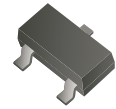


## ABC817-16-HF/25-HF/40-HF (NPN)

RoHS Device

Halogen Free

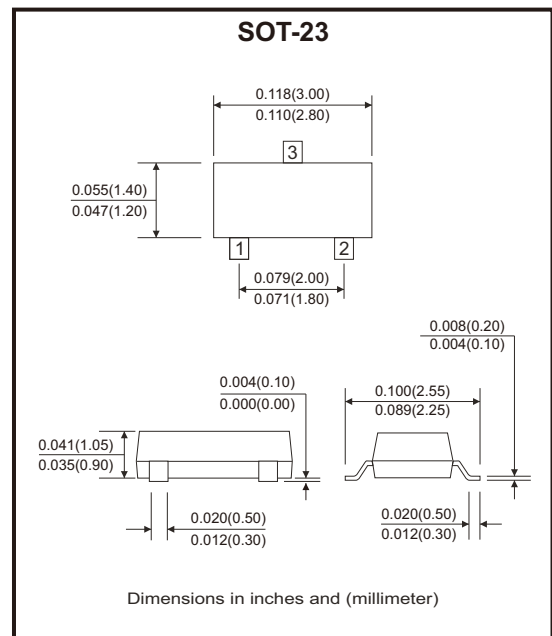


### Features

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

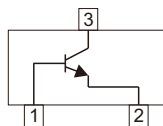
### Mechanical data

- 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<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-emitter voltage	V <sub>CEO</sub>	45	V
Collector-base voltage	V <sub>CBO</sub>	50	V
Emitter-base voltage	V <sub>EBO</sub>	5	V
Collector current-continuous	I <sub>C</sub>	500	mA
Total device dissipation	P <sub>D</sub>	300	mW
Junction temperature range	T <sub>J</sub>	-55 to +150	°C
Storage temperature range	T <sub>STG</sub>	-55 to +150	°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	$I_{EBO}$	$V_{EB} = 4\text{Vdc}$ , $I_C = 0$		0.1	$\mu\text{A}$
Collector cut-off current	$I_{CBO}$	$V_{CB} = 45\text{Vdc}$ , $I_E = 0$		0.1	$\mu\text{A}$
DC current gain	ABC817-16-HF	$I_C = 100\text{mA}$ , $V_{CE} = 1\text{Vdc}$	100	250	
	ABC817-25-HF		160	400	
	ABC817-40-HF		250	600	
DC current gain	$h_{FE}$	$I_C = 500\text{mA}$ , $V_{CE} = 1\text{Vdc}$	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	$f_T$	$I_C = 10\text{mA}$ , $V_{CE} = 5\text{Vdc}$ , $f = 100\text{MHz}$	100		MHz

## Rating and Characteristic Curves (ABC817-16-HF/25-HF/40-HF)

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

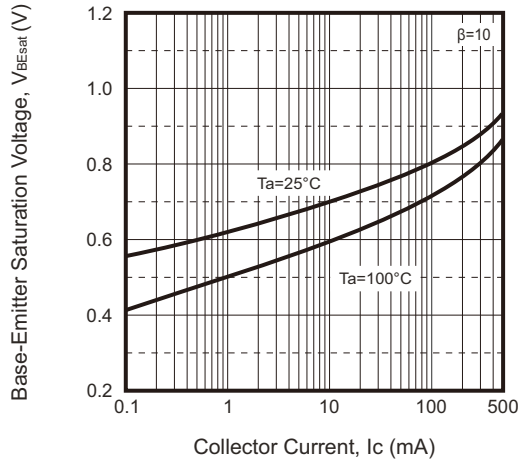


Fig.2 -  $V_{CEsat} - I_c$

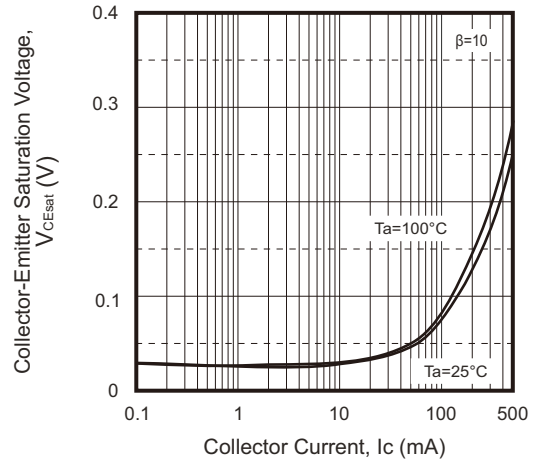


Fig.3 - Static Characteristic

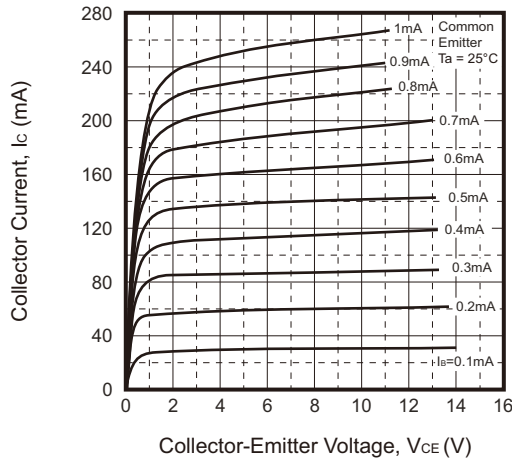
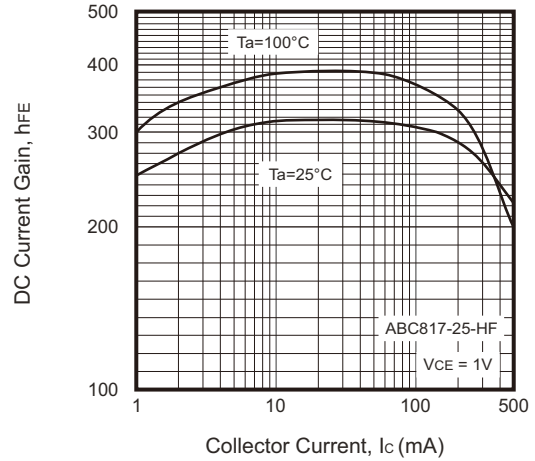
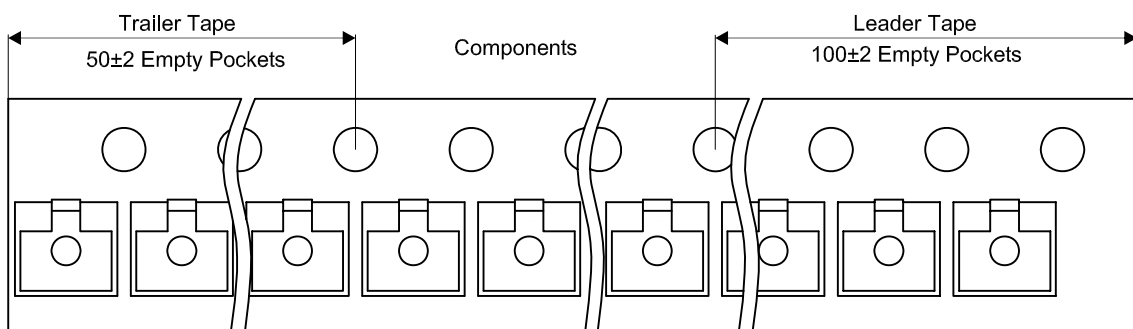
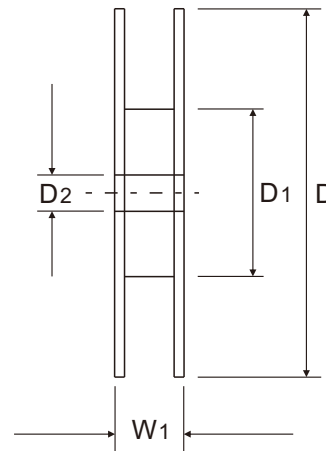
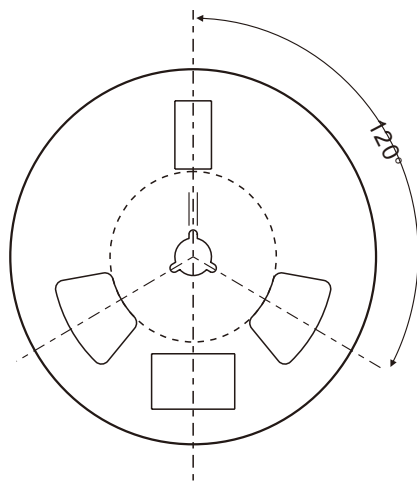
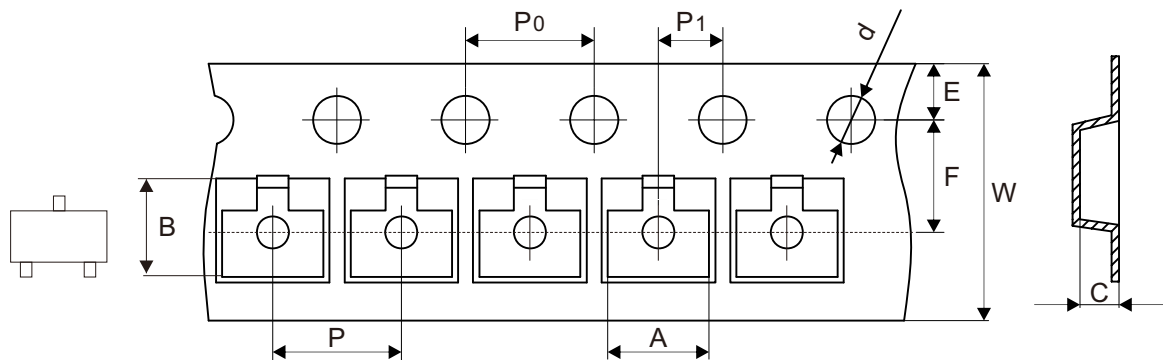


Fig.4 -  $h_{FE} - I_c$



## Reel Taping Specification

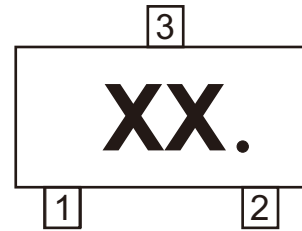


SOT-23	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	3.15 ± 0.10	2.77 ± 0.10	1.22 ± 0.10	1.50 + 0.10 - 0.00	178.00 ± 1.00	54.60 ± 1.00	13.30 ± 1.00
	(inch)	0.124 ± 0.004	0.109 ± 0.004	0.048 ± 0.004	0.059 + 0.004 - 0.000	7.008 ± 0.039	2.150 ± 0.039	0.524 ± 0.039

SOT-23	SYMBOL	E	F	P	P0	P1	W	W1
	(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

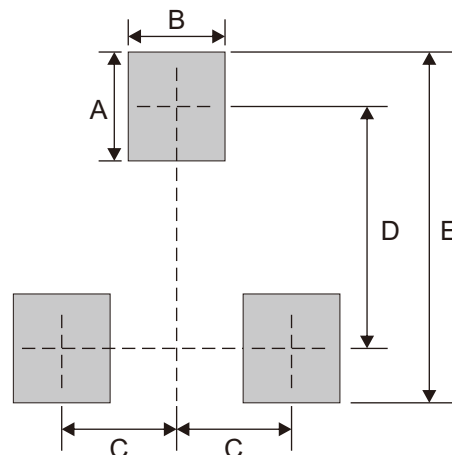
Part Number	Marking Code
ABC817-16-HF	6A.
ABC817-25-HF	6B.
ABC817-40-HF	6C.



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