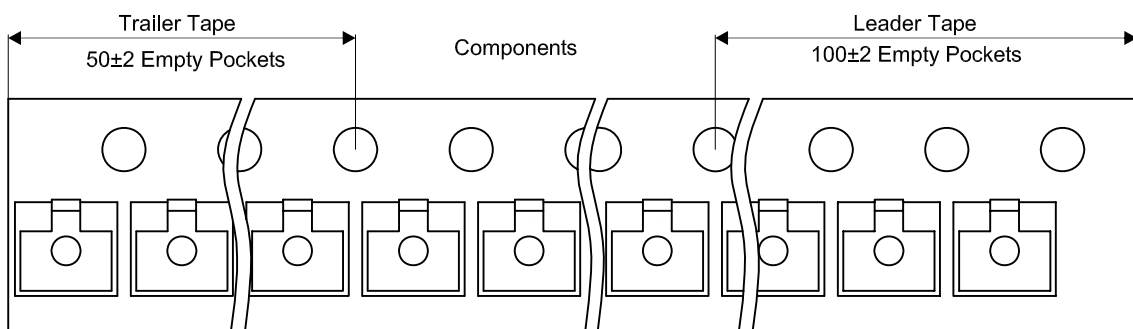
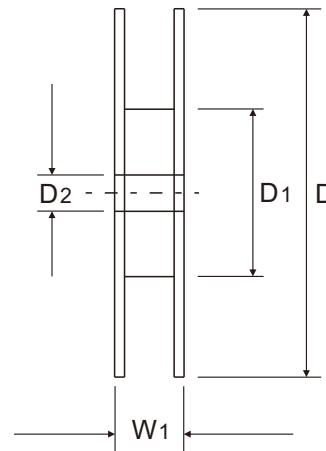
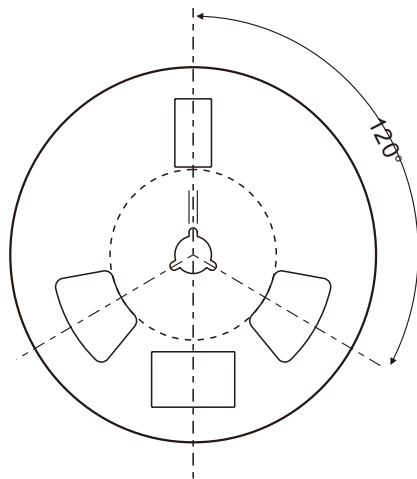
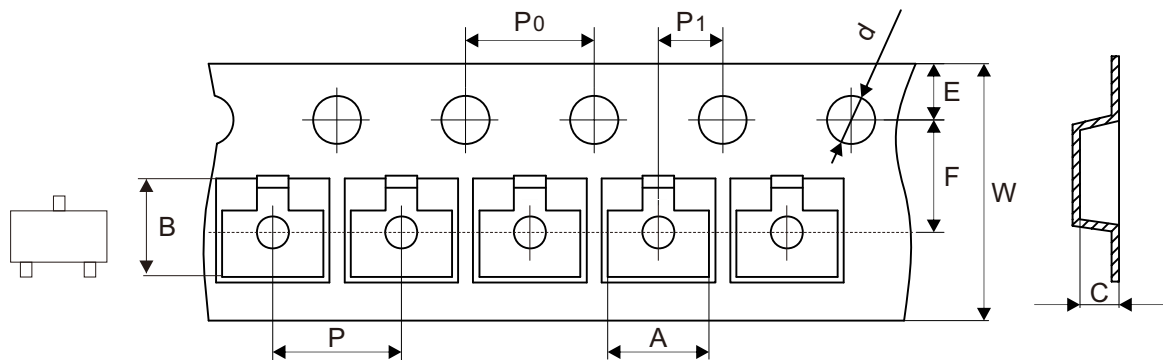


Fig.4 -  $h_{FE} - I_c$



## Reel Taping Specification

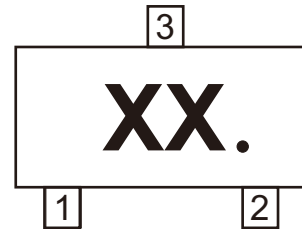


SOT-23	SYMBOL	A	B	C	d	D	D <sub>1</sub>	D <sub>2</sub>
	(mm)	3.15 ± 0.10	2.77 ± 0.10	1.22 ± 0.10	1.50 + 0.10 - 0.00	178.00 ± 1.00	54.60 ± 1.00	13.30 ± 1.00
	(inch)	0.124 ± 0.004	0.109 ± 0.004	0.048 ± 0.004	0.059 + 0.004 - 0.000	7.008 ± 0.039	2.150 ± 0.039	0.524 ± 0.039

SOT-23	SYMBOL	E	F	P	P <sub>0</sub>	P <sub>1</sub>	W	W <sub>1</sub>
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	8.00 + 0.30 - 0.10	11.10 ± 0.20
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.315 + 0.012 - 0.004	0.437 ± 0.008

## Marking Code

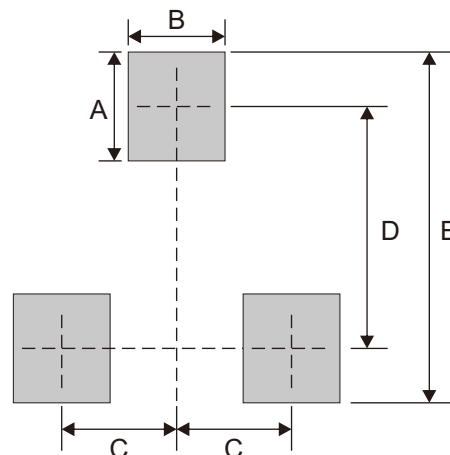
Part Number	Marking Code
ABC807-16-HF	5A.
ABC807-25-HF	5B.
ABC807-40-HF	5C.



xx = Product type marking code

## Suggested PAD Layout

SIZE	SOT-23	
	(mm)	(inch)
A	0.90	0.035
B	0.80	0.031
C	0.95	0.037
D	2.00	0.079
E	2.90	0.114



Note: 1. The pad layout is for reference purposes only.

## Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOT-23	3,000	7