



PBHV8110DW

NPN Low Vce(sat) Transistor

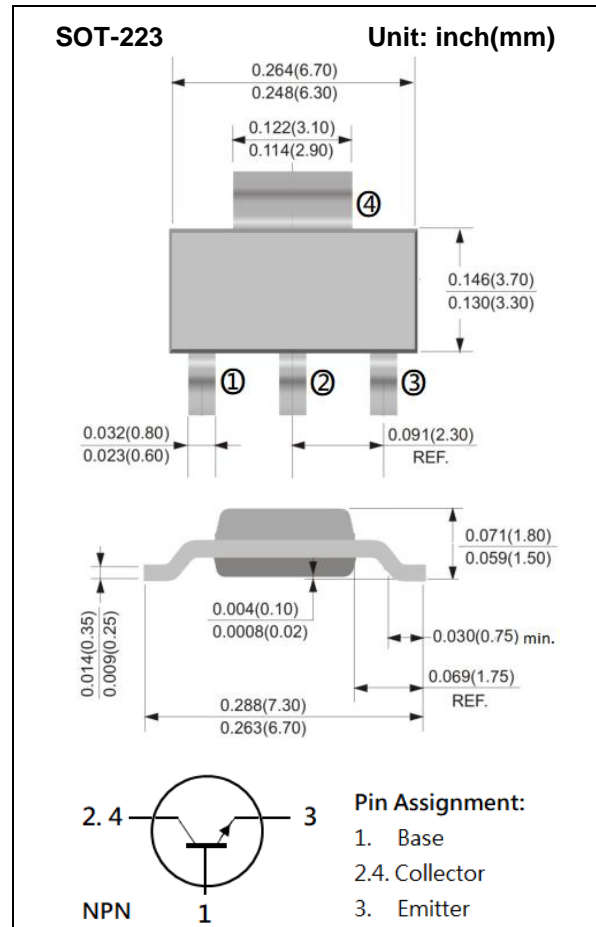
Voltage	100V	Current	1A
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Features

- Silicon NPN epitaxial type
- Low Vce(sat) 0.35V(max)@Ic/Ib= 500mA / 50mA
- High collector current capability
- Excellent DC current gain characteristics
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC61249 Standard
- PNP complement: PBHV9110DW

Mechanical Data

- Case: SOT-223 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.043 ounces, 0.123 grams
- Marking: 8110DW



Maximum Ratings and Thermal Characteristics (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
Collector-Base Voltage	V _{CBO}	120	V
Collector-Emitter Voltage	V _{CEO}	100	V
Emitter-Base Voltage	V _{EBO}	6	V
Collector Current (DC)	I _C	1	A
Collector Current (Pulse)	I _{CP}	3	A
Power Dissipation	P _D	2.6	W
Junction Temperature	T _J	150	°C
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-55~150	°C
Thermal Resistance from Junction to Ambient ^(Note)	R _{θJA}	48	°C/W

Note: Mounted on FR4 PCB at 1 inch square copper pad.



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

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
OFF Characteristics						
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=10\text{mA}, I_B=0\text{A}$	100	-	-	V
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=0.1\text{mA}, I_E=0\text{A}$	120	-	-	V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=0.1\text{mA}, I_C=0\text{A}$	6	-	-	V
Collector Cutoff Current	I_{CBO}	$V_{CB}=120\text{V}, I_E=0\text{A}$	-	-	500	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=6\text{V}, I_C=0\text{A}$	-	-	500	nA
ON characteristics						
DC Current Gain (Note1)	h_{FE}	$V_{CE}=2\text{V}, I_C=150\text{mA}$	140	-	330	-
		$V_{CE}=5\text{V}, I_C=500\text{mA}$	100	-	300	
		$V_{CE}=5\text{V}, I_C=1\text{A}$	40	-	-	
Collector-Emitter Saturation Voltage (Note1)	$V_{CE(SAT)}$	$I_C=0.1\text{A}, I_B=10\text{mA}$	-	38	120	mV
		$I_C=0.5\text{A}, I_B=50\text{mA}$	-	117	350	
		$I_C=1\text{A}, I_B=0.1\text{A}$	-	220	450	
Base-Emitter Saturation voltage (Note1)	$V_{BE(SAT)}$	$I_C=0.1\text{A}, I_B=10\text{mA}$	-	-	1.0	V
		$I_C=0.5\text{A}, I_B=50\text{mA}$	-	-	1.1	
Transition Frequency	f_T	$V_{CE}=5\text{V}, I_E=-50\text{mA}$	100	-	-	MHz
Collector Output Capacitance	C_{OB}	$V_{CB}=10\text{V}, I_E=0\text{A},$ $f=1\text{MHz}$	-	-	10	pF

Note: 1. Pulse width $\leq 300\mu\text{s}$, Duty cycle $\leq 2\%$



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TYPICAL CHARACTERISTIC CURVES

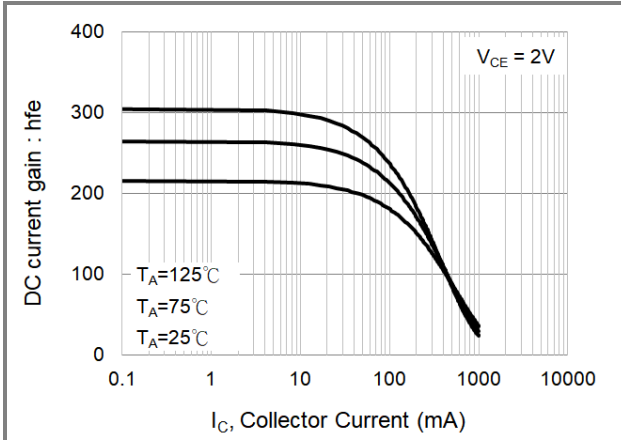


Fig.1 DC Current Gain

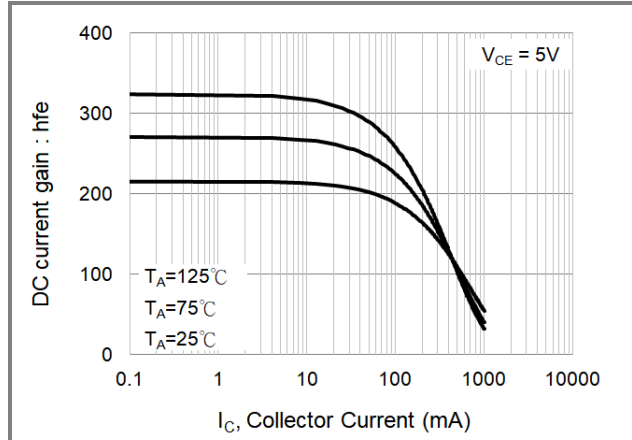


Fig.2 DC Current Gain

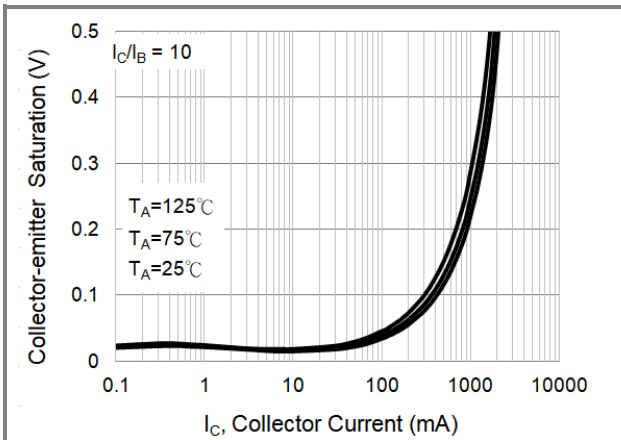


Fig.3 Collector-Emitter Saturation Voltage

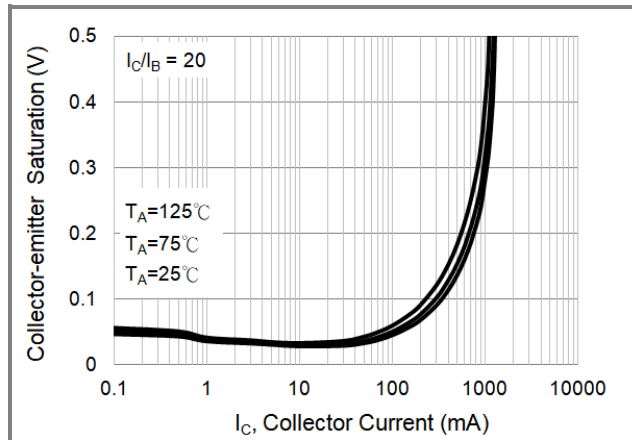


Fig.4 Collector-Emitter Saturation Voltage

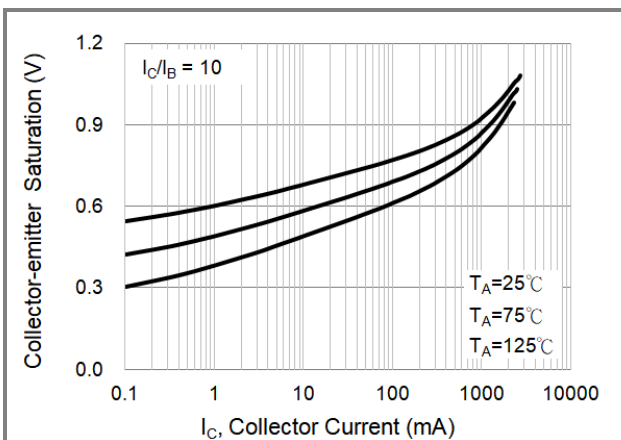


Fig.5 Base-Emitter Saturation Voltage

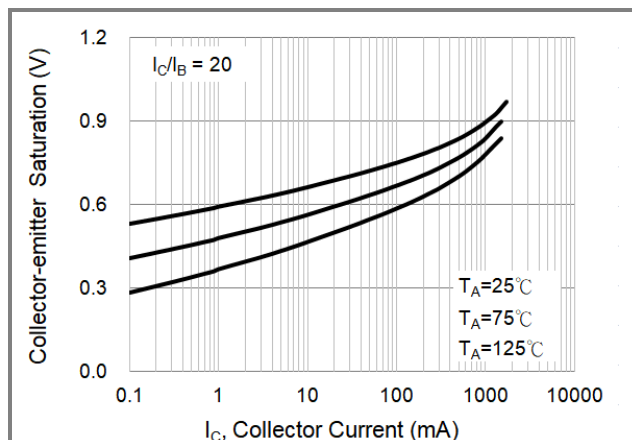


Fig.6 Base-Emitter Saturation Voltage



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TYPICAL CHARACTERISTIC CURVES

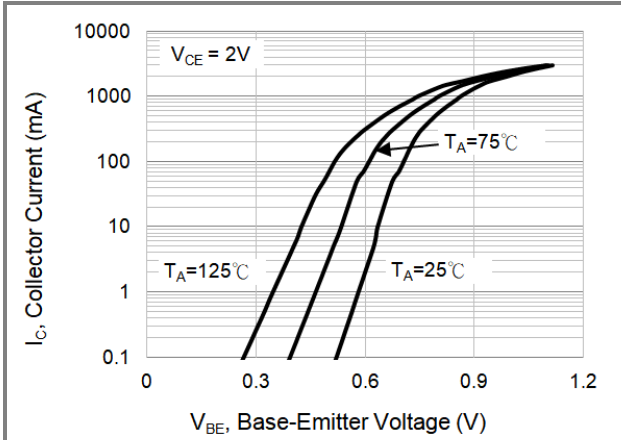


Fig.7 Base-Emitter Voltage

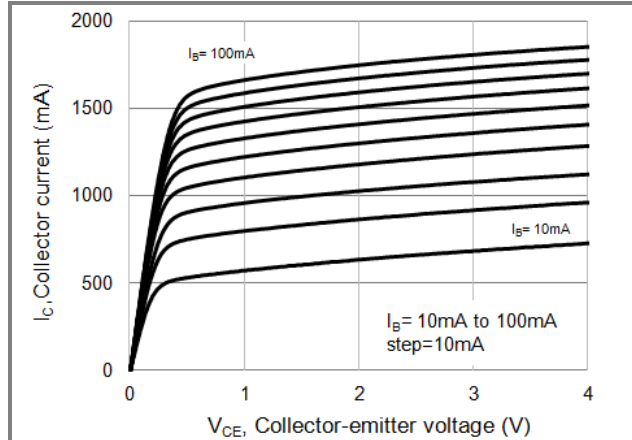


Fig.8 Collector Current

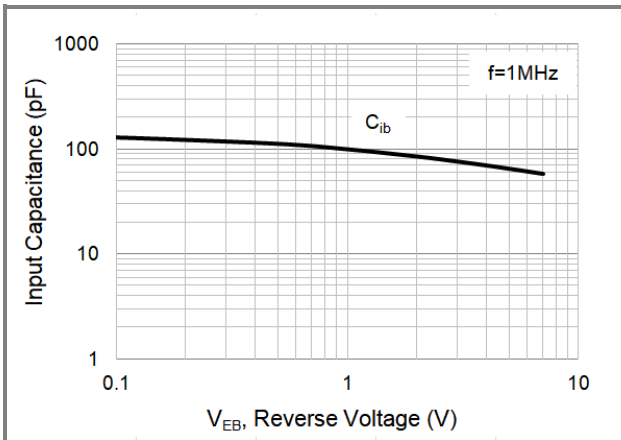


Fig.9 Input Capacitance

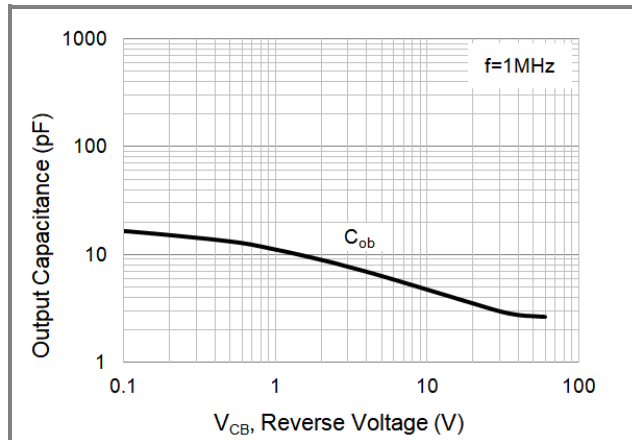


Fig.10 Output Capacitance

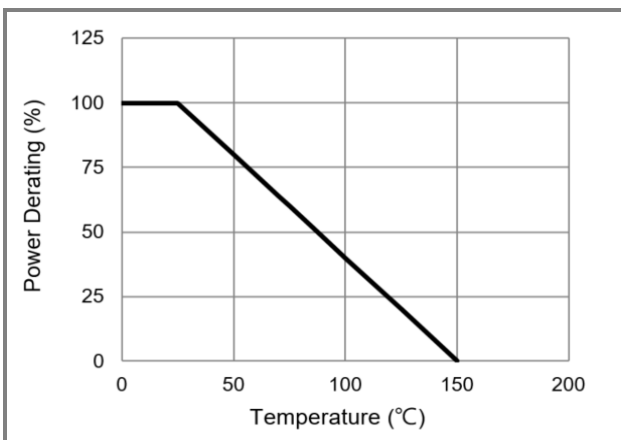


Fig.11 Power Derating Curve

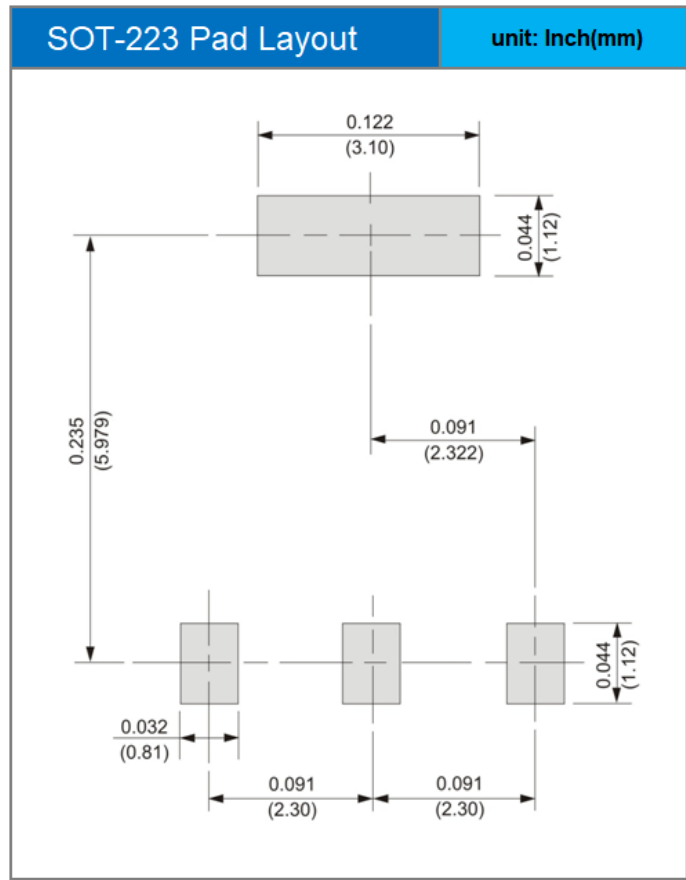


PBHV8110DW

PART NO PACKING CODE VERSION

Part No Packing Code	Package Type	Packing type	Marking	Version
PBHV8110DW_R2_00001	SOT-223	2,500 pcs / 13" reel	8110DW	Halogen free

MOUNTING PAD LAYOUT





PBHV8110DW

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