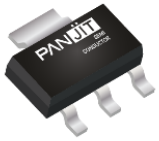
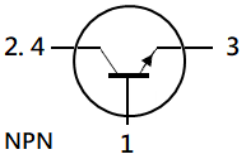
PBHV8110DW

NPN Low $V_{CE(SAT)}$ Transistor

Voltage	100V	Current	1A

SOT-223





Pin Assignment:
1. Base
2.4. Collector
3. Emitter

Features

- Silicon NPN epitaxial type
- Low $V_{CE(SAT)}$ 0.35V(max)@I_C/I_B= 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 : 0.123 grams

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

PARAMETER		SYMBOL	LIMIT	UNIT
Collector-Base Voltage		V_{CBO}	120	V
Collector-Emitter Voltage		V_{CEO}	100	
Emitter-Base Voltage		V_{EBO}	6	
Collector Current (DC)		I_C	1	A
Collector Current (Pulse)(Note 1)		I_{CM}	3	
Base Current (DC)		I_B	0.1	
Base Current (Pulse) (Note 1)		I_{BM}	0.3	
Power Dissipation	t≦10sec	P_D	2.6	W
	Steady State		1.4	
Operating Junction and Storage Temperature Range		T_J,T_{STG}	-55~150	°C
Thermal Resistance Junction to Ambient (Note 2)	t≦10sec	$R_{\theta JA}$	48	°C/W
	Steady State		90	

PBHV8110DW

Electrical Characteristics (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
OFF Characteristics						
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C= 10mA, I_B= 0A	100	-	-	V
Collector-Base Breakdown Voltage	BV_{CBO}	I_C= 0.1mA, I_E= 0A	120	-	-	
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E= 0.1mA, I_C= 0A	6	-	-	
Collector Cutoff Current	I_{CBO}	V_{CB}=120V, I_E= 0A	-	-	500	nA
Emitter Cutoff Current	I_{EBO}	V_{EB}= 6V, I_C= 0A	-	-	500	
Collector-Emitter Cutoff Current	I_{CES}	V_{CES}=100V, I_E= 0A	-	-	500	
ON Characteristics						
DC Current Gain(Note 1)	h_{FE}	V_{CE}= 2V, I_C= 150mA	140	-	330	-
		V_{CE}= 5V, I_C= 500mA	100	-	300	
		V_{CE}= 5V, I_C= 1A	35	-	-	
Collector-Emitter Saturation Voltage (Note 1)	$V_{CE(SAT)}$	I_C= 100mA, I_B= 10mA	-	40	100	mV
		I_C= 500mA, I_B= 50mA	-	120	300	
		I_C= 500mA, I_B= 25mA	-	140	350	
Base-Emitter Saturation Voltage (Note 1)	$V_{BE(SAT)}$	I_C= 100mA, I_B= 10mA	-	-	1	V
		I_C= 500mA, I_B= 50mA	-	-	1.1	
Transition Frequency	f_T	V_{CE}= 5V, I_E= 50mA	100	-	-	MHz
Collector Output Capacitance	C_{OB}	V_{CB}= 10V, I_E= 0A, f=1MHz	-	-	10	pF

Notes :

1. Pulse width≤300us, Duty cycle≤2%.
2. Mounted on FR4 PCB at 1 inch square copper pad.

PBHV8110DW

TYPICAL CHARACTERISTIC CURVES

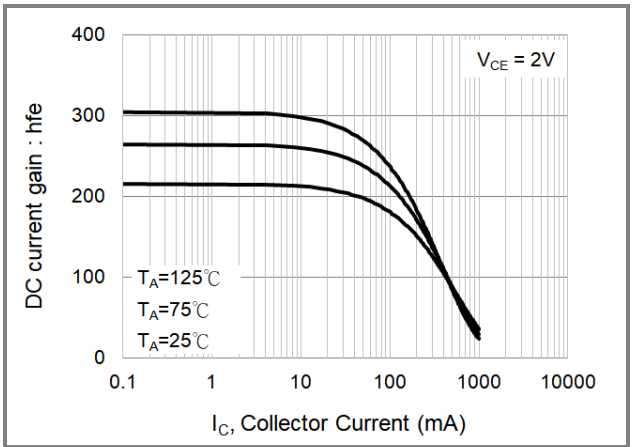


Fig.1 DC Current Gain

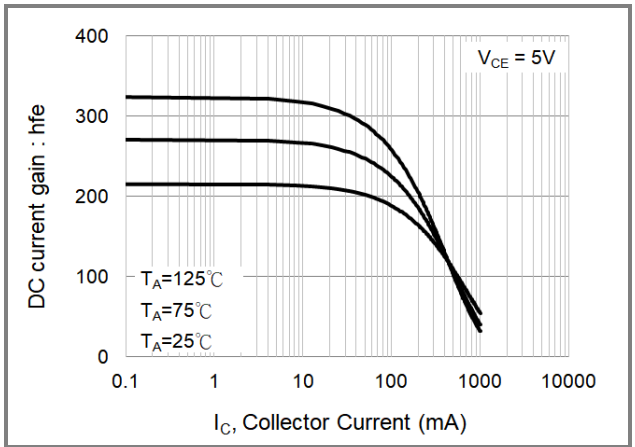


Fig.2 DC Current Gain

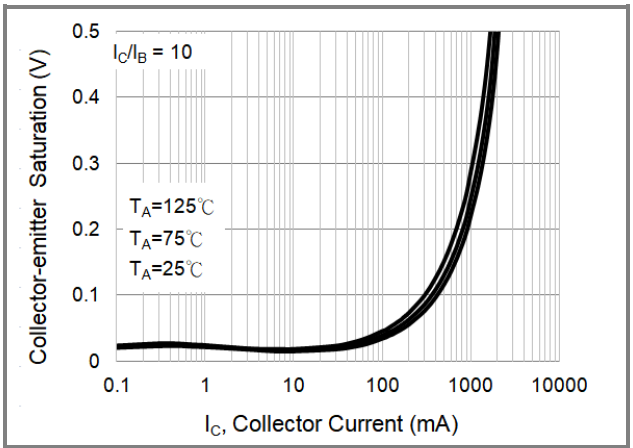


Fig.3 Collector-Emitter Saturation Voltage

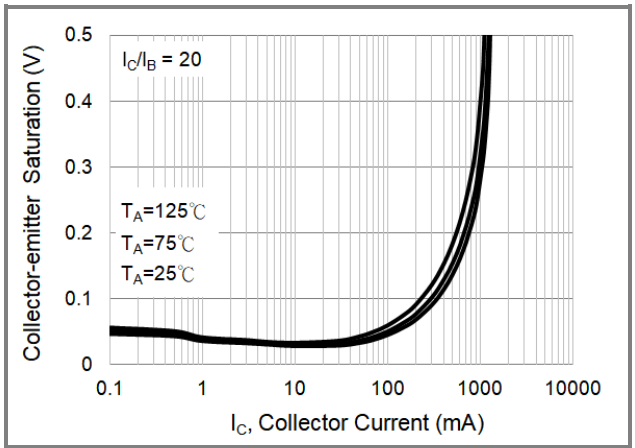


Fig.4 Collector-Emitter Saturation Voltage

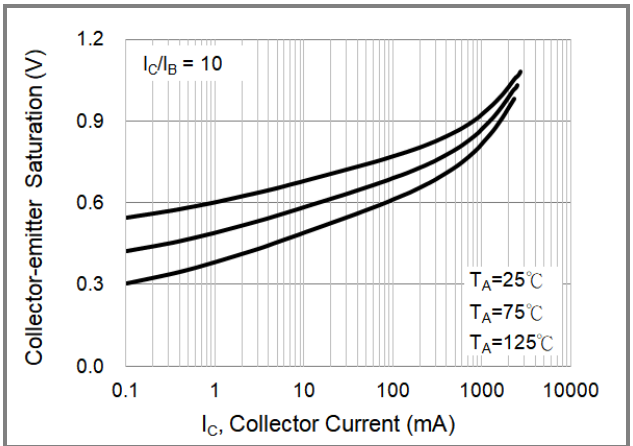


Fig.5 Base-Emitter Saturation Voltage

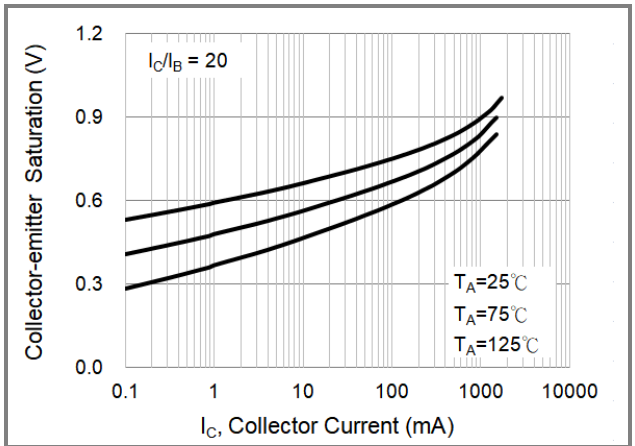


Fig.6 Base-Emitter Saturation Voltage

PBHV8110DW

TYPICAL CHARACTERISTIC CURVES

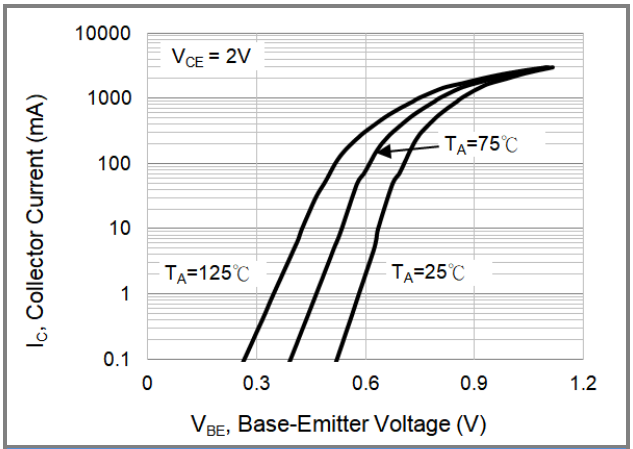


Fig.7 Base-Emitter Turn-On Voltage

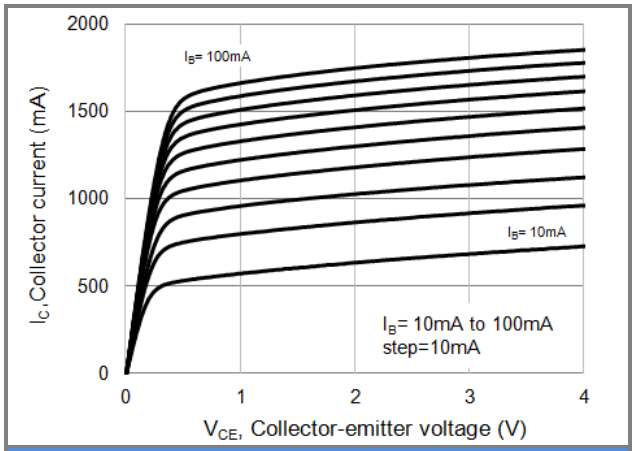


Fig.8 Collector Current

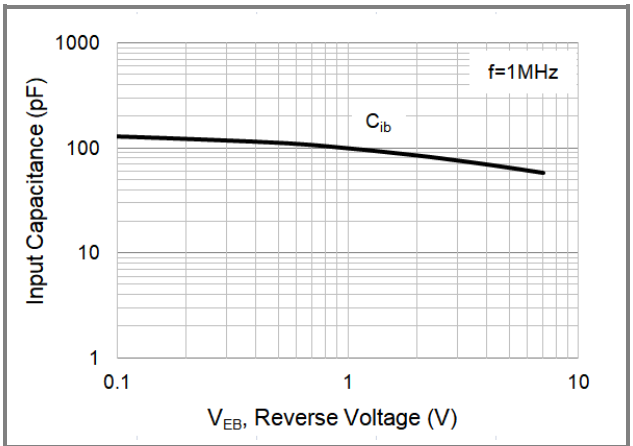


Fig.9 Input Capacitance

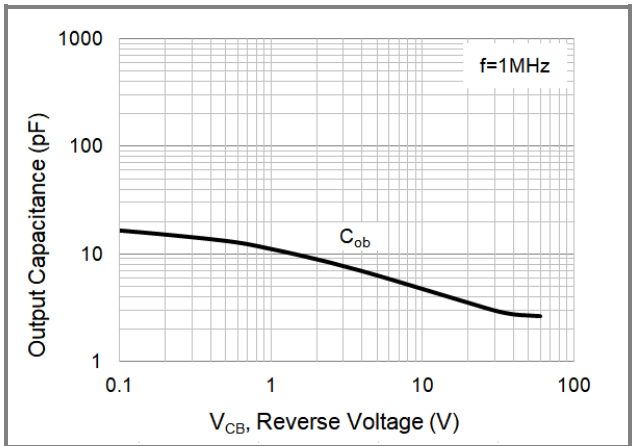


Fig.10 Output Capacitance

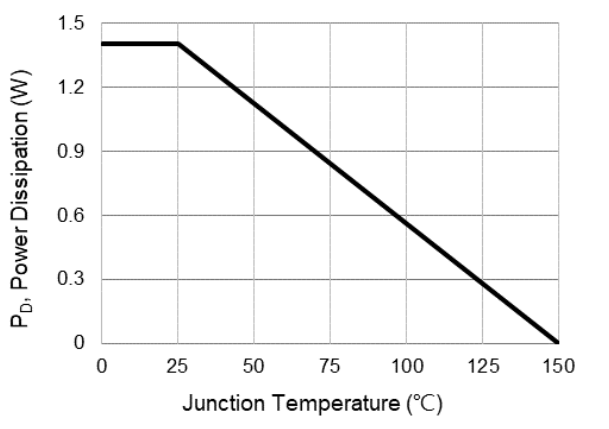


Fig.11 Power Derating Curve

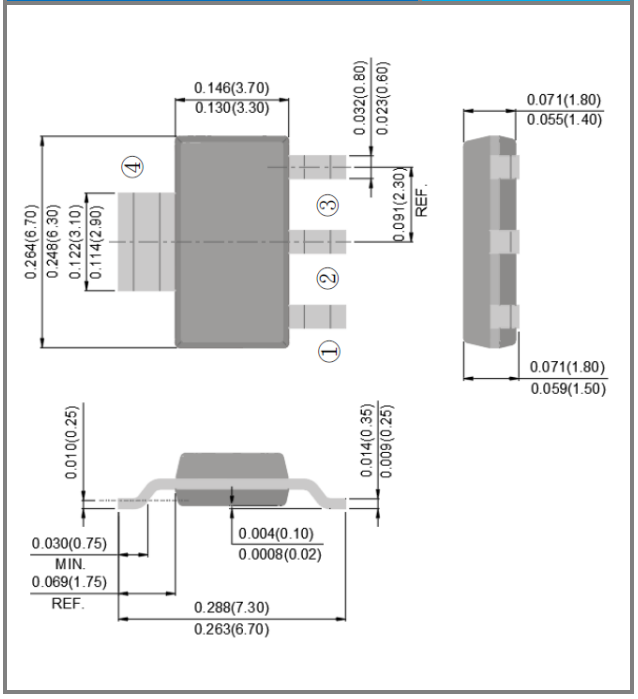
PBHV8110DW

Product and Packing Information

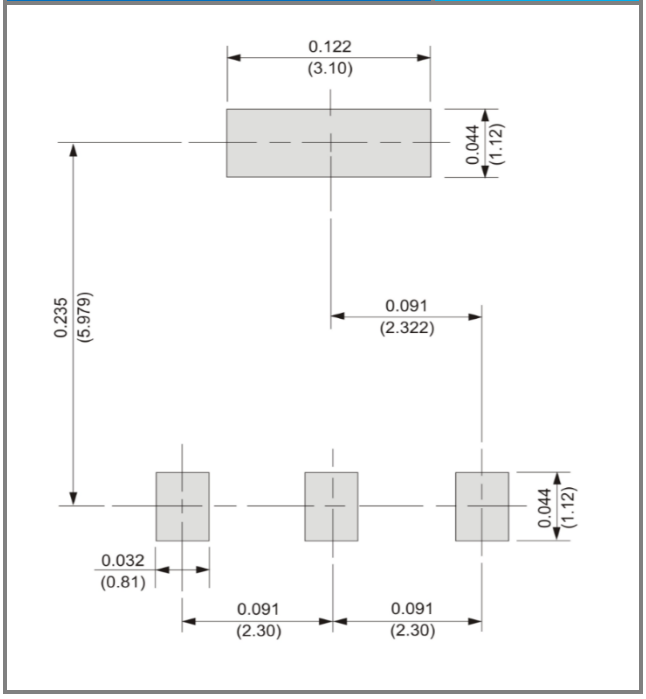
Part No.	Package Type	Packing Type	Marking
PBHV8110DW	SOT-223	2.5K pcs / 13” reel	8110DW

Packaging Information & Mounting Pad Layout

SOT-223 Dimension — Unit: inch(mm)



SOT-223 Pad Layout — Unit: inch(mm)



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