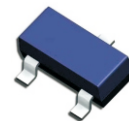


## ABC856A-HF Thru. ABC858C-HF Series (PNP)

RoHS Device  
Halogen Free



### Features

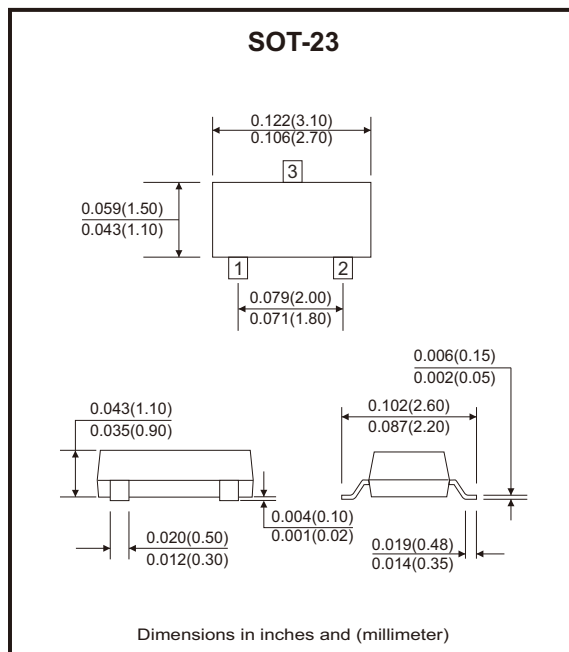
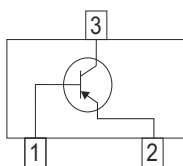
- Low current (max. 100mA).
- Low voltage.
- AEC-Q101 Qualified.

### Mechanical data

- Case: SOT-23, molded plastic.
- Mounting position: Any.

### Circuit Diagram

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



### Maximum Ratings (at Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-base voltage	ABC856	-80	V
	ABC857	-50	
	ABC858	-30	
Collector-emitter voltage	ABC856	-65	V
	ABC857	-45	
	ABC858	-30	
Emitter-base voltage	$V_{EBO}$	-5	V
Collector current-continuous	$I_C$	-0.1	A
Collector dissipation	$P_C$	250	mW
Thermal resistance, junction to ambient	$R_{\theta JA}$	417	°C/W
Junction and storage temperature	$T_J, T_{STG}$	-55 to +150	°C

## Electrical Characteristics (TA= 25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	ABC856 ABC857 ABC858 $V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-80 -50 -30			V
Collector-emitter breakdown voltage	ABC856 ABC857 ABC858 $V_{(BR)CEO}$	$I_C = -10mA, I_B = 0$	-65 -45 -30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -1\mu A, I_C = 0$	-5			V
Collector cut-off current	$I_{CBO}$	$V_{CB} = -30V, I_E = 0$		-1	-15	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5V, I_C = 0$			-0.1	$\mu A$
DC current gain	ABC856A,857A,858A ABC856B,857B,858B ABC857C,858C $h_{FE}$	$V_{CE} = -5V, I_C = -2mA$	125 220 420		250 475 800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100mA, I_B = -5mA$ $I_C = -10mA, I_B = -0.5mA$			-0.65 -0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -10mA, I_B = -0.5mA$ $I_C = -100mA, I_B = -5mA$		-0.7 -0.85		V
Base-emitter voltage	$V_{BE(on)}$	$I_C = -2mA, V_{CE} = -5V$ $I_C = -10mA, V_{CE} = -5V$	-0.6 -	-0.65 -	-0.75 -0.82	V
Collector capacitance	$C_C$	$V_{CB} = -10V, I_E = I_C = 0$ $f = 1MHz$		4.5		pF
Transition frequency	F	$I_C = -200\mu A, V_{CE} = -5V,$ $R_S = 2k\Omega, f = 1kHz,$ $B = 200Hz$		2	10	dB
Transition frequency	$f_T$	$V_{CE} = -5V, I_C = -10mA$ $f = 100MHz$	100			MHz

## Rating and Characteristic Curves (ABC856A-HF Thru. ABC858C-HF)

Fig.1 - DC Current Gain as a Function of Collector Current; Typical Values

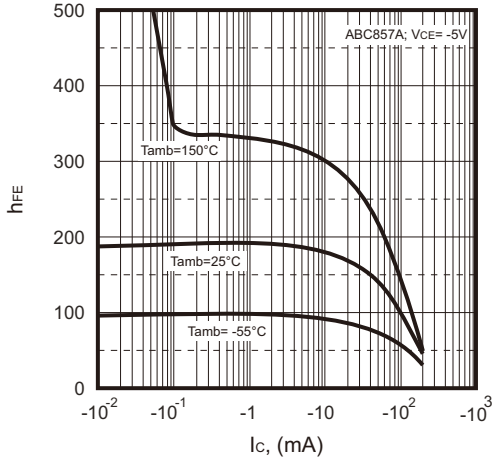


Fig.2 - Base-Emitter Voltage as a Function of Collector Current; Typical Values

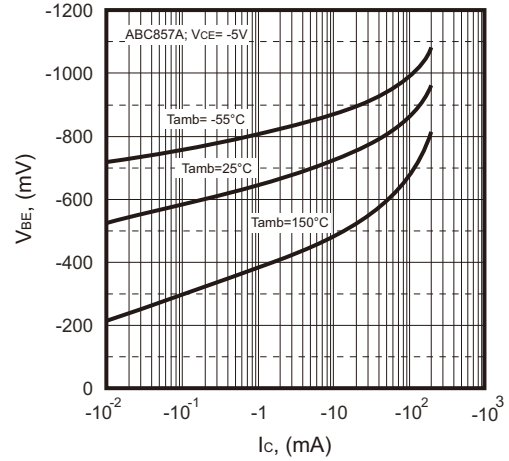


Fig.3 - Collector-Emitter Saturation Voltage as a Function of Collector Current; Typical Values.

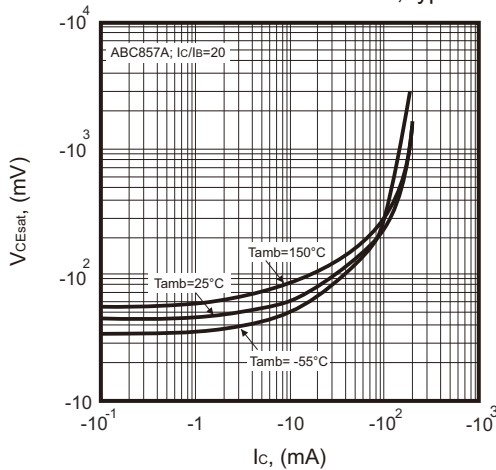


Fig.4 - Base-Emitter Saturation Voltage as a Function of Collector Current; Typical Values

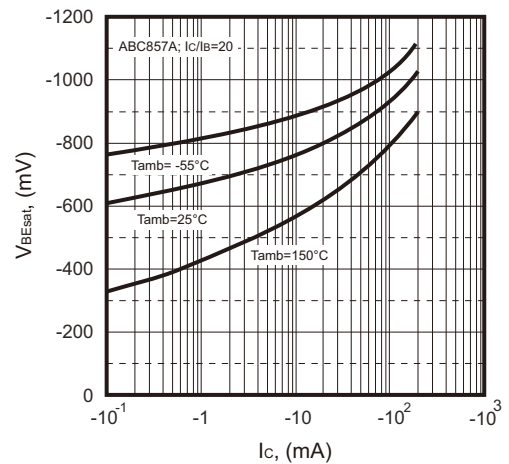


Fig.5 - DC Current Gain as a Function of Collector Current; Typical Values

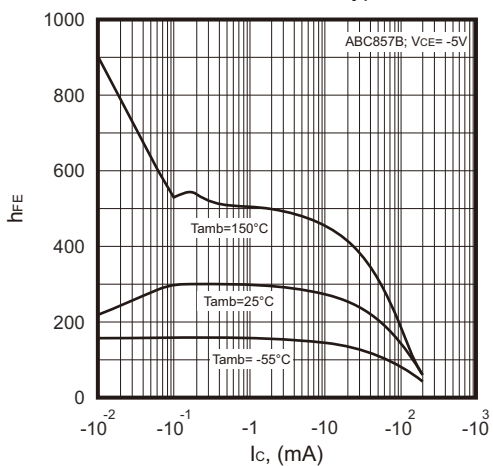
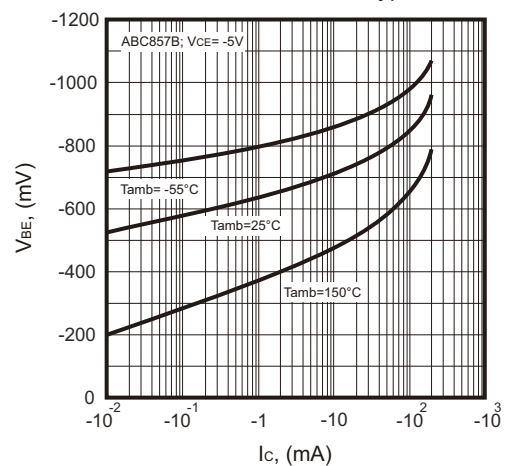


Fig.6 - Base-Emitter Voltage as a Function of Collector Current; Typical Values



## Rating and Characteristic Curves (ABC856A-HF Thru. ABC858C-HF)

Fig.7 - Collector-Emitter Saturation Voltage as a Function of Collector Current; Typical Values

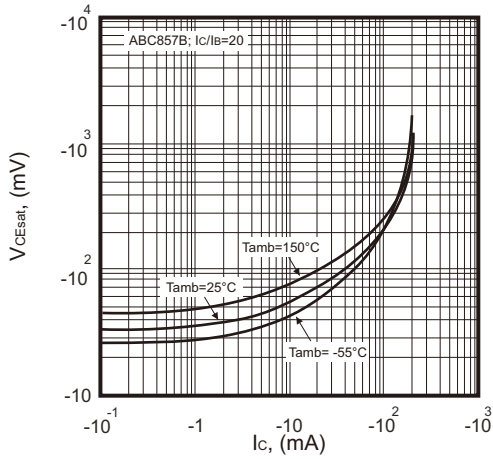


Fig.8 - Base-Emitter Saturation Voltage as a Function of Collector Current; Typical Values

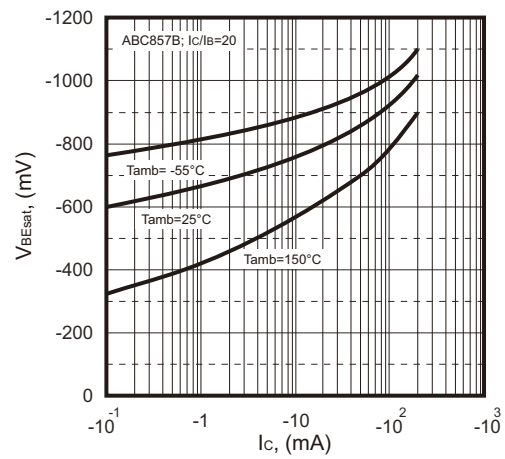


Fig.9 - DC Current Gain as a Function of Collector Current; Typical Values

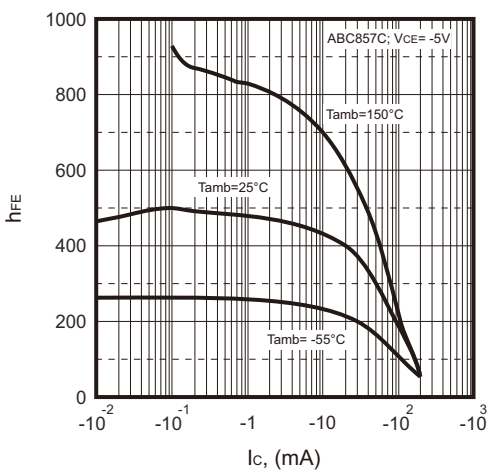


Fig.10 - Base-Emitter Voltage as a Function of Collector Current; Typical Values

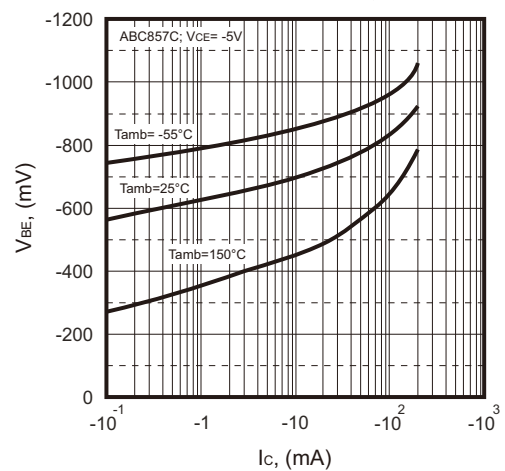


Fig.11 - Collector-Emitter Saturation Voltage as a Function of Collector Current; Typical Values

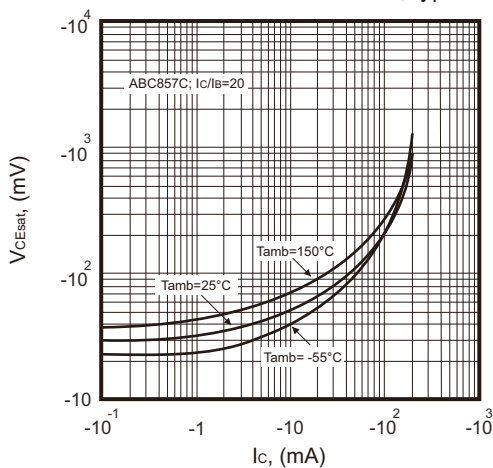
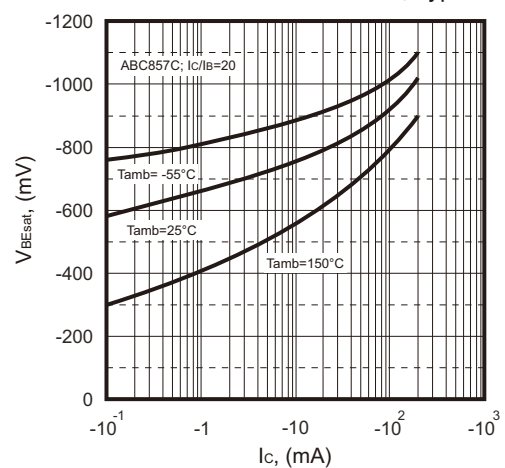
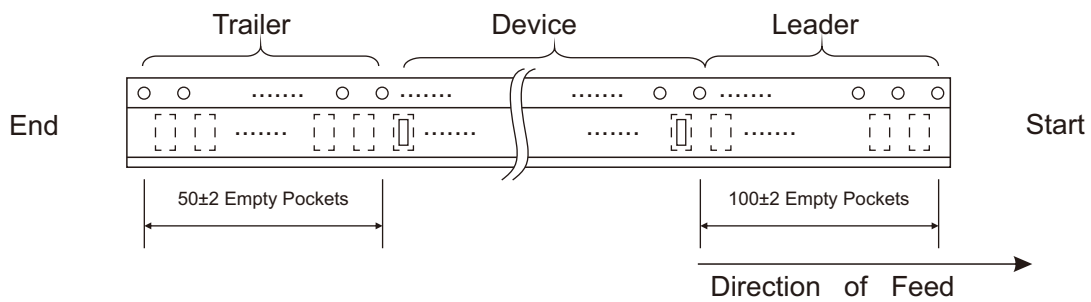
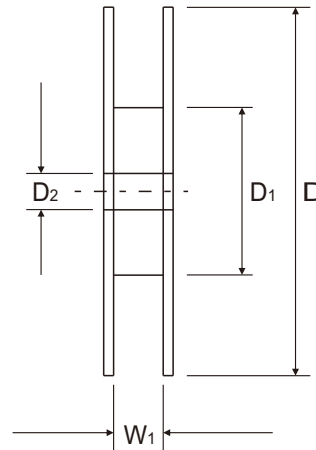
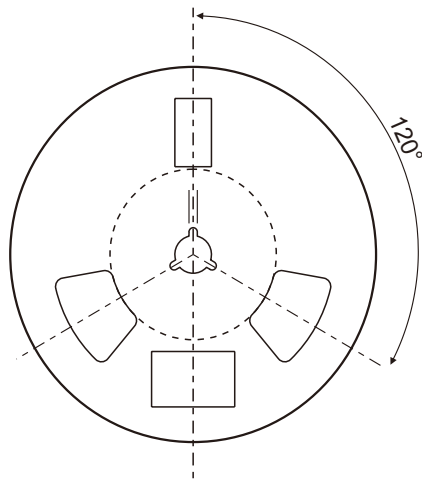
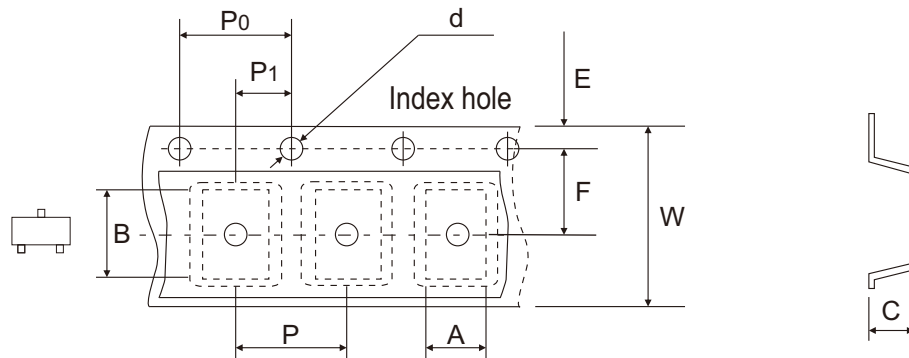


Fig.12 - Base-Emitter Saturation Voltage as a Function of Collector Current; Typical Values



## Reel Taping Specification

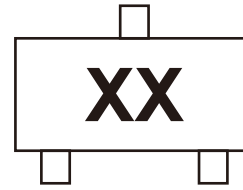


SOT-23	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	3.15 ± 0.10	2.77 ± 0.10	1.22 ± 0.10	1.50 ± 0.10	178.00 ± 1.00	54.00 ± 0.50	13.00 ± 0.50
	(inch)	0.124 ± 0.004	0.109 ± 0.004	0.048 ± 0.004	0.059 ± 0.004	7.008 ± 0.039	2.126 ± 0.020	0.512 ± 0.020

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	9.50 ± 1.00
	(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	0.374 ± 0.039

## Marking Code

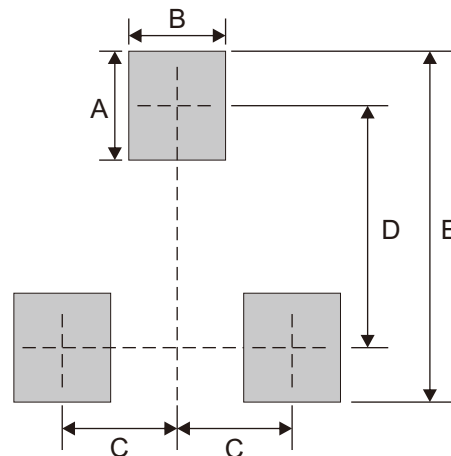
Part Number	Marking Code
ABC856A-HF	3A
ABC857A-HF	3E
ABC858A-HF	3J
ABC856B-HF	3B
ABC857B-HF	3F
ABC858B-HF	3K
ABC857C-HF	3G
ABC858C-HF	3L



xx = Product type marking code

## Suggested P.C.B. 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



## Standard Packaging

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