Low Saturation PNP Epitaxial Planar Transistor

BTB1197N3

Description

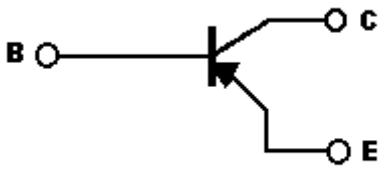
The BTB1197N3 is designed with high current gain and low saturation voltage with collector current up to 1A continuous.

Features

- Low $V_{CE(SAT)}$, $V_{CE(SAT)} \leq$ -0.3V (I_C / I_B=-1A/-100mA)
- Large collector current, I_C=-1A
- Complementary to BTD1781N3.
- Pb-free package

Symbol

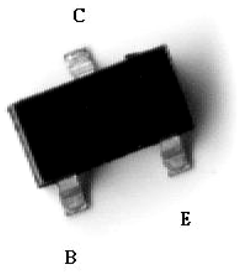
BTB1197N3



B：Base
C：Collector
E：Emitter

Outline

SOT-23



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-32	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current (DC)	I_C	-1	A
Collector Current (Pulse)	I_{CP}	-2	
Power Dissipation	Pd	310 (Note 1)	mW
		500 (Note 2)	
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	403 (Note 1)	°C/W
		250 (Note 2)	
Junction Temperature	Tj	-55~+150	°C
Storage Temperature	Tstg	-55~+150	°C

Note: 1.Device mounted on FR-4 PCB with minimum pad
2.Device mounted on FR-4 PCB with area of 4.5"×5", mounting pad 0.02 in^2 of 2 oz copper

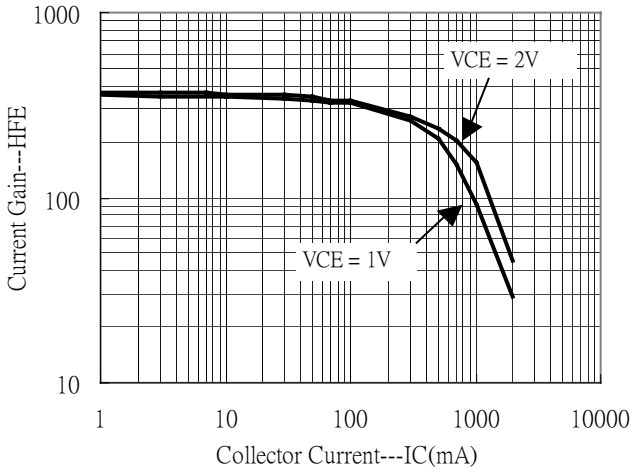
Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	-40	-	-	V	I_C=-50μA
BV_{CEO}	-32	-	-	V	I_C=-1mA
BV_{EBO}	-5	-	-	V	I_E=-50μA
I_{CBO}	-	-	-100	nA	V_{CB}=-30V
I_{EBO}	-	-	-100	nA	V_{EB}=-4V
*$V_{CE(sat)}$ 1	-	-	-0.25	V	I_C=-500mA, I_B=-50mA
*$V_{CE(sat)}$ 2	-	-	-0.30	V	I_C=-1A, I_B=-100mA
*$V_{CE(sat)}$ 3	-	-	-0.65	V	I_C=-2A, I_B=-200mA
*$V_{BE(sat)}$	-	-	-1.2	V	I_C=-1A, I_B=-100mA
*$V_{BE(on)}$	-	-	-1.1	V	V_{CE}=-2V, I_C=-1A
*h_{FE} 1	180	-	420	-	V_{CE}=-3V, I_C=-100mA
*h_{FE} 2	100	-	-	-	V_{CE}=-2V, I_C=-500mA
*h_{FE} 3	80	-	-	-	V_{CE}=-2V, I_C=-1A
*h_{FE} 4	30	-	-	-	V_{CE}=-2V, I_C=-2A
f_T	100	200	-	MHz	V_{CE}=-5V, I_C=-50mA, f=100MHz
Cob	-	12	25	pF	V_{CB}=-10V, f=1MHz

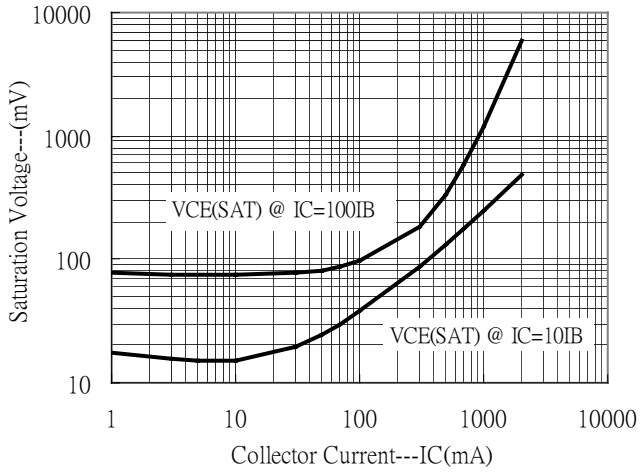
*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

Characteristic Curves

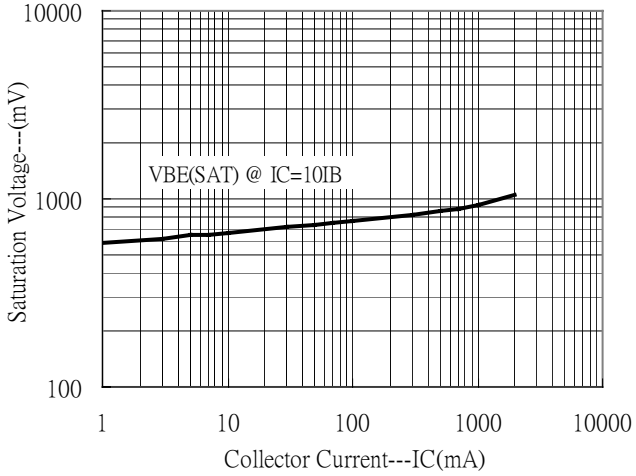
Current Gain vs Collector Current



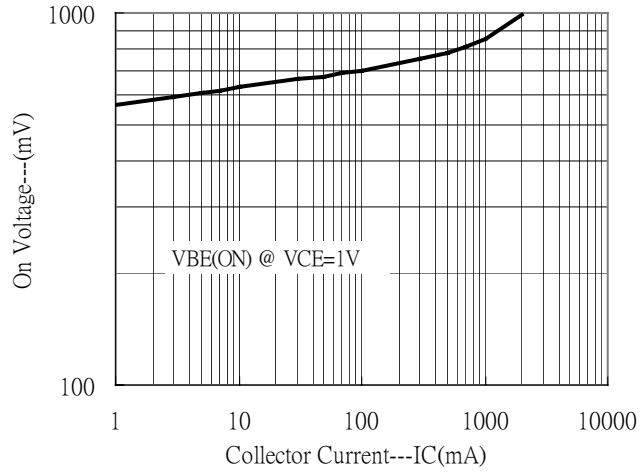
Saturation Voltage vs Collector Current



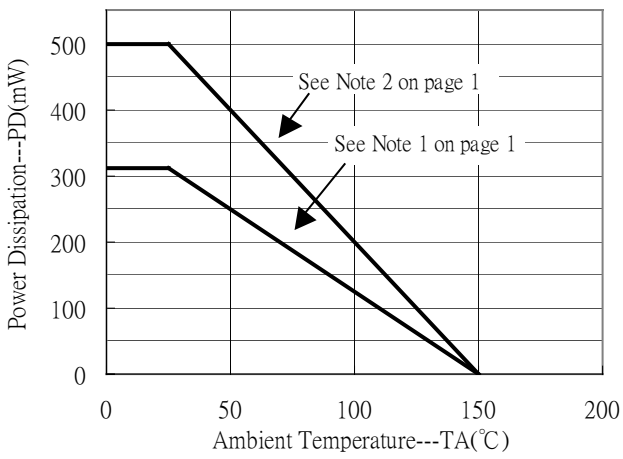
Saturation Voltage vs Collector Current



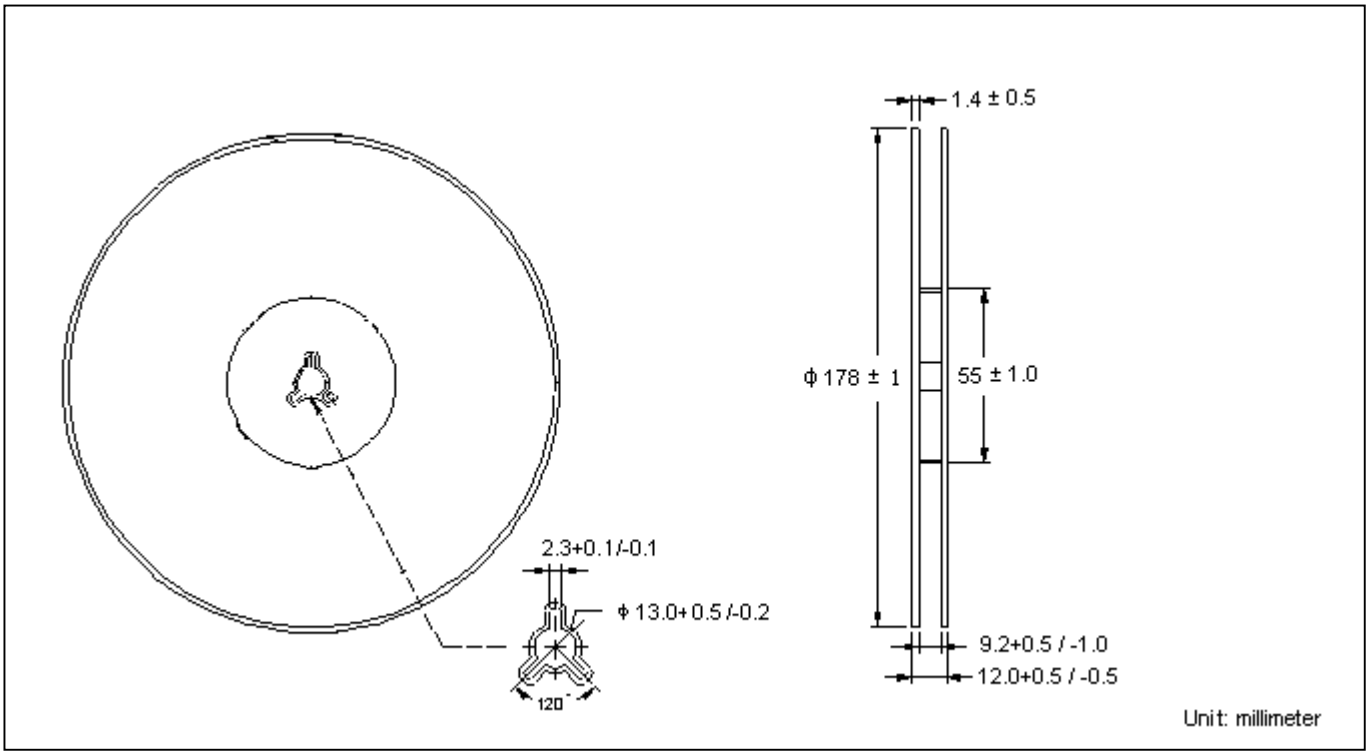
On Voltage vs Collector Current



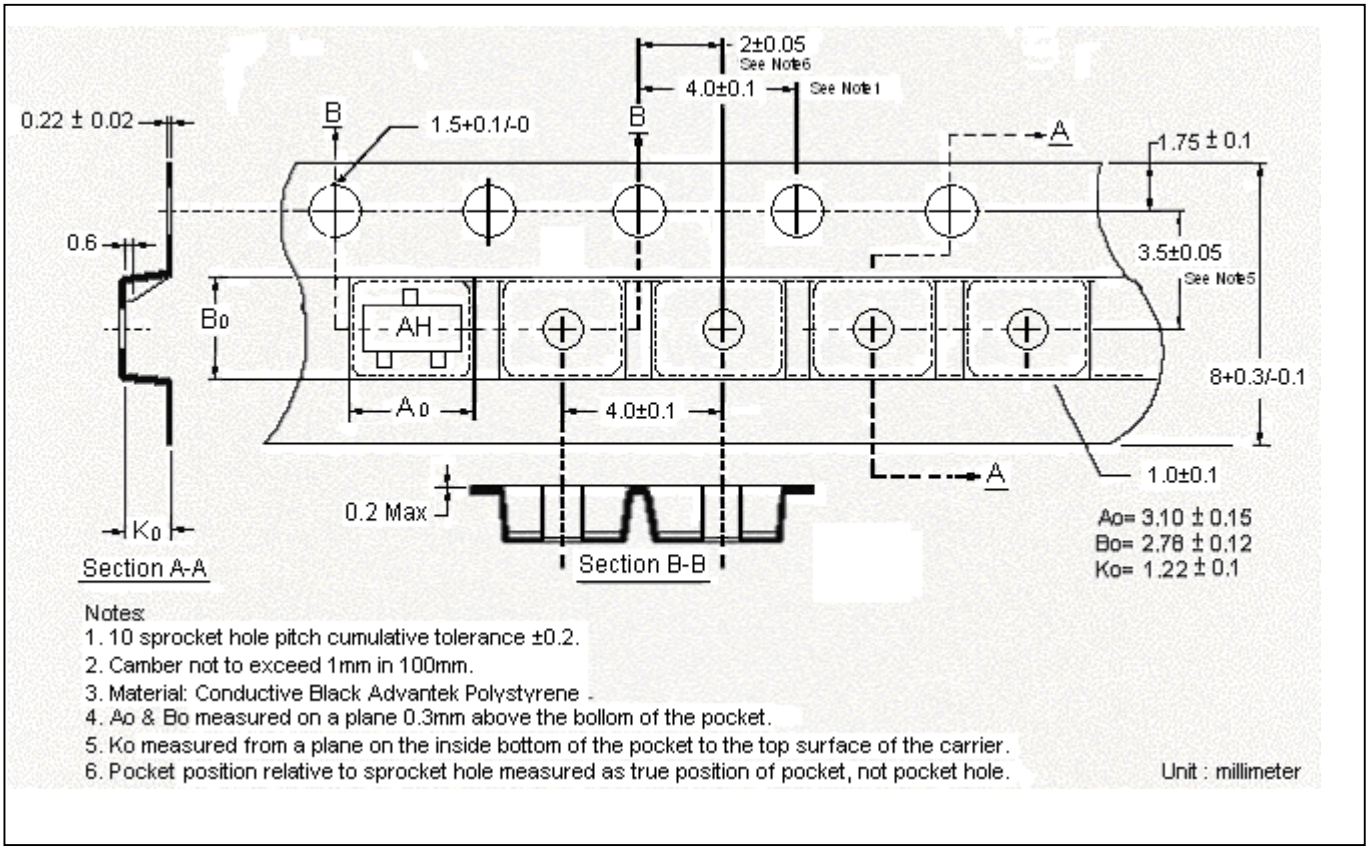
Power Derating Curves



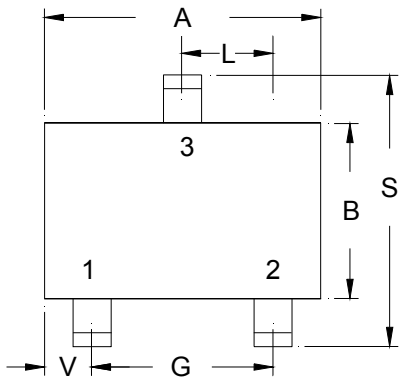
Reel Dimension

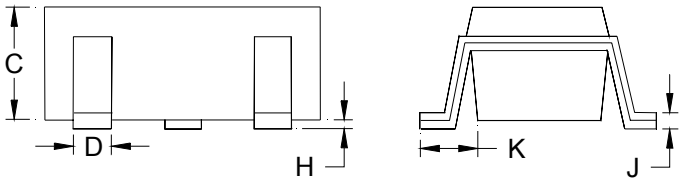


Carrier Tape Dimension

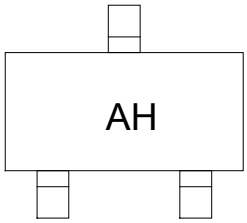


SOT-23 Dimension





Marking:



3-Lead SOT-23 Plastic
Surface Mounted Package
CYStek Package Code: N3

Style: Pin 1.Base 2.Emitter 3.Collector

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1102	0.1204	2.80	3.04	J	0.0034	0.0070	0.085	0.177
B	0.0472	0.0630	1.20	1.60	K	0.0128	0.0266	0.32	0.67
C	0.0335	0.0512	0.89	1.30	L	0.0335	0.0453	0.85	1.15
D	0.0118	0.0197	0.30	0.50	S	0.0830	0.1083	2.10	2.75
G	0.0669	0.0910	1.70	2.30	V	0.0098	0.0256	0.25	0.65
H	0.0005	0.0040	0.013	0.10					

Notes: 1.Controlling dimension: millimeters.
2.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.
3.If there is any question with packing specification or packing method, please contact your local CYStek sales office.

Material:

- Lead: 42 Alloy ; solder plating
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

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