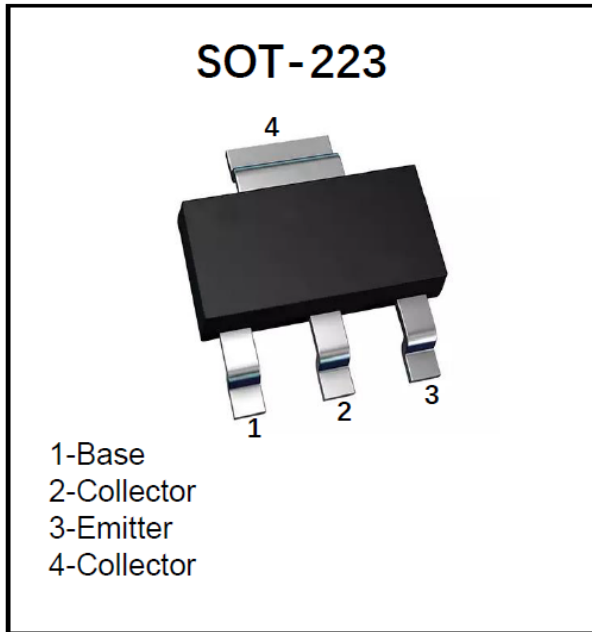


## NPN Transistor



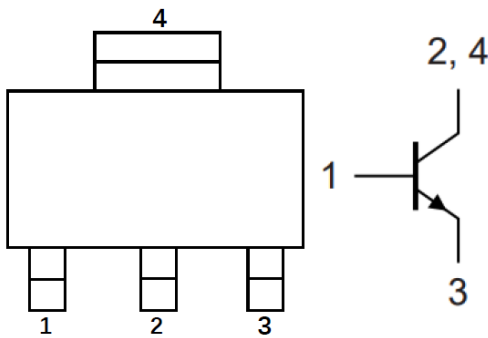
### Features

- 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:** PB4350

### ■Equivalent circuit



### ■Maximum Ratings (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Conditions	Value
Collector-Emitter Voltage	$V_{CEO}$	V	$I_C=10mA, I_B=0$	50
Collector-Base Voltage	$V_{CBO}$	V	$I_C=100\mu A, I_E=0$	60
Emitter-Base Voltage	$V_{EBO}$	V	$I_E=100\mu A, I_C=0$	6
Collector Current	$I_C$	A		3
Power Dissipation	$P_D$	W		0.5
Operation Junction Temperature	$T_J$	°C		-55 to +150
Storage Temperature	$T_{stg}$	°C		-55 to +150

**■ Electrical Characteristics** (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	V <sub>CBO</sub>	V	I <sub>C</sub> =100μA, I <sub>E</sub> =0	60		
Collector-emitter breakdown voltage	V <sub>CEO</sub>	V	I <sub>C</sub> =10mA, I <sub>B</sub> =0	50		
Emitter-base breakdown voltage	V <sub>EBO</sub>	V	I <sub>E</sub> =100μA, I <sub>C</sub> =0	6		
Collector-base cut-off current	I <sub>CBO</sub>	nA	V <sub>CB</sub> =50V, I <sub>E</sub> =0			100
Emitter-base cut-off current	I <sub>EBO</sub>	nA	V <sub>EB</sub> =5V, I <sub>C</sub> =0			100
DC current gain	h <sub>FE</sub> 1		V <sub>CE</sub> =2V, I <sub>C</sub> =0.5A	200		
	h <sub>FE</sub> 2		V <sub>CE</sub> =2V, I <sub>C</sub> =1A	200		
	h <sub>FE</sub> 3		V <sub>CE</sub> =-2V, I <sub>C</sub> =2A	100		
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	mV	I <sub>C</sub> =0.5A, I <sub>B</sub> =50mA			90
			I <sub>C</sub> =1A, I <sub>B</sub> =50mA			170
			I <sub>C</sub> =2A, I <sub>B</sub> =200mA			290
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	V	I <sub>C</sub> =2A, I <sub>B</sub> =200mA			1.2
Collector-emitter saturation resistance	R <sub>CE(sat)</sub>	mΩ	I <sub>C</sub> =2A, I <sub>B</sub> =200mA			145
Base-emitter turn on voltage	V <sub>BE on</sub>	V	V <sub>CE</sub> =2V I <sub>C</sub> =1A			1.1
Output Capacitance	Cob	pF	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz		30	

**■ Thermal Characteristics**

Parameter	Symbol	Unit	Value
Thermal resistance, junction to ambient	R <sub>θJA</sub> <sup>(1)</sup>	°C/W	250
Thermal resistance, junction to case	R <sub>θJC</sub> <sup>(1)</sup>	°C/W	100

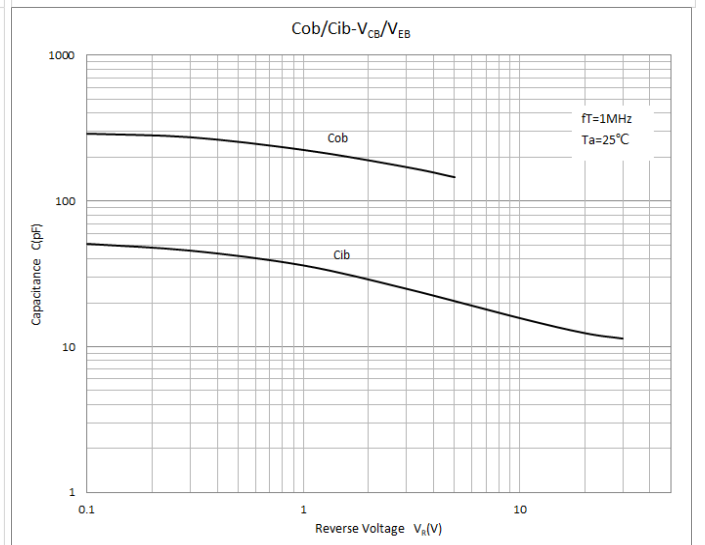
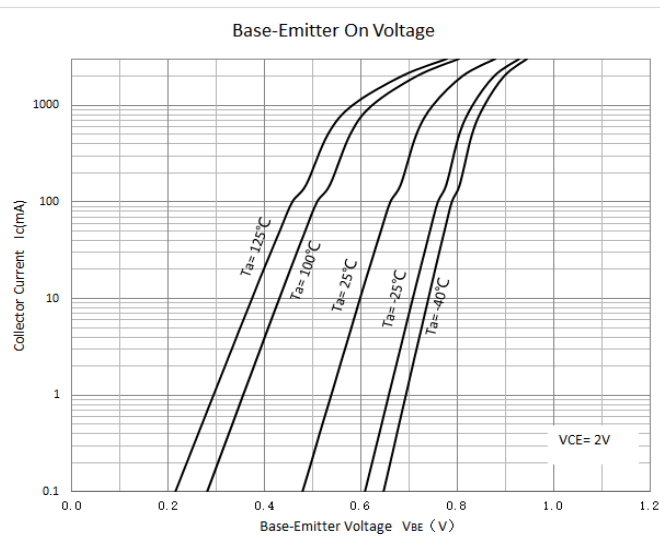
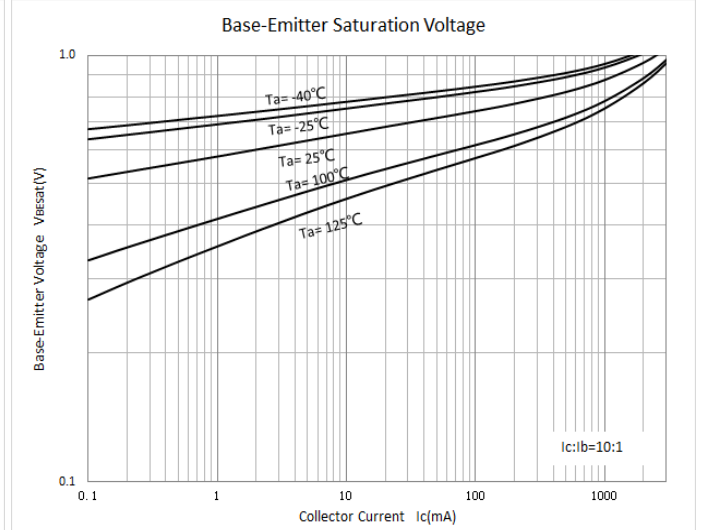
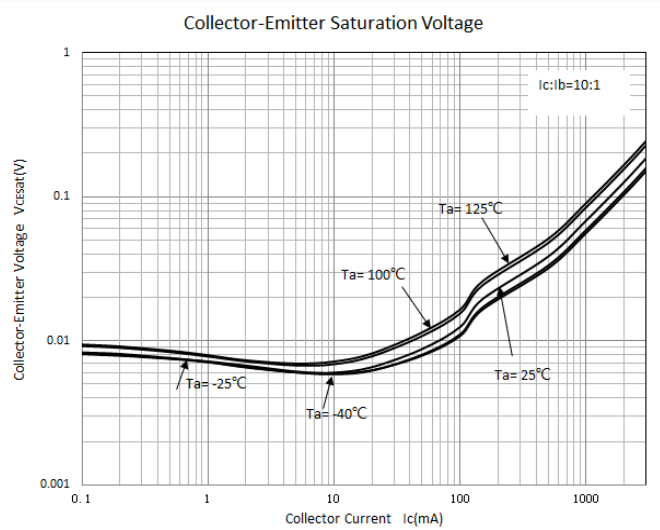
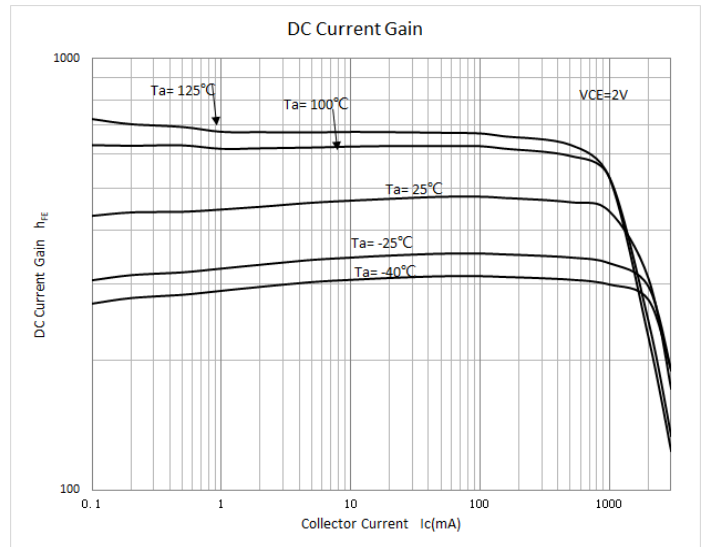
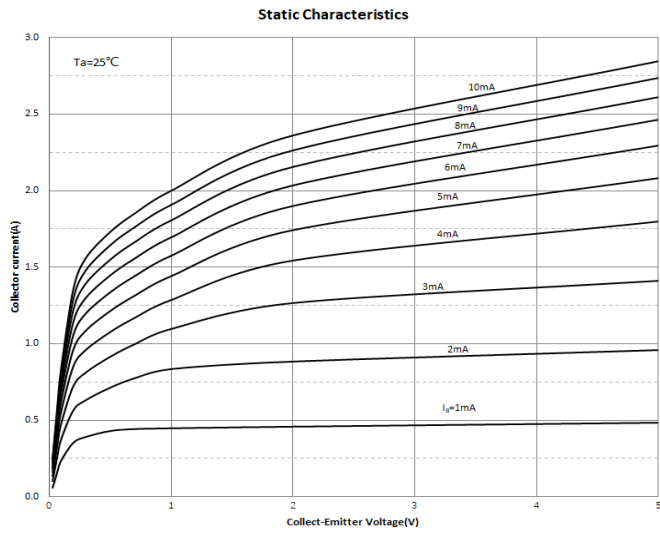
Note: The device is installed and tested on 25.4 \* 25.4 \* 1.5mm P.C.B.

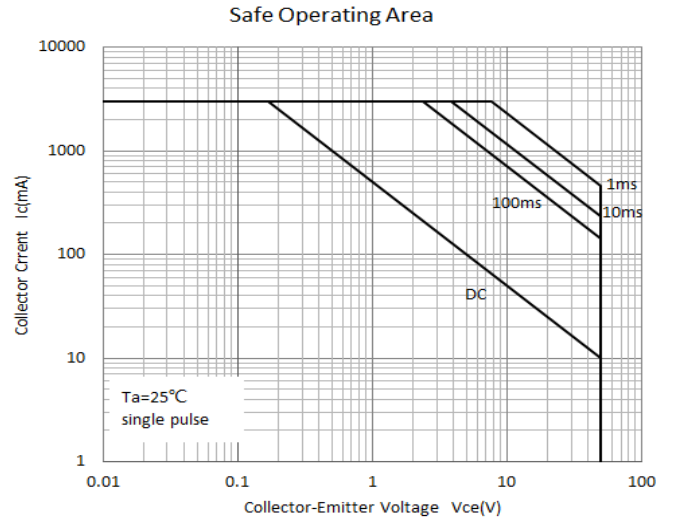
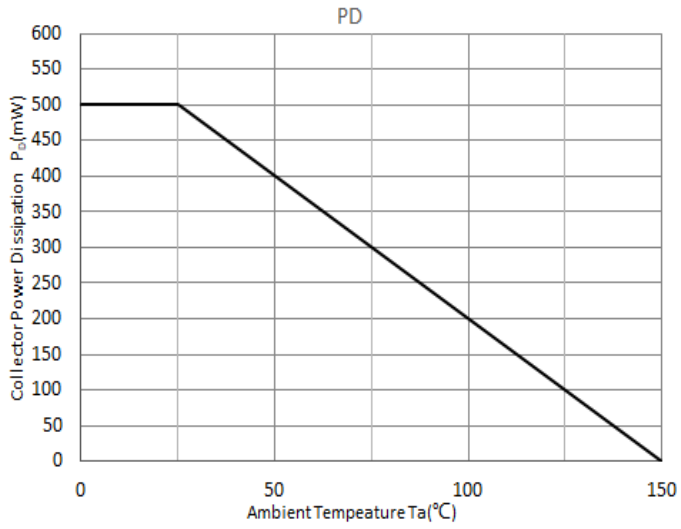
**■ Ordering Information (Example)**

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
PBSS4350Z	F2	Approximate 0.11	2500	5000	25000	13" reel

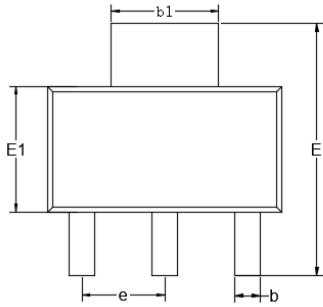
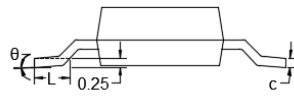
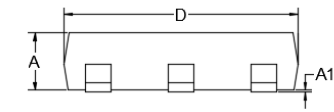


## ■ Thermal Characteristics (Typical)



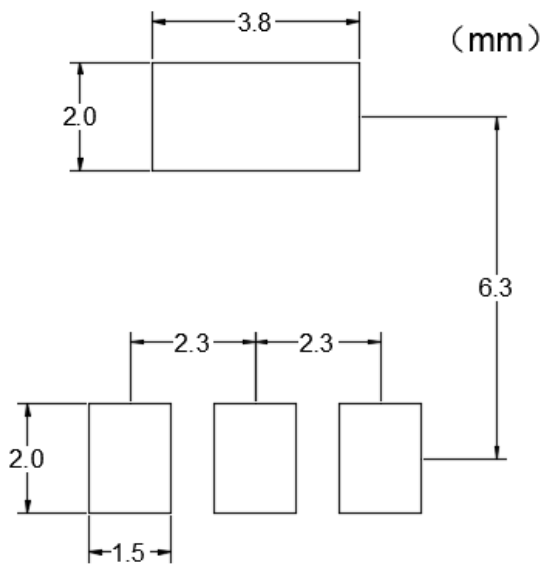


## ■SOT223 Package Outline Dimensions



DIM	DIMENSIONS			
	INCHES		MM	
	MIN	MAX	MIN	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
$\theta$	0°	10°	0°	10°

## ■SOT223 Suggested Pad Layout





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