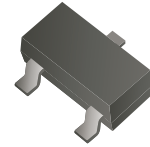


ABCW68F/G/H-HF (PNP)

RoHS Device
Halogen Free



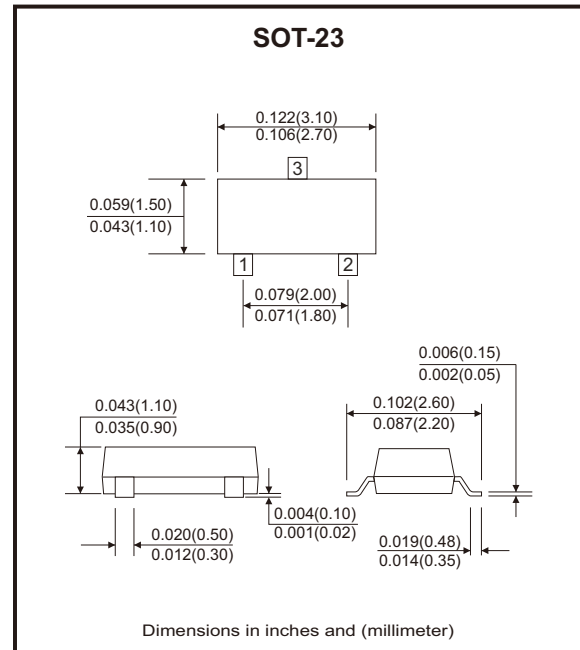
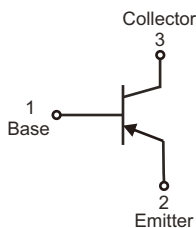
Features

- High collector current.
- High current gain.
- Low collector-emitter saturation voltage.
- AEC-Q101 Qualified.

Mechanical data

- Case: SOT-23, molded plastic.
- Molding compound: UL flammability classification rating 94V-0.
- Terminals: Tin-plated; solderability per MIL-STD-202, method 208.

Circuit Diagram



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

Parameter	Symbol	Value	Unit
Collector-base breakdown voltage	V _{CB0}	-60	V
Collector-emitter breakdown voltage	V _{CEO}	-45	V
Emitter-base breakdown voltage	V _{EBO}	-5	V
Continuous collector current	I _C	-0.8	A
Peak collector current	I _{CM}	-1	A
Power dissipation	P _D	330	mW
Thermal resistance from junction to air (Note 1)	R _{θJA}	395	°C/W
Thermal resistance from junction to case (Note 1)	R _{θJC}	218	°C/W
Thermal resistance from junction to lead (Note 1)	R _{θJL}	191	°C/W
Operating junction temperature range	T _J	-55 to +150	°C
Storage temperature range	T _{STG}	-55 to +150	°C

Notes: 1. The data tested by surface mounted on a 15mm x 15mm x 1mm FR4-epoxy P.C.B.

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

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Collector-base breakdown voltage	$I_C = -10\mu\text{A}$, $I_E = 0$	$V_{(BR)CBO}$	-60			V
Collector-emitter breakdown voltage	$I_C = -10\text{mA}$, $I_B = 0$	$V_{(BR)CEO}$	-45			V
Emitter-base breakdown voltage	$I_E = -10\mu\text{A}$, $I_C = 0$	$V_{(BR)EBO}$	-5			V
Collector cut-off current	$V_{CB} = -45\text{V}$, $I_E = 0$	I_{CBO}			-20	nA
Emitter cut-off current	$V_{EB} = -4\text{V}$, $I_C = 0$	I_{EBO}			-20	nA
DC current gain	ABCW68F-HF	$h_{FE(1)}$	35			
	ABCW68G-HF		50			
	ABCW68H-HF		80			
	ABCW68F-HF	$h_{FE(2)}$	75			
	ABCW68G-HF		120			
	ABCW68H-HF		180			
	ABCW68F-HF	$h_{FE(3)}$	100		250	
	ABCW68G-HF		160		400	
	ABCW68H-HF		250		630	
	ABCW68F-HF	$h_{FE(4)}$	35			
	ABCW68G-HF		60			
	ABCW68H-HF		100			
Collector-emitter saturation voltage	$I_C = -100\text{mA}$, $I_B = -10\text{mA}$	$V_{CE(sat)}$			-0.3	V
	$I_C = -500\text{mA}$, $I_B = -50\text{mA}$	$V_{CE(sat)}$			-0.7	
Base-emitter saturation voltage	$I_C = -100\text{mA}$, $I_B = -10\text{mA}$	$V_{BE(sat)}$			-1.25	V
	$I_C = -500\text{mA}$, $I_B = -50\text{mA}$	$V_{BE(sat)}$			-2	
Transition frequency	$I_C = -50\text{mA}$, $V_{CE} = -5\text{V}$, $f = 20\text{MHz}$	f_T		200		MHz

Rating and Characteristic Curves (ABCW68F/G/H-HF)

Fig.1 - h_{FE} — I_C (ABCW68F)

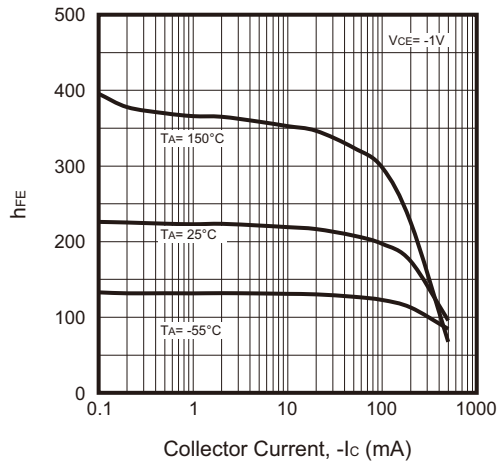


Fig.2 - h_{FE} — I_C (ABCW68G)

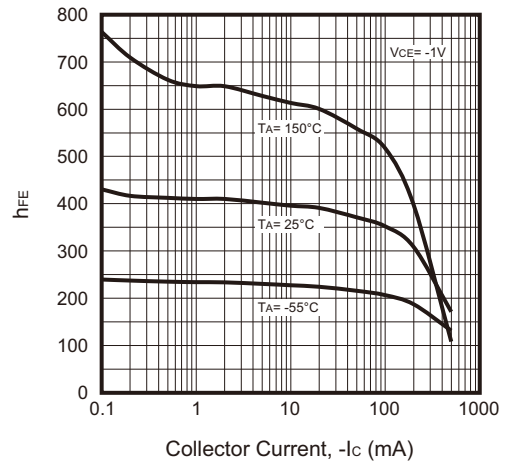


Fig.3 - h_{FE} — I_C (ABCW68H)

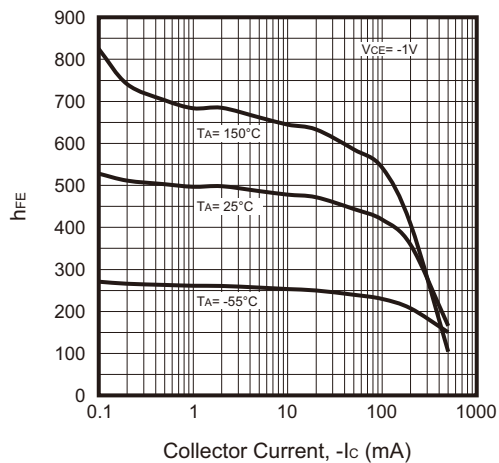


Fig.4 - $V_{BE(ON)}$ — I_C

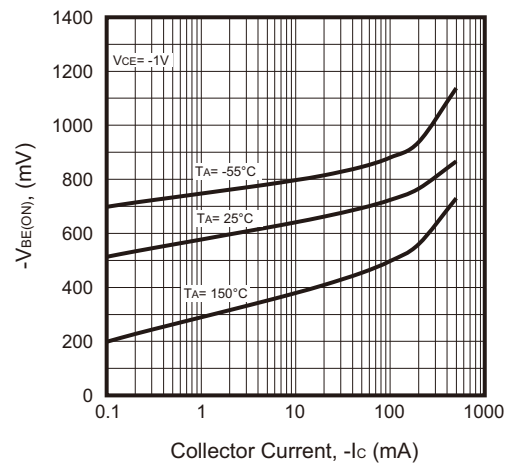


Fig.5 - $V_{CE(sat)}$ — I_C

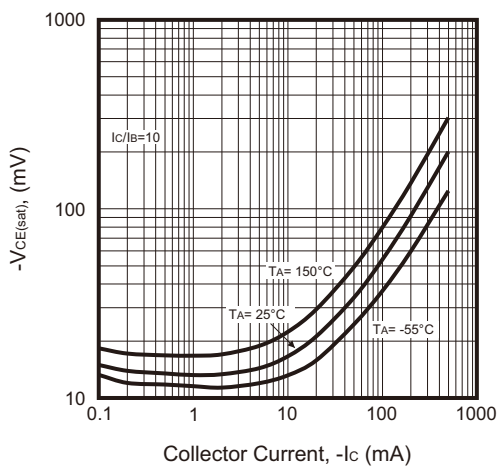
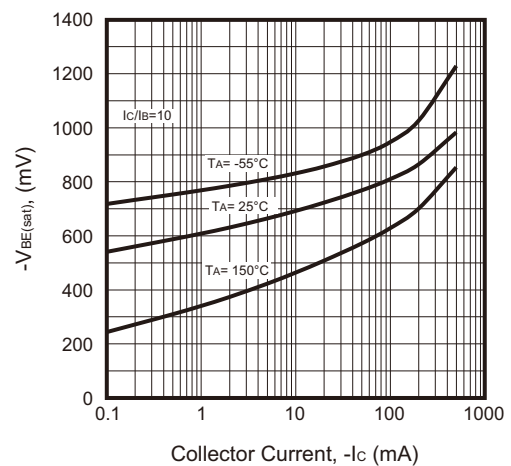
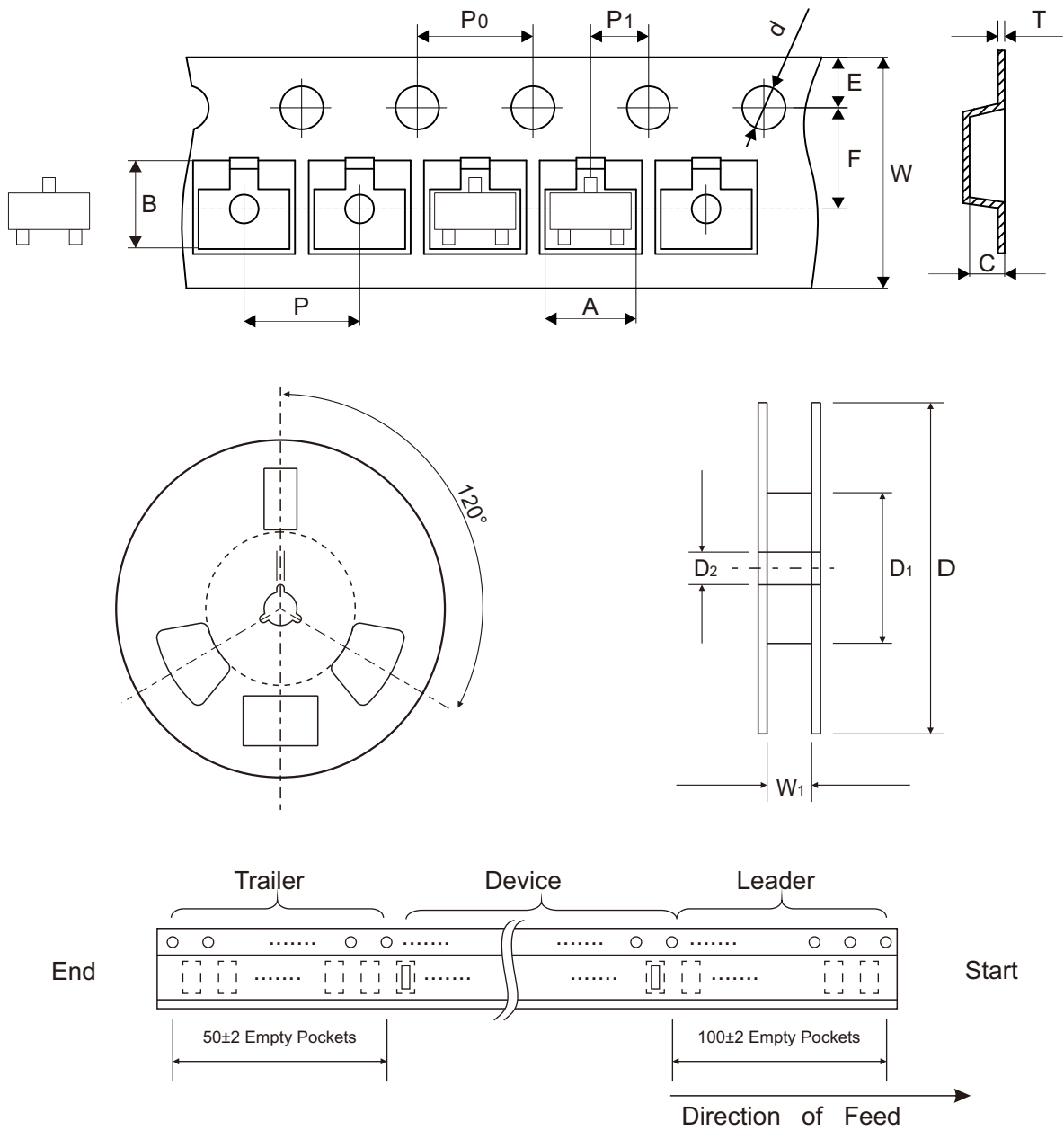


Fig.6 - $V_{BE(sat)}$ — I_C



Reel Taping Specification

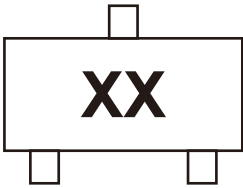


SOT-23	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	3.15 ± 0.10	2.77 ± 0.10	1.22 ± 0.10	1.50 ± 0.10	178.00 ± 1.00	54.00 ± 0.50	13.00 ± 0.50
	(inch)	0.124 ± 0.004	0.109 ± 0.004	0.048 ± 0.004	0.059 ± 0.004	7.008 ± 0.039	2.126 ± 0.020	0.512 ± 0.020

SOT-23	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.20 ± 0.02	8.00 ± 0.30	9.50 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.008 ± 0.001	0.315 ± 0.012	0.374 ± 0.039

Marking Code

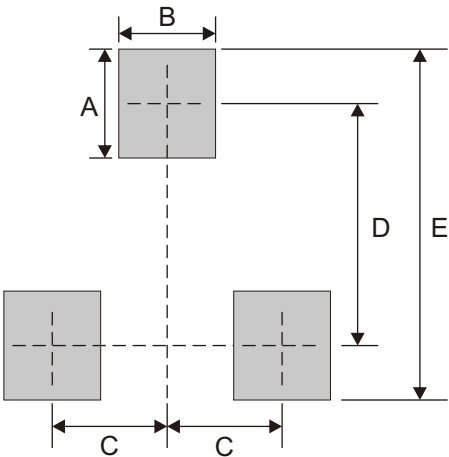
Part Number	Marking Code
ABCW68F-HF	DF
ABCW68G-HF	DG
ABCW68H-HF	DH



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