



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	P _C	mW		300
Thermal Resistance From Junction To Ambient	R _{JA}	- /W		417

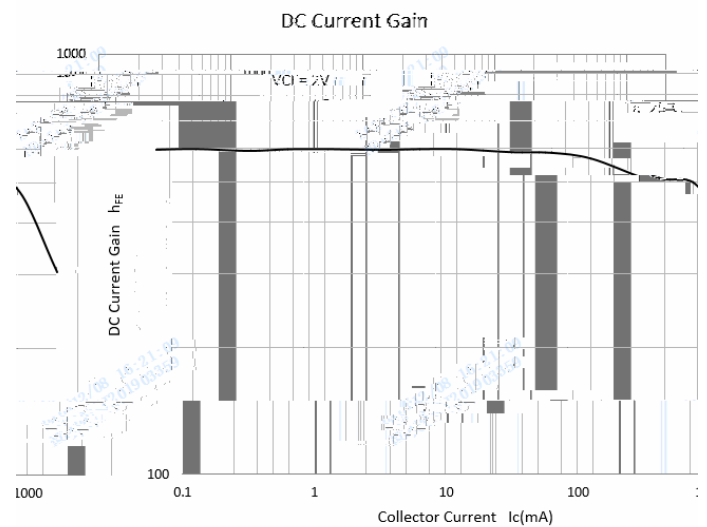
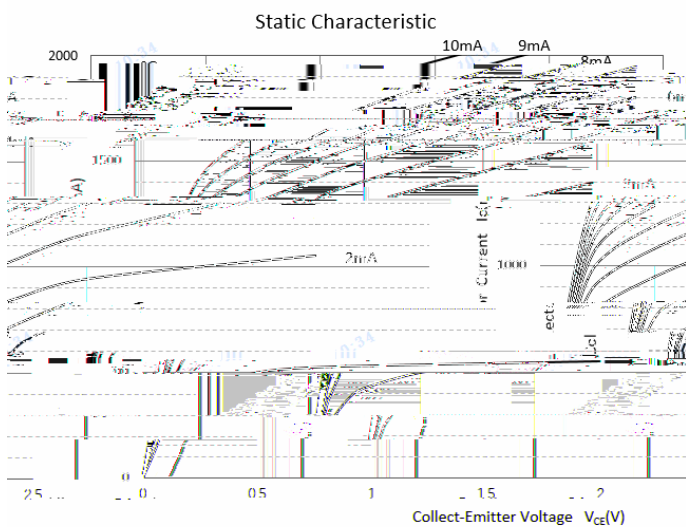


PBSS4120T

Electrical Characteristics $T_a=25^\circ\text{C}$

Item	Symbol	Unit	Conditions	Min	Max
Collector-Emitter Voltage	V_{CE0}	V	$I_C=1\text{mA}, I_B=0$	20	
Collector-Base Voltage	V_{CB0}	V	$I_C=100\mu\text{A}, I_E=0$	30	
Emitter-Base Voltage	V_{EB0}	V	$I_E=100\mu\text{A}, I_C=0$	5	
Collector-base Cutoff Current	I_{CBO}	nA	$V_{CB}=30\text{V}$		100
Base-emitter Cutoff Current	I_{EB0}	nA	$V_{EB}=4\text{V}$		100
DC Current Gain	h_{FE}		$I_C=100\text{mA}, V_{CE}=2\text{V}$	350	
			$I_C=500\text{mA}, V_{CE}=2\text{V}$	300	
			$I_C=1\text{A}, V_{CE}=2\text{V}$	280	
Collector-Emitter Saturation Voltage	$V_{CE(sat)1}$	mV	$I_C=100\text{mA}, I_B=1\text{mA}$		80
	$V_{CE(sat)2}$	mV	$I_C=500\text{mA}, I_B=50\text{mA}$		110
	$V_{CE(sat)3}$	mV	$I_C=750\text{mA}, I_B=15\text{mA}$		200
	$V_{CE(sat)4}$	mV	$I_C=1\text{A}, I_B=50\text{mA}$		250
Equivalent On-Resistance	$R_{CE(sat)}$	m Ω	$I_C=500\text{mA}, I_B=50\text{mA}$		220
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	V	$I_C=1\text{A}, I_B=100\text{mA}$		1.1
Base-Emitter Turn-On Voltage	$V_{BE(on)}$	V	$I_C=100\text{mA}, V_{CE}=2\text{V}$		0.75
Transition frequency	f_T	MHz	$I_C=100\text{mA}, V_{CE}=10\text{V}, f=100\text{MHz}$	100	
Collector Capacitance	C_{ob}	pF	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		20

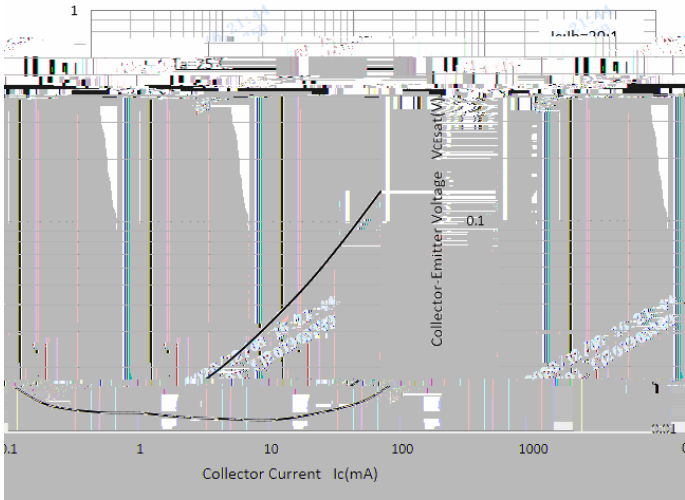
Characteristics (Typical)



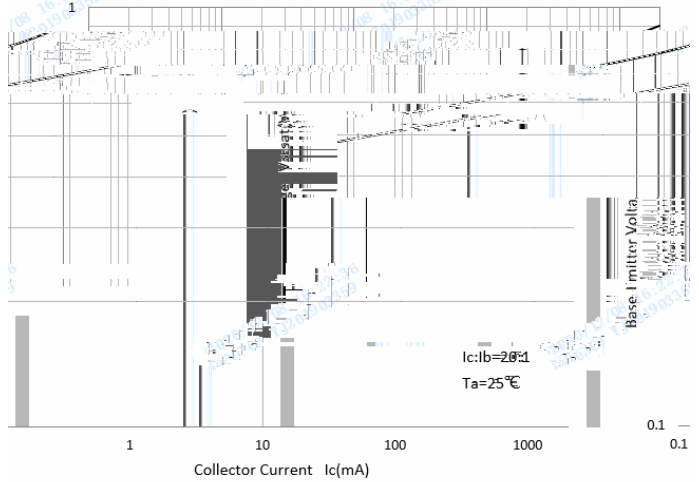


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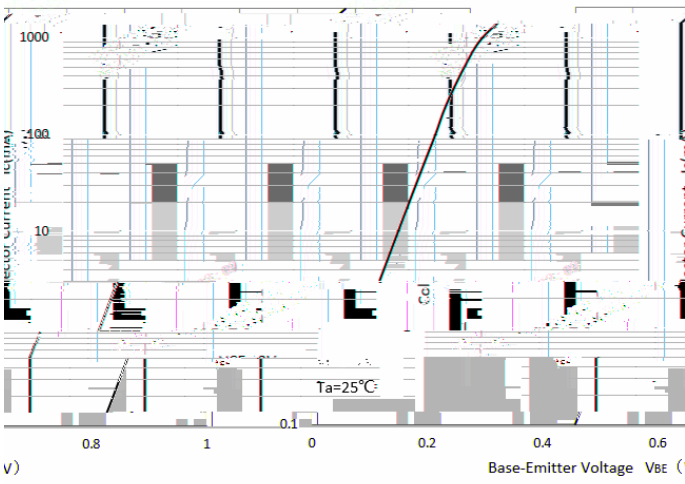
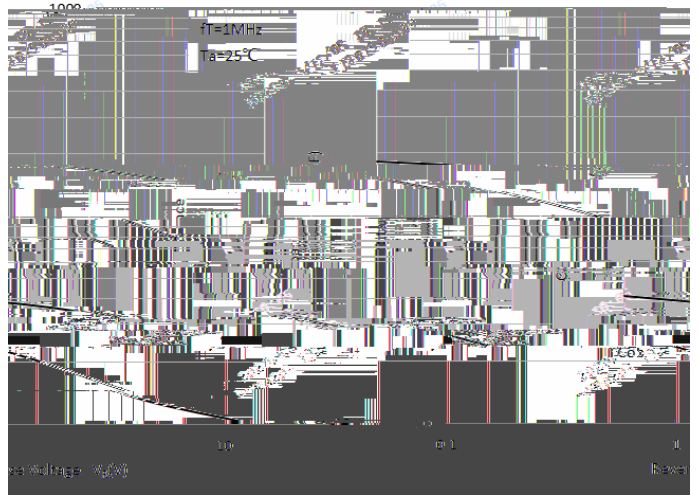
Collector-Emitter Saturation Voltage



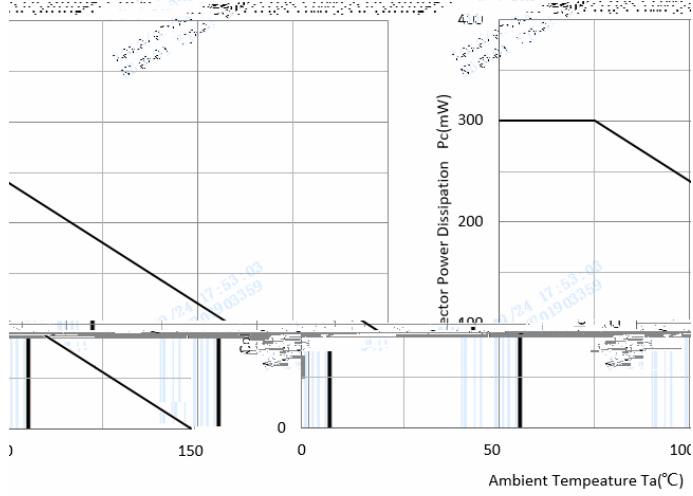
Base-Emitter Saturation Voltage



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



Collector Power Derating Curve



vSOT-23 Package Outline Dimensions

vSOT-23 Soldering Footprint



Disclaimer

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The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the mal-fection of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclearreactor controllers/u-7el controllers and other safety devices), Yangjie or any0 Tw [c'n'4-6.2(i0009ectl)-6.nhalf, sscumsd n. rep-6.2(ionsibn)-5.4(lit.)]TJ 2997533 0 TD -.0023 Tc .0638 Tw [(y)12n