PNP Transistor



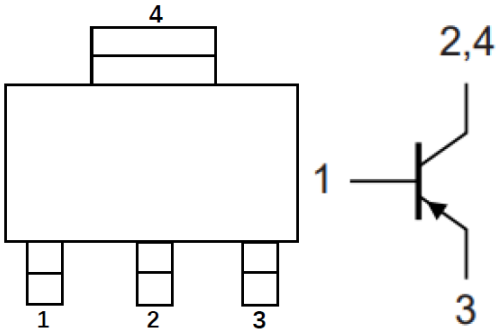
Features

- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix ”HF”
- Moisture Sensitivity Level 1

Mechanical Data

- **Package**: SOT-223
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking**: 304PZB

■Equivalent circuit



■Maximum Ratings (Ta=25℃ unless otherwise noted)

Item	Symbol	Unit	Conditions	Value
Collector-Emitter Voltage	V_{CEO}	V	I_C=-1mA,I_E=0	-60
Collector-Base Voltage	V_{CBO}	V	I_C =-1mA,I_B=0	-60
Emitter-Base Voltage	V_{EBO}	V	I_E=-100μA,I_C=0	-5
Collector Current	I_C	A		-4.5
Power Dissipation(Note1)	P_D	W		0.5
Operation Junction Temperature	T_j	℃		-55 to +150
Storage Temperature	T_{stg}	℃		-55 to +150

■Electrical Characteristics (Ta=25℃ unless otherwise noted)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-Base Breakdown Voltage	V_{CBO}	V	I_C=-1mA,I_E=0	-60		
Collector-Emitter Breakdown Voltage	V_{CEO*}	V	I_C =-1mA,I_B=0	-60		
Emitter-Base Breakdown Voltage	V_{EBO}	V	I_E=-100μA,I_C=0	-5		
Collector-Base Cut-Off Current	I_{CBO}	nA	V_{CB}=-60V, I_E =0			-100
Emitter-Base Cut-Off Current	I_{EBO}	nA	V_{EB}=-5V, I_C =0			-100
DC Current Gain	h_{FE}		V_{CE}=-2V,I_C=-0.5A	200		
	h_{FE}		V_{CE}=-2V,I_C=-1A	200		
	h_{FE}		V_{CE}=-2V,I_C=-2A	150		
	h_{FE}		V_{CE}=-2V,I_C=-4A	120		
	h_{FE}		V_{CE}=-2V,I_C=-6A	60		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	mV	I_C=-0.5A,I_B=-50mA			-50
			I_C=-1A,I_B=-50mA			-90
			I_C=-1A,I_B=-10mA			-190
			I_C=-2A,I_B=-40mA			-230
			I_C=-4A,I_B=-200mA			-300
			I_C=-4A,I_B=-400mA			-230
			I_C=-4.5A,I_B=-225mA			-375
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	V	I_C=-1A,I_B=-100mA			-0.9
			I_C=-4A,I_B=-400mA			-1.05
Collector-Emitter Saturation Resistance	$R_{CE(sat)}$	mΩ	I_C=-4A,I_B=-200mA			75
			I_C=-2A,I_B=-40mA			115
Base-Emitter Turn-On Voltage	$V_{BE（ON）}$	V	V_{CE}=-2V,I_C=-2A			-0.85
Output Capacitance	Cob	pF	V_{CB}=-10V, I_E=0, f=1MHz		50	

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	RθJ-A(1)	℃/W	250
Thermal resistance, junction-to-case	RθJ-C(1)	℃/W	50

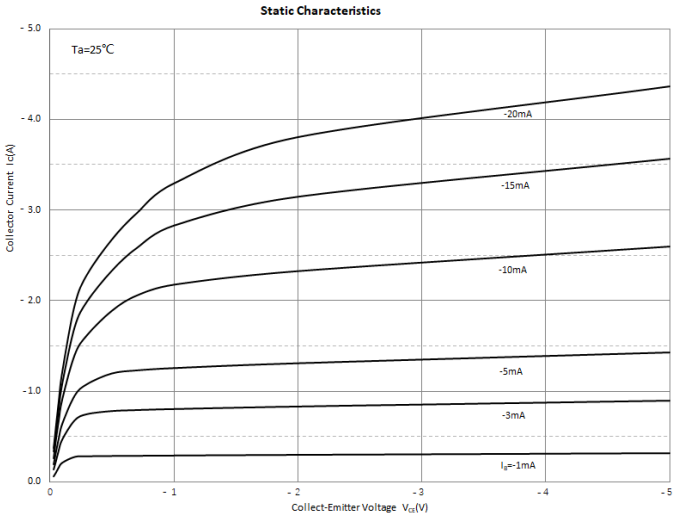
Note：

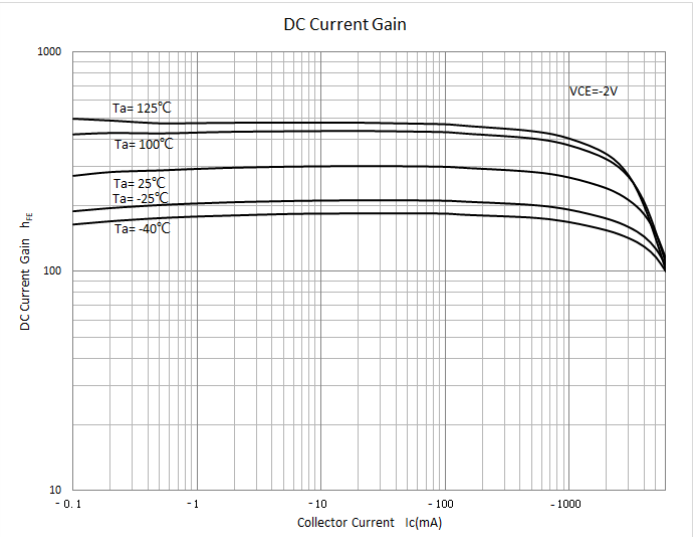
（1） The device is installed and tested on 25.4 * 25.4 * 1.5mm P.C.B.

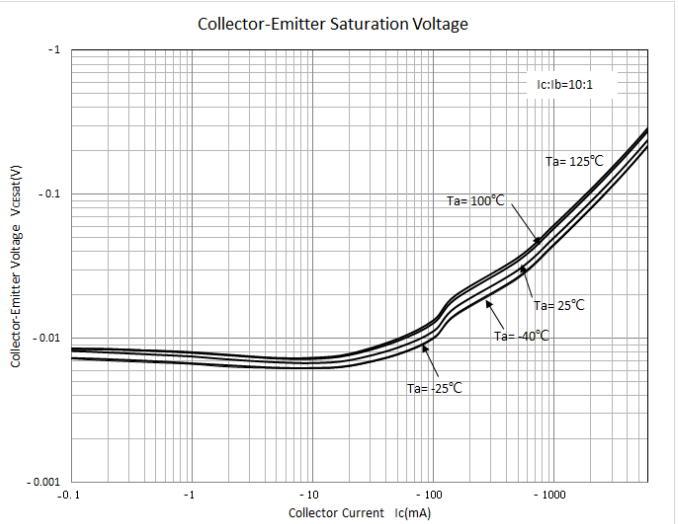
■Ordering Information (Example)

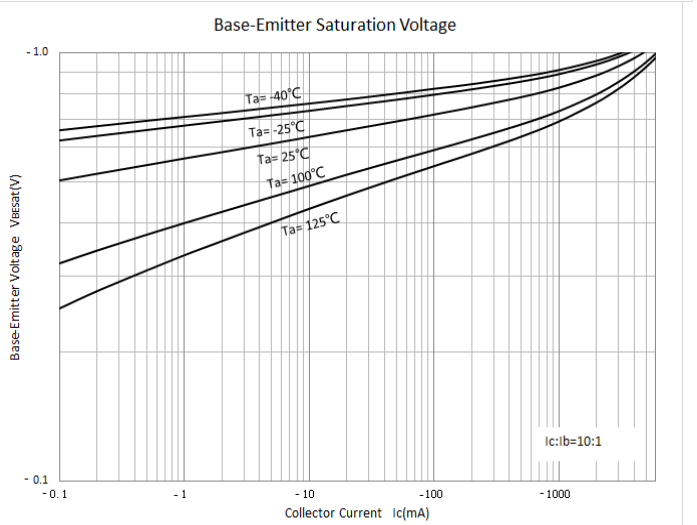
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
PBSS304PZB	F2	Approximate 0.11	2500	5000	25000	13” reel

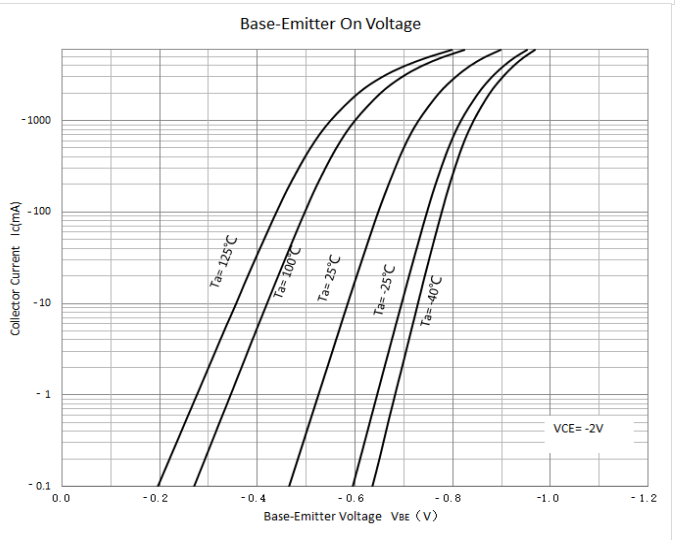
■Characteristics (Typical)

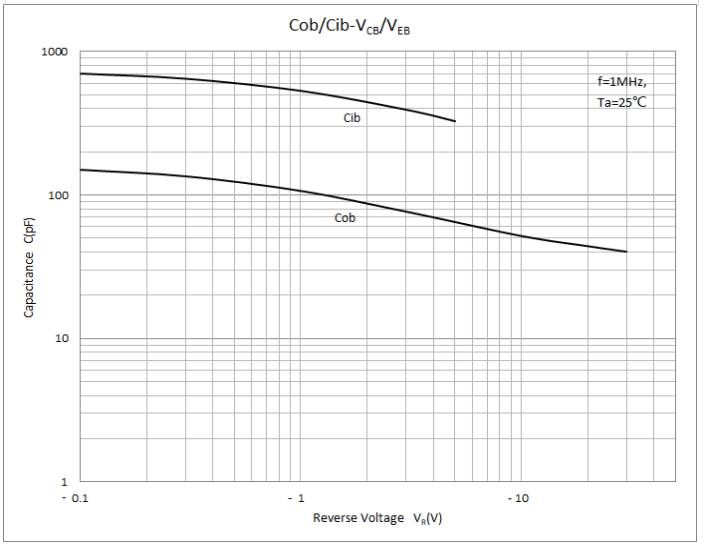




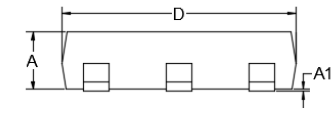


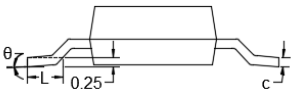


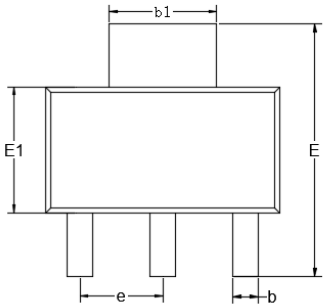




■SOT-223 Package Outline Dimensions

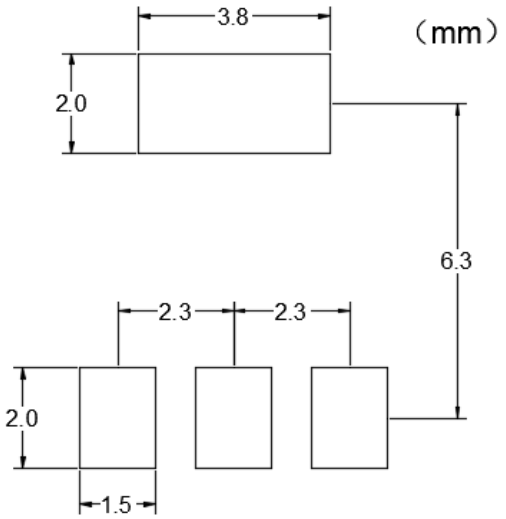






DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MN	MAX
A	0.0591	0.0670	1.5000	1.7000
A1	0.0008	0.0039	0.0200	0.1000
b	0.0259	0.0330	0.6600	0.8400
b1	0.1140	0.1220	2.9000	3.1000
c	0.0090	0.0138	0.2300	0.3500
D	0.2480	0.2640	6.3000	6.7000
E	0.2637	0.2874	6.7000	7.3000
E1	0.1290	0.1460	3.3000	3.7000
e	0.0866	0.0945	2.2000	2.4000
L	0.0295	0.0492	0.7500	1.2500
θ	0°	10°	0°	10°

■SOT-223 Suggested Pad Layout



Notice

All products, product specifications and data are subject to change without notice to improve reliability, function or design or otherwise. Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in STARSEA's terms and conditions of sale for such products, STARSEA assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of STARSEA products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.