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_{JA}	- /W		417

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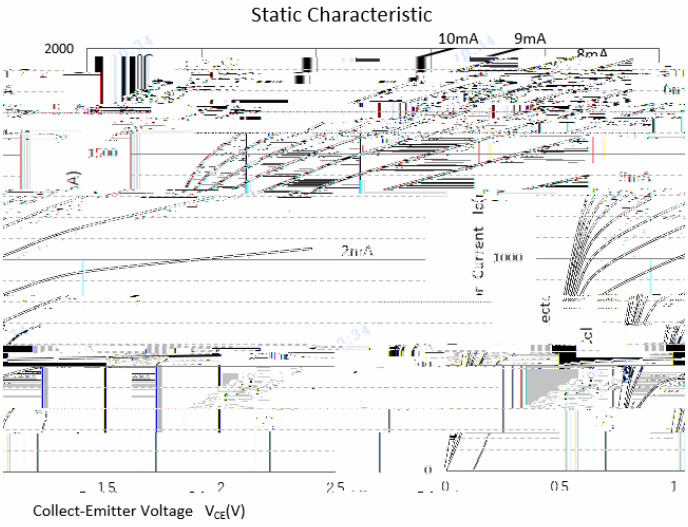
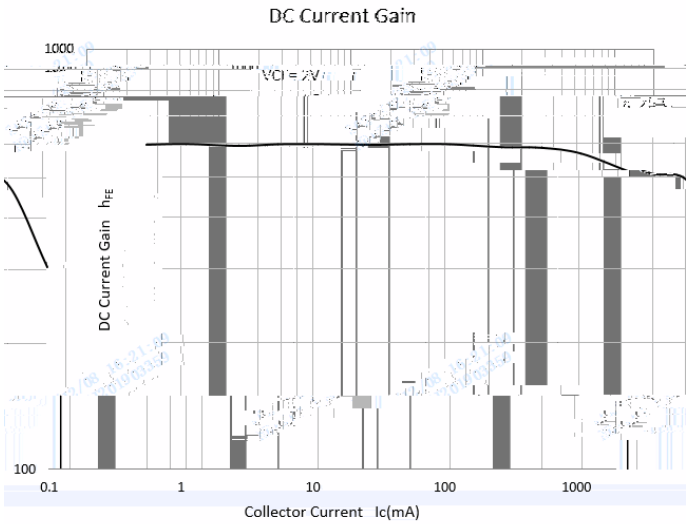
vElectrical Characteristics ÄTa=25 - Å

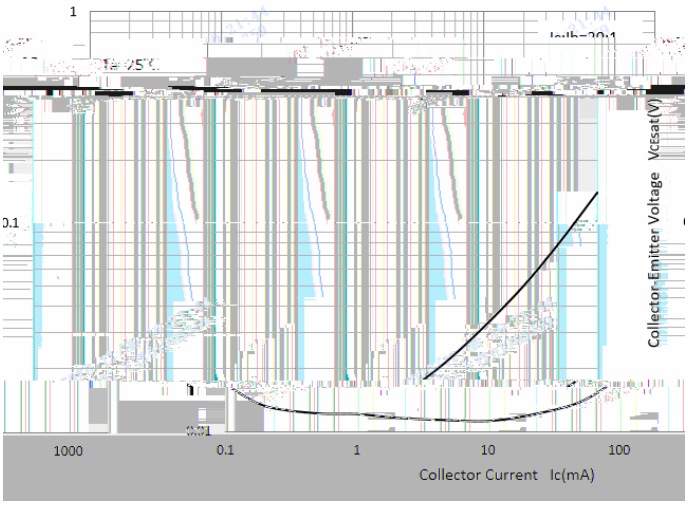
Item	Symbol	Unit	Conditions	Min	Max
CollectorEmitter Voltage	V_{CEO}	V	I_C=1mA, I_B=0	20	
CollectorBase Voltage	V_{CBO}	V	I_C=100uA, I_E=0	30	
EmitterBase Voltage	V_{EBO}	V	I_E=100uA, I_C=0	5	
Collectorbase Cutoff Current	I_{CBO}	nA	V_{CB}=30V		100
Baseemitter Cutoff Current	I_{EB0}	nA	V_{EB}=4V		100
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	$R_{CE(sat)}$	m ¡	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

vCharacteristics (Typical)

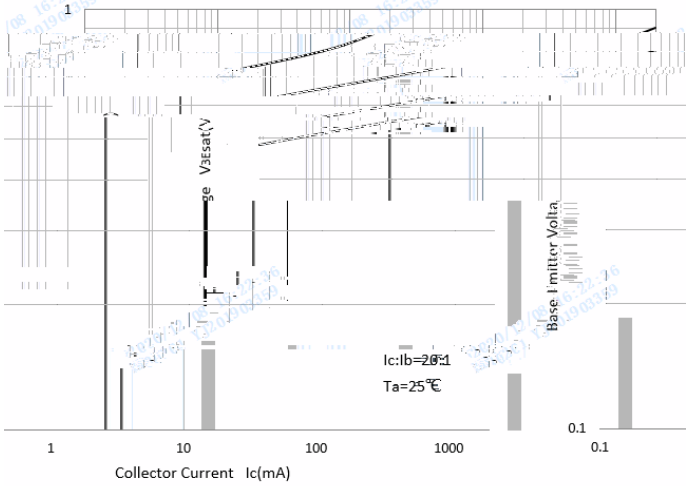


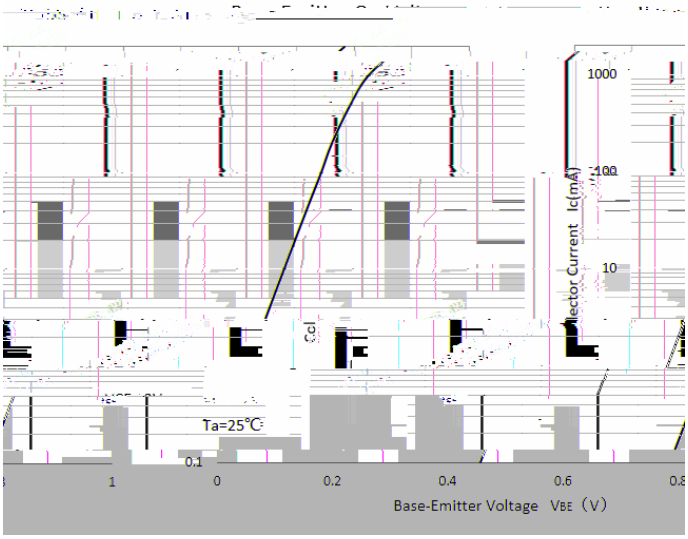


Collector-Emitter Saturation Voltage

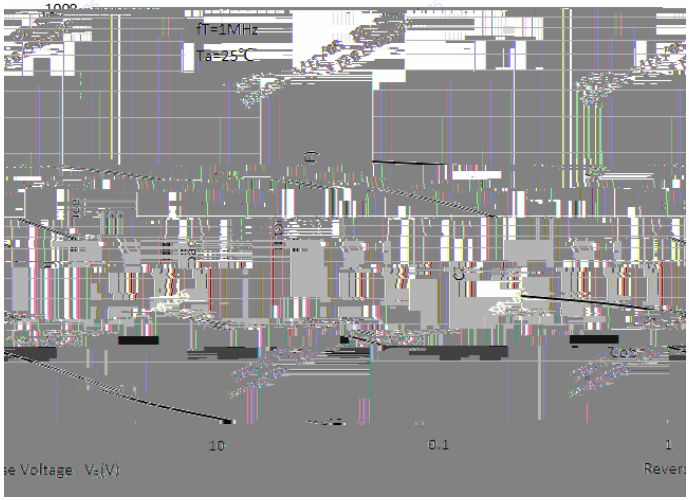


Base-Emitter Saturation Voltage

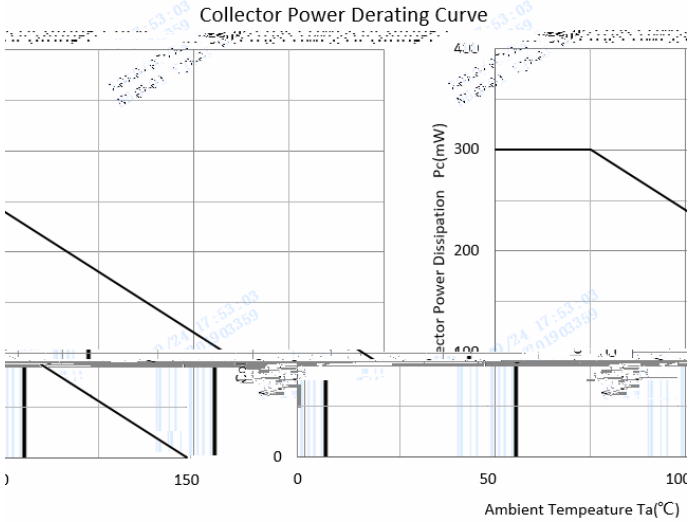




Cob/Cib-V_{CB}/V_{EB}



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-7ection of with 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 [<n'4-6.2(i0009ectl)-6.nhalft, sscumsd n. rep-6.2(ionsibn)-5.4(lit.)]TJ 2997533 0 TD -.0023 Tc .0638 Tw [(y)12n