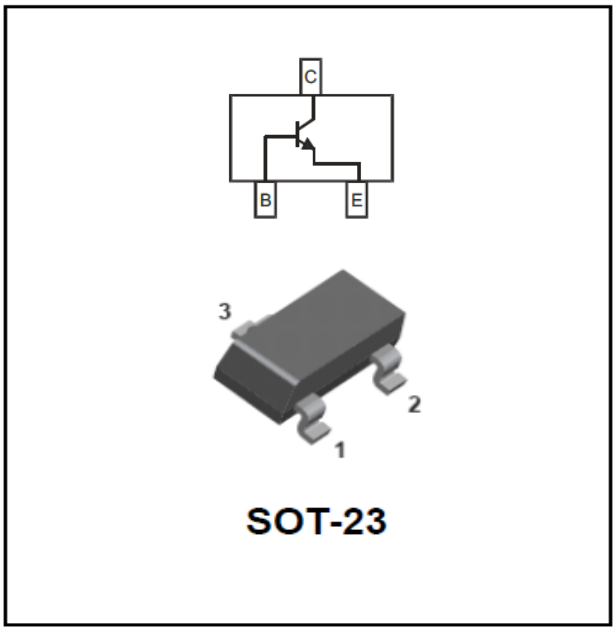
NPN General Purpose Amplifier



Features

- ●Low collectoremitter 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:3B

Applications

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

■Maximum Ratings (Ta=25℃)

Item	Symbol	Unit	Conditions	Value
CollectorEmitter Voltage	V_{CEO}	V	I_C=1mA, I_B=0	20
CollectorBase Voltage	V_{CBO}	V	I_C=100uA, I_E=0	30
EmitterBase Voltage	V_{EBO}	V	I_E=100uA, I_C=0	5
Collector Current	I_C	A		1
Collector Power Dissipation	Pc	mW		300
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	℃/W		417
Operation Junction Temperature	T_j	℃		150
Storage Temperature	T_{stg}	℃		-55 to +150

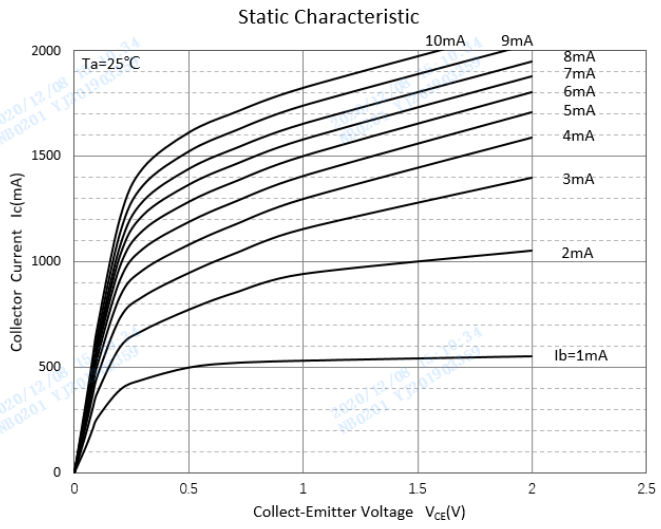
■Ordering Information (Example)

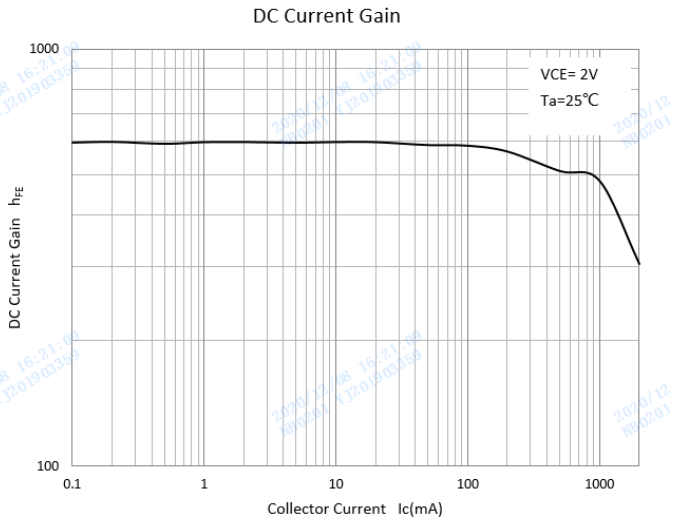
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
PBSS4120T	F2	Approximate 0.008	3000	30000	120000	7” reel

■Electrical Characteristics（T_a=25℃）

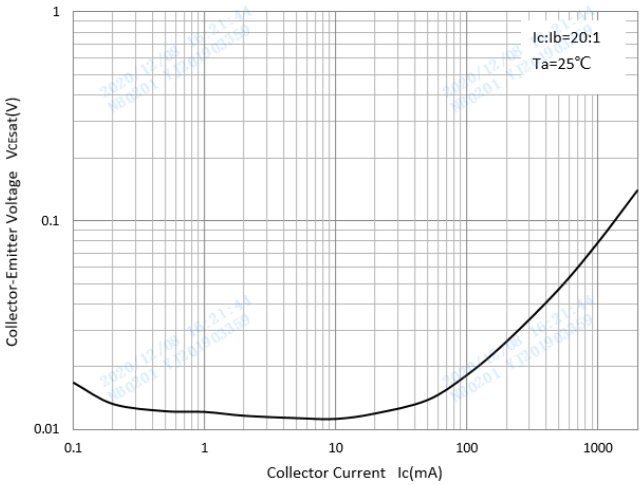
Item	Symbol	Unit	Conditions	Min	Max
CollectorEmitter Voltage	V_{CEO}	V	I_C=1mA, I_B=0	20	
CollectorBase Voltage	V_{CBO}	V	I_C=100uA, I_E=0	30	
EmitterBase Voltage	V_{EBO}	V	I_E=100uA, I_C=0	5	
Collectorbase Cutoff Current	I_{CBO}	nA	V_{CB}=30V		100
Baseemitter Cutoff Current	I_{EB0}	nA	V_{EB}=4V		100
DC Current Gain	h_{FE}		I_C=100mA V_{CE}=2V	350	
			I_C=500mA V_{CE}=2V	300	
			I_C=1A V_{CE}=2V	280	
CollectorEmitter Saturation Voltage	$V_{CE(sat)}1$	mV	I_C=100mA I_B=1mA		80
	$V_{CE(sat)}2$	mV	I_C=500mA I_B=50mA		110
	$V_{CE(sat)}3$	mV	I_C=750mA I_B=15mA		200
	$V_{CE(sat)}4$	mV	I_C=1A I_B=50mA		250
Equivalent OnResistance	$R_{CE(sat)}$	mΩ	I_C=500mA I_B=50mA		220
BaseEmitter Saturation Voltage	$V_{BE(sat)}$	V	I_C=1A I_B=100mA		1.1
BaseEmitter TurnOn Voltage	$V_{BE(on)}$	V	I_C=100mA V_{CE}=2V		0.75
Transition frequency	f_T	MHz	I_C=100mA,V_{CE}=10V,f=100MHz	100	
Collector Capacitance	Cob	pF	VCB=10V,IE=0, f=1MHz		20

■Characteristics(Typical)

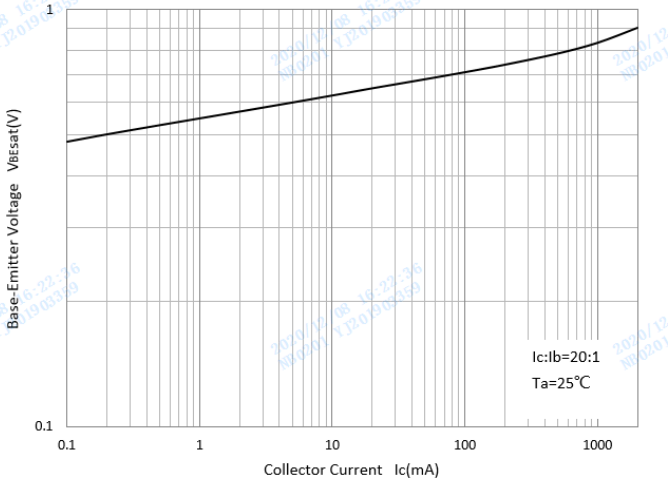




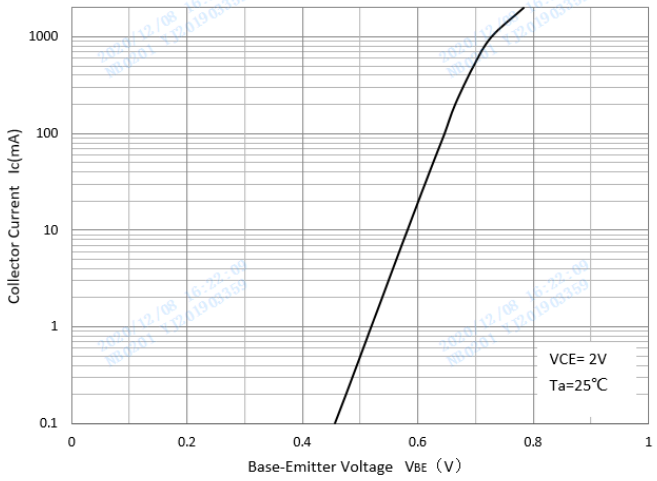
Collector-Emitter Saturation Voltage



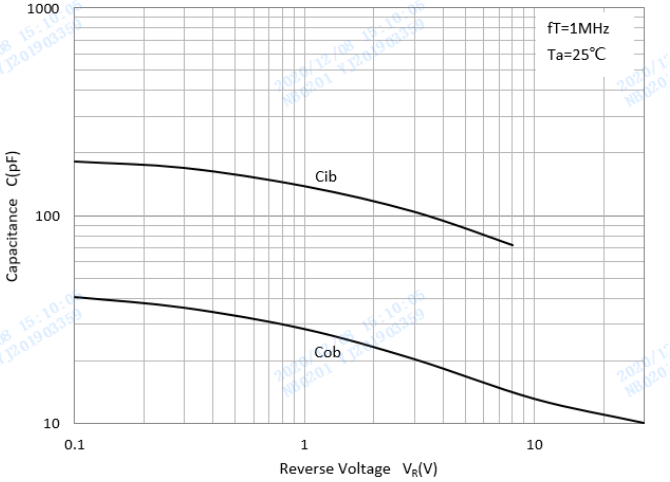
Base-Emitter Saturation Voltage



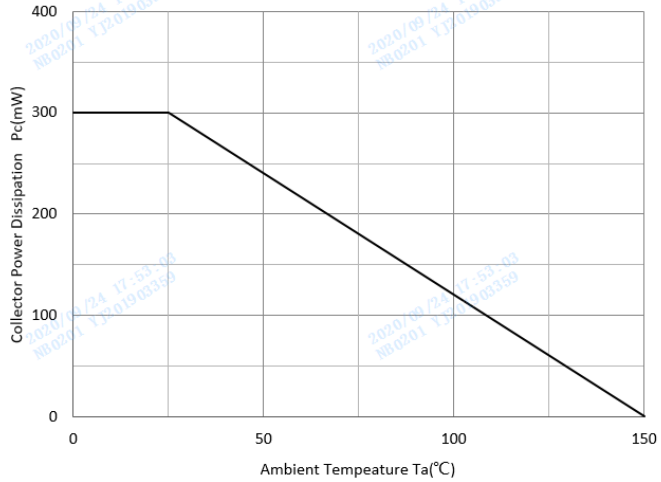
Base-Emitter On Voltage



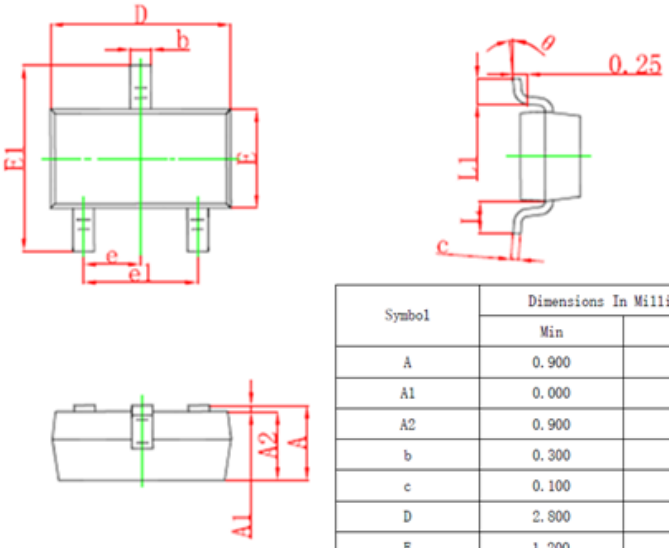
Cob/Cib-V_{CB}/V_{EB}



Collector Power Derating Curve

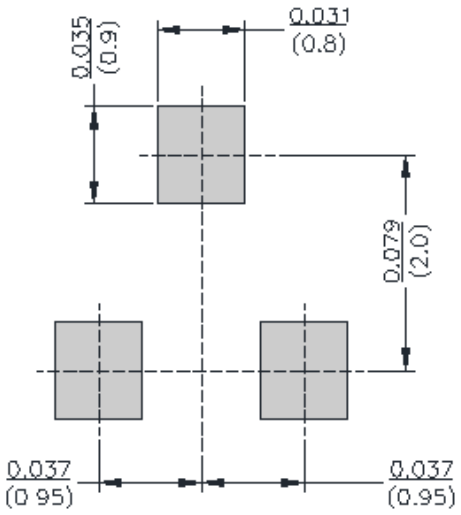


■SOT-23 Package Outline Dimensions



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°

■SOT-23 Soldering Footprint



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