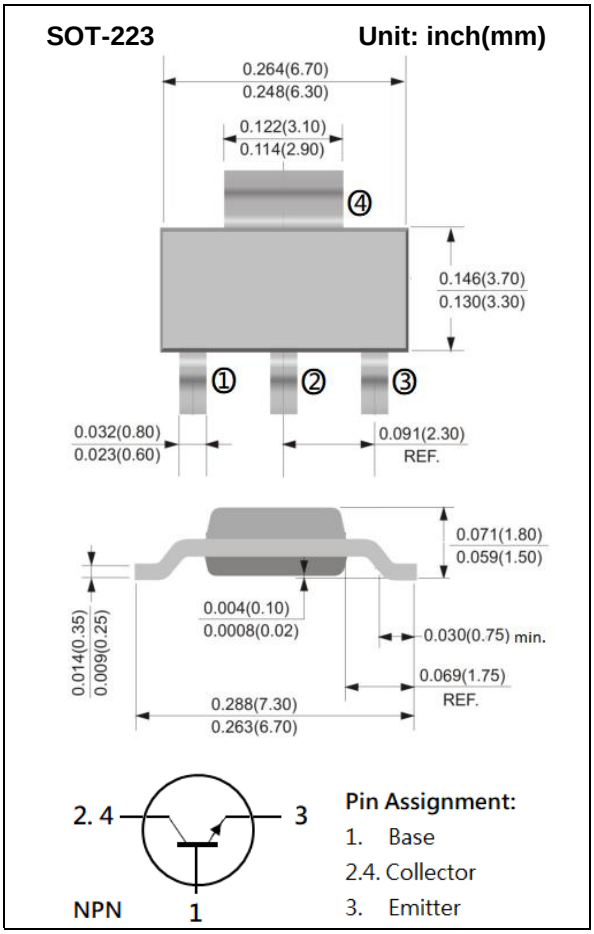
PBHV8110DW

NPN Low Vce(sat) Transistor

Voltage	100V	Current	1A



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)	$R_{\theta JA}$	48	°C/W

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

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

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
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	-	-	V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E= 0.1mA, I_C= 0A	6	-	-	V
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	nA
ON characteristics						
DC Current Gain (Note1)	h_{FE}	V_{CE}= 2V, I_C= 150mA	140	-	330	-
		V_{CE}= 5V, I_C= 500mA	100	-	300	
		V_{CE}= 5V, I_C= 1A	40	-	-	
Collector-Emitter Saturation Voltage (Note1)	$V_{CE(SAT)}$	I_C= 0.1A, I_B= 10mA	-	38	120	mV
		I_C= 0.5A, I_B= 50mA	-	117	350	
		I_C= 1A, I_B= 0.1A	-	220	450	
Base-Emitter Saturation voltage (Note1)	$V_{BE(SAT)}$	I_C= 0.1A, I_B= 10mA	-	-	1.0	V
		I_C= 0.5A, 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

Note: 1. Pulse width≤300us, Duty cycle≤2%

PBHV8110DW

TYPICAL CHARACTERISTIC CURVES

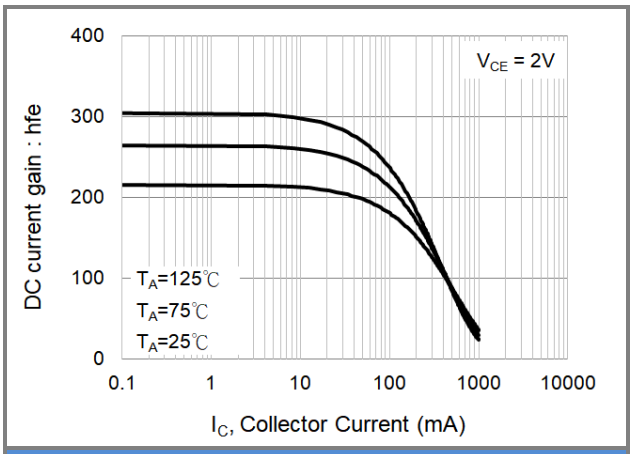

Fig.1 DC Current Gain

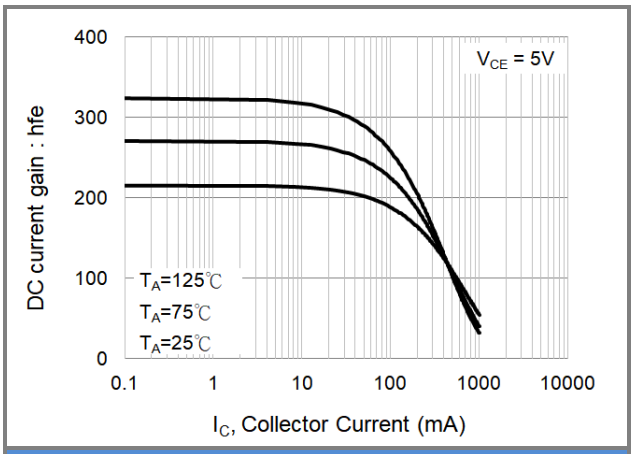

Fig.2 DC Current Gain

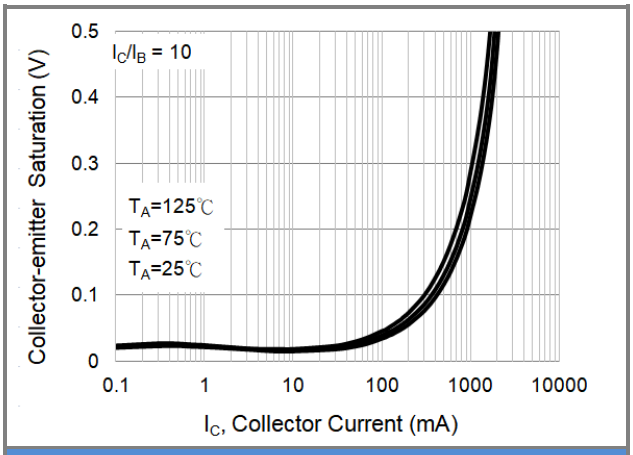

Fig.3 Collector-Emitter Saturation Voltage

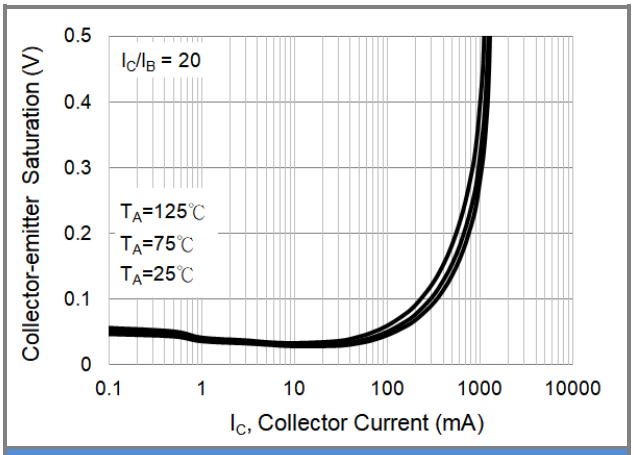

Fig.4 Collector-Emitter Saturation Voltage

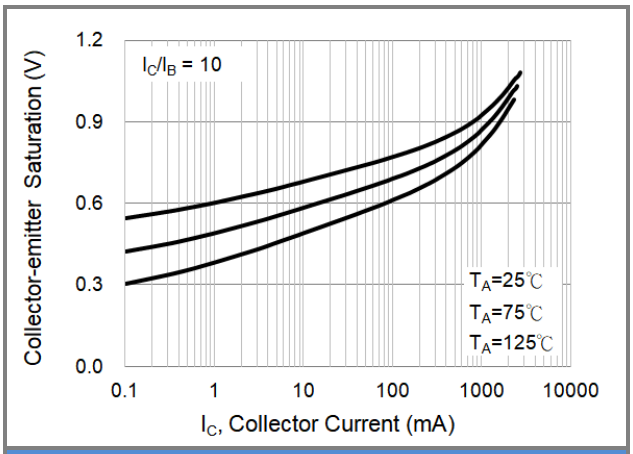

Fig.5 Base-Emitter Saturation Voltage

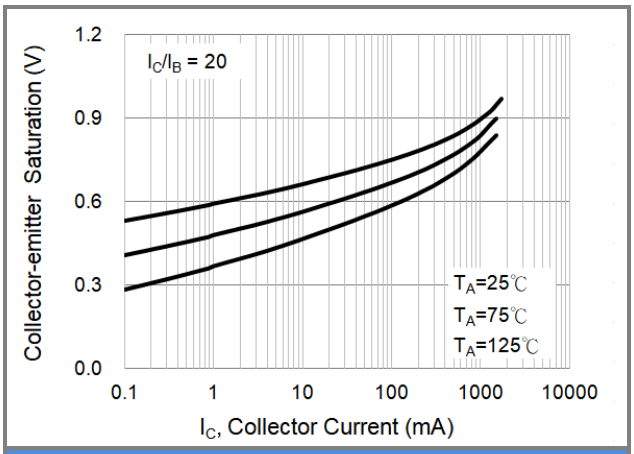

Fig.6 Base-Emitter Saturation Voltage

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TYPICAL CHARACTERISTIC CURVES

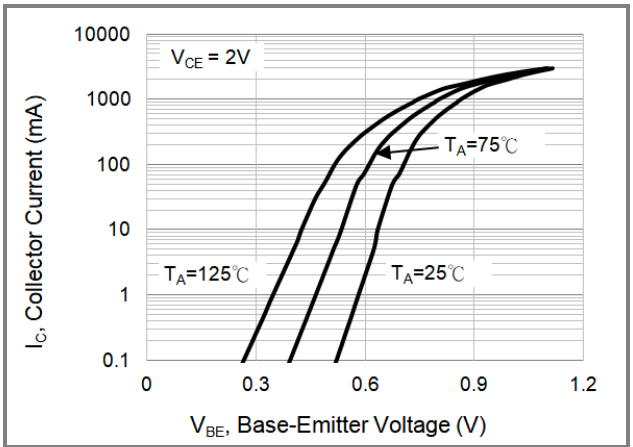


Fig.7 Base-Emitter Voltage

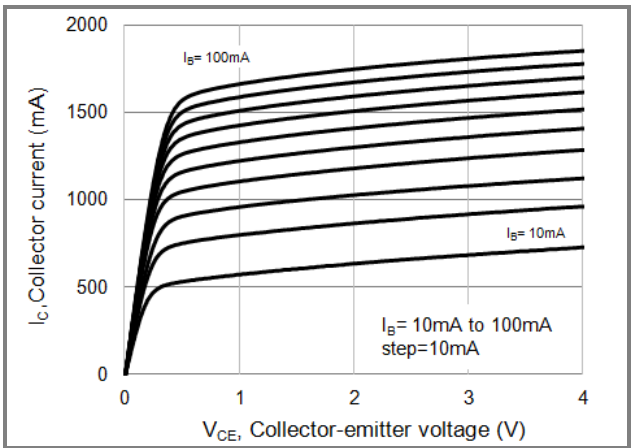


Fig.8 Collector Current

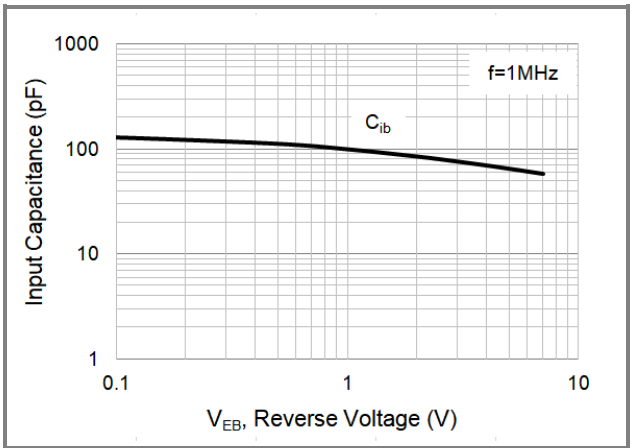


Fig.9 Input Capacitance

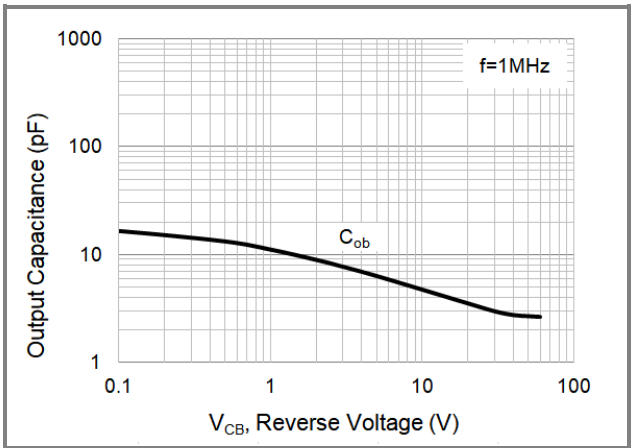


Fig.10 Output Capacitance

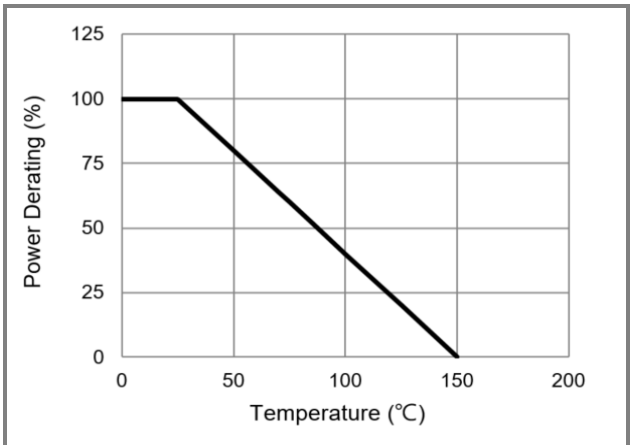


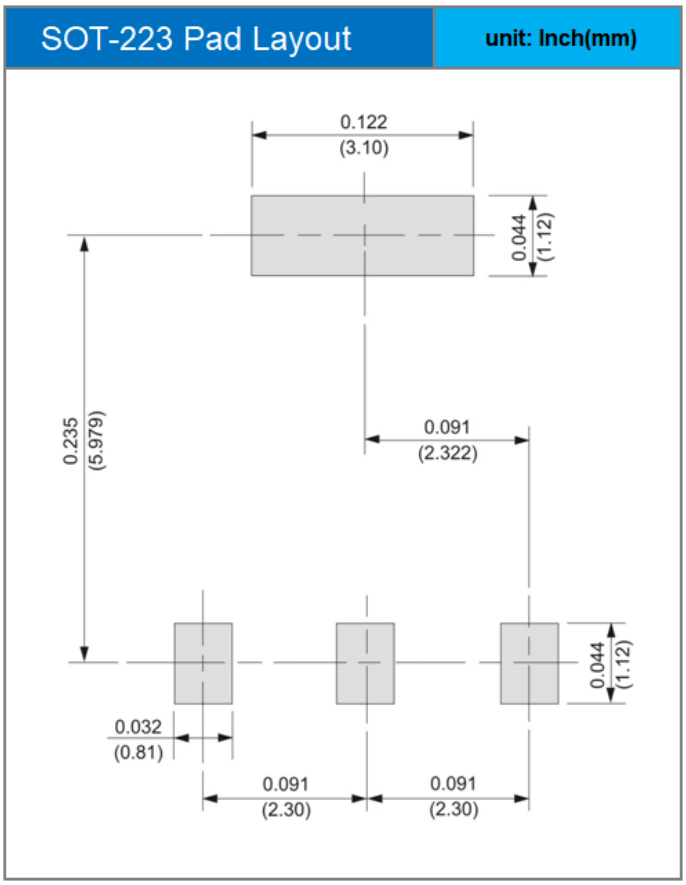
Fig.11 Power Derating Curve

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



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