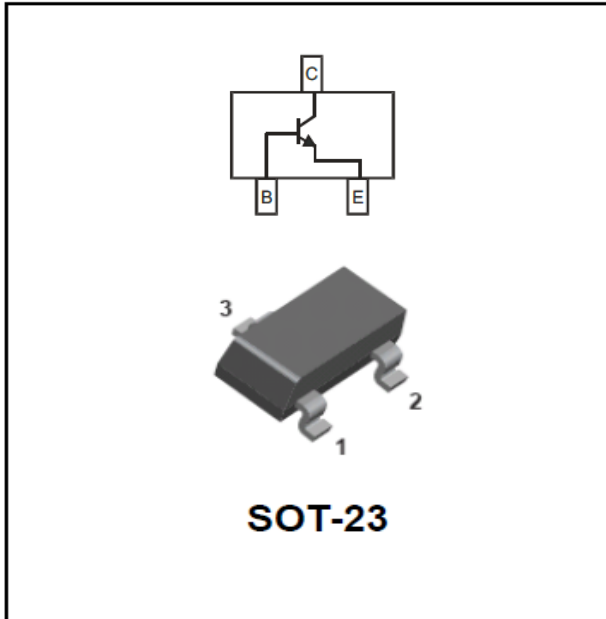


## NPN General Purpose Amplifier



### Features

- Low collector-emitter saturation voltage
- High current capability
- Improved device reliability due to reduced heat generation
- Epoxy meets UL94 V0 flammability rating
- Halogen free available upon request by adding suffix "HF"
- Moisture Sensitivity Level 1
- Marking: 3D

### Applications

- Supply line switching circuits
- Battery management
- DC-DC converter
- Strobe flash
- Motor and lamp driver

### ■ Maximum Ratings (Ta=25°C)

Item	Symbol	Unit	Conditions	Value
Collector-Emitter Voltage	$V_{CE0}$	V	$I_C=1mA, I_B=0$	30
Collector-Base Voltage	$V_{CB0}$	V	$I_C=100\mu A, I_E=0$	40
Emitter-Base Voltage	$V_{EB0}$	V	$I_E=100\mu A, I_C=0$	5
Collector Current	$I_C$	A		2
Collector Power Dissipation	$P_C$	mW		300
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	°C/W		417
Operation Junction Temperature	$T_j$	°C		150
Storage Temperature	$T_{stg}$	°C		-55 to +150

### ■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
PBSS4230T	F2	Approximate 0.008	3000	30000	120000	7" reel

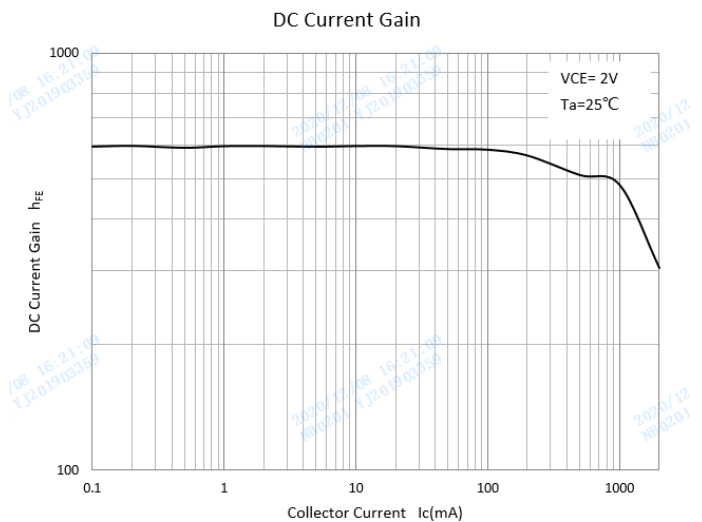
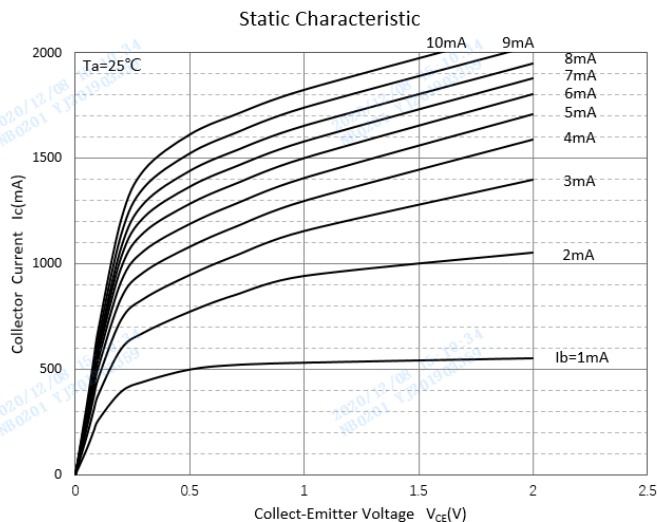


# PBSS4230T

## ■Electrical Characteristics (T<sub>a</sub>=25°C)

Item	Symbol	Unit	Conditions	Min	Max
CollectorEmitter Voltage	V <sub>CEO</sub>	V	I <sub>C</sub> =1mA, I <sub>B</sub> =0	30	
CollectorBase Voltage	V <sub>CBO</sub>	V	I <sub>C</sub> =100uA, I <sub>E</sub> =0	40	
EmitterBase Voltage	V <sub>EBO</sub>	V	I <sub>E</sub> =100uA, I <sub>C</sub> =0	5	
Collectorbase Cutoff Current	I <sub>CBO</sub>	nA	V <sub>CB</sub> =30V		100
Baseemitter Cutoff Current	I <sub>EB0</sub>	nA	V <sub>EB</sub> =4V		100
DC Current Gain	h <sub>FE</sub>		I <sub>C</sub> =100mA V <sub>CE</sub> =2V	350	
			I <sub>C</sub> =500mA V <sub>CE</sub> =2V	300	
			I <sub>C</sub> =1A V <sub>CE</sub> =2V	300	
			I <sub>C</sub> =2A V <sub>CE</sub> =2V	150	
CollectorEmitter Saturation Voltage	V <sub>CE(sat)1</sub>	mV	I <sub>C</sub> =100mA I <sub>B</sub> =1mA		70
	V <sub>CE(sat)2</sub>	mV	I <sub>C</sub> =500mA I <sub>B</sub> =50mA		100
	V <sub>CE(sat)3</sub>	mV	I <sub>C</sub> =750mA I <sub>B</sub> =15mA		180
	V <sub>CE(sat)4</sub>	mV	I <sub>C</sub> =1A I <sub>B</sub> =50mA		180
	V <sub>CE(sat)5</sub>	mV	I <sub>C</sub> =2A I <sub>B</sub> =200mA		320
Equivalent OnResistance	R <sub>CE(sat)</sub>	mΩ	I <sub>C</sub> =500mA I <sub>B</sub> =50mA		200
BaseEmitter Saturation Voltage	V <sub>BE(sat)</sub>	V	I <sub>C</sub> =2A I <sub>B</sub> =200mA		1.1
BaseEmitter TurnOn Voltage	V <sub>BE(on)</sub>	V	I <sub>C</sub> =100mA V <sub>CE</sub> =2V		0.75
Transition frequency	f <sub>T</sub>	MHz	I <sub>C</sub> =100mA, V <sub>CE</sub> =10V, f=100MHz	100	
Collector Capacitance	C <sub>ob</sub>	pF	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz		20

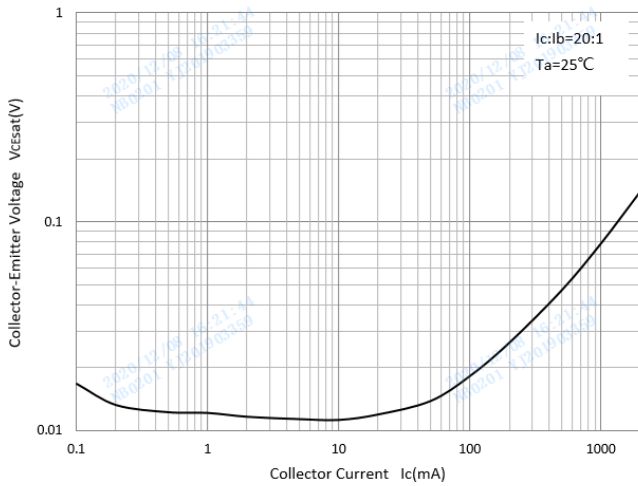
## ■Characteristics(Typical)



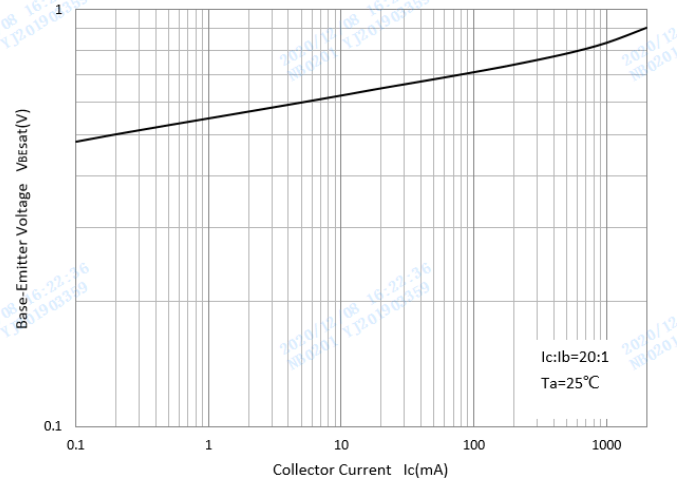


# PBSS4230T

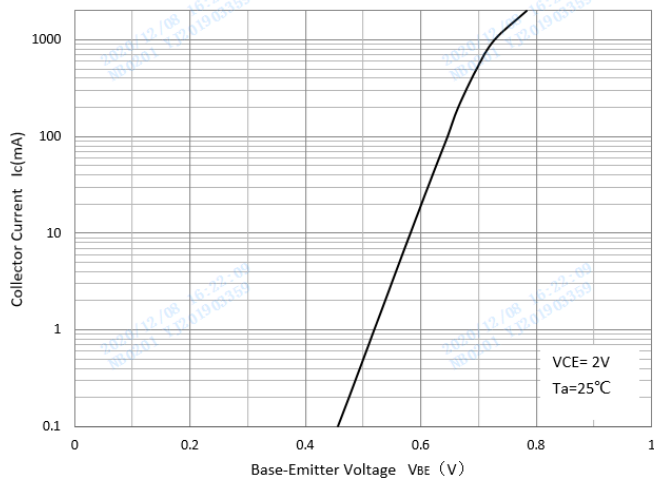
### Collector-Emitter Saturation Voltage



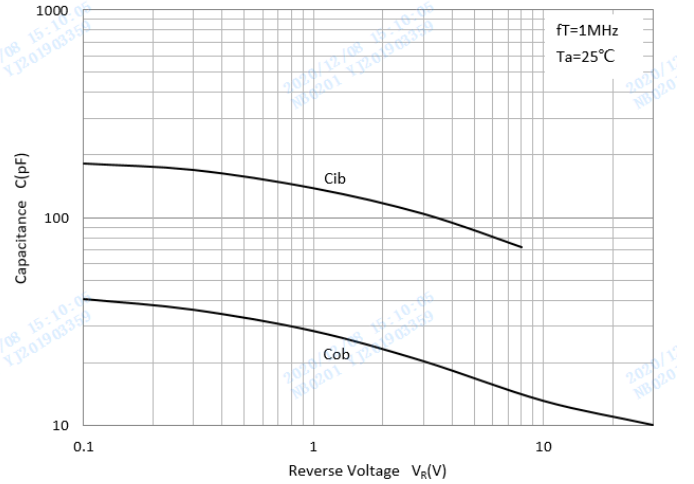
### Base-Emitter Saturation Voltage



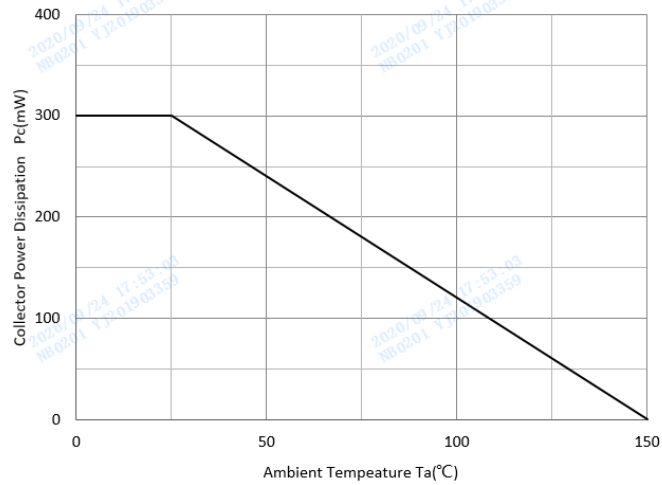
### Base-Emitter On Voltage



### $C_{ob}/C_{ib}-V_{CB}/V_{EB}$



### Collector Power Derating Curve





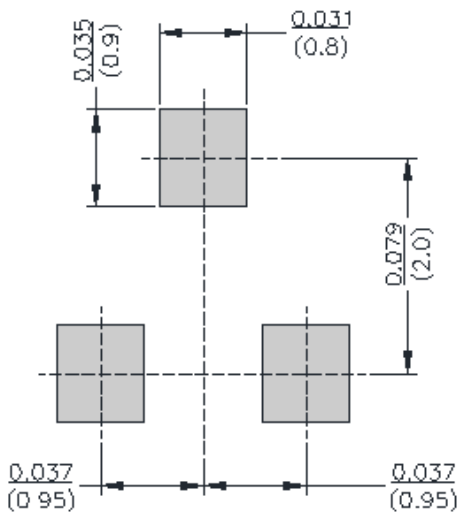
# PBSS4230T

## ■SOT23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

## ■SOT23 Soldering Footprint





## PBSS4230T

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