

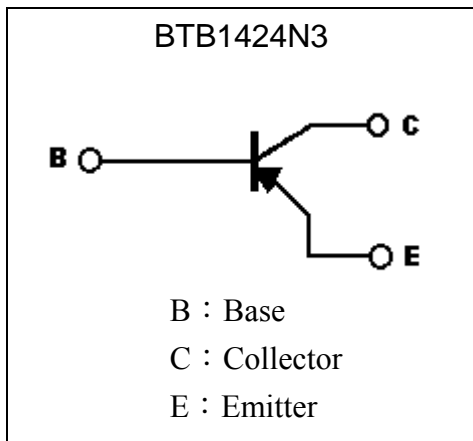
**Low  $V_{CE(sat)}$  PNP Epitaxial Planar Transistor**

# BTB1424N3

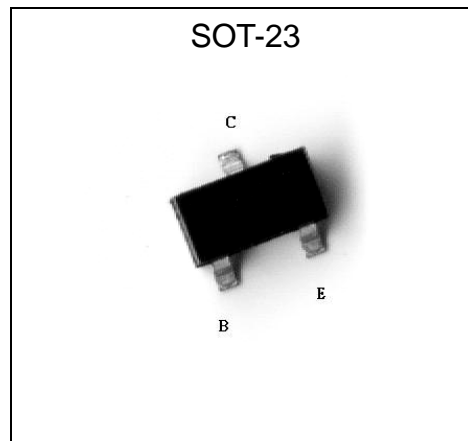
## Features

- Excellent DC current gain characteristics
- Low Saturation Voltage  
 $V_{CE(sat)} = -0.25V$  (typ) ( $I_C = -2A$ ,  $I_B = -100mA$ ).
- Complementary to BTD2150N3
- Pb-free package

## Symbol



## Outline



## Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	$V_{CBO}$	-50	V
Collector-Emitter Voltage	$V_{CEO}$	-50	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Collector Current(DC)	$I_C$	-3	A
Collector Current(Pulsed)(Note 1)	$I_{CP}$	-7	
Power Dissipation	$P_d$	0.9 (Note 2)	W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	138.9	°C/W
Junction Temperature	$T_j$	150	°C
Storage Temperature	$T_{stg}$	-55~+150	°C

Note 1: Single pulse,  $P_w \leq 10ms$ , Duty Cycle  $\leq 30\%$ .

2. Device mounted on a ceramic board ( 600mm<sup>2</sup>×0.8mm)



**Characteristics (Ta=25°C)**

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
$BV_{CBO}$	-50	-	-	V	$I_C=-50\mu A$
$BV_{CEO}$	-50	-	-	V	$I_C=-1mA$
$BV_{EBO}$	-5	-	-	V	$I_E=-50\mu A$
$I_{CBO}$	-	-	-1	$\mu A$	$V_{CB}=-40V$
$I_{EBO}$	-	-	-1	$\mu A$	$V_{EB}=-5V$
$*V_{CE(sat)}$	-	-	-0.5	V	$I_C=-2A, I_B=-100mA$
$*h_{FE}$	180	-	560	-	$V_{CE}=-2V, I_C=-100mA$
$f_T$	-	240	-	MHz	$V_{CE}=-2V, I_C=-500mA, f=100MHz$
$C_{ob}$	-	35	-	pF	$V_{CB}=-10V, I_E=0A, f=1MHz$

\*Pulse Test: Pulse Width  $\leq 380\mu s$ , Duty Cycle  $\leq 2\%$

**Classification Of  $h_{FE}$**

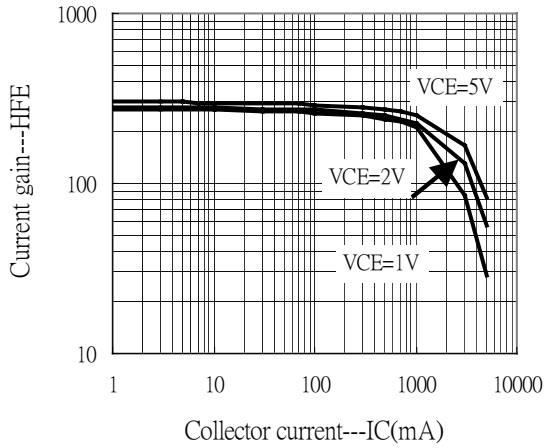
Rank	R	S
Range	180~390	270~560

**Ordering Information**

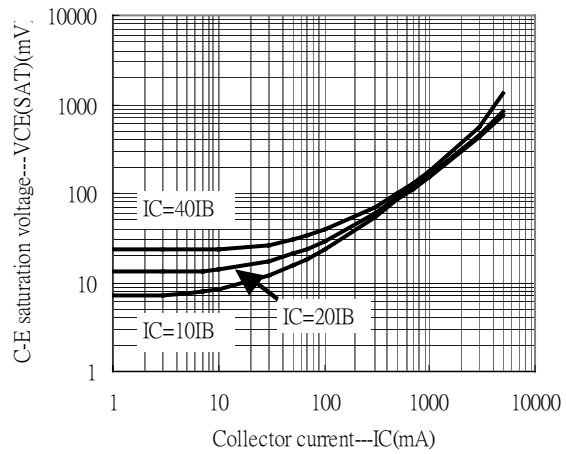
Device	Package	Shipping	Marking
BTB1424N3	SOT-23 (Pb-free)	3000 pcs / Tape & Reel	AE

## Characteristic Curves

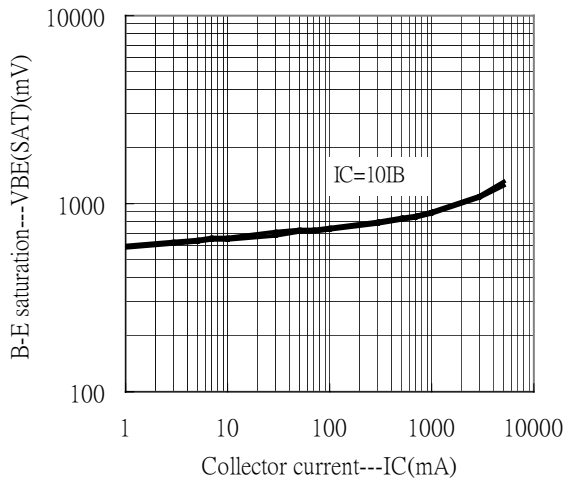
Current gain vs Collector current



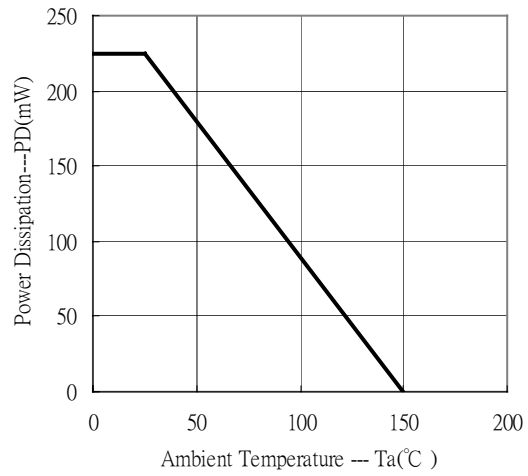
C-E saturation voltage vs Collector current



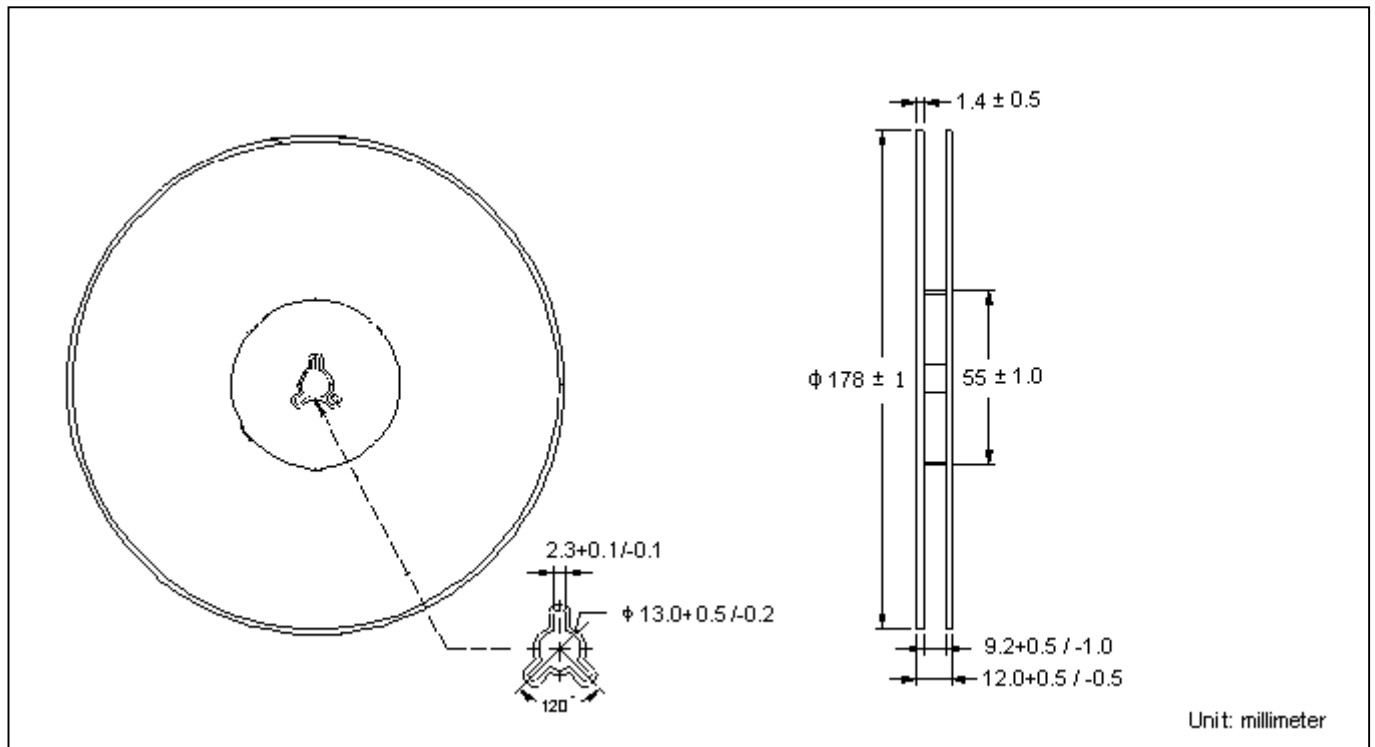
B-E saturation voltage vs Collector current



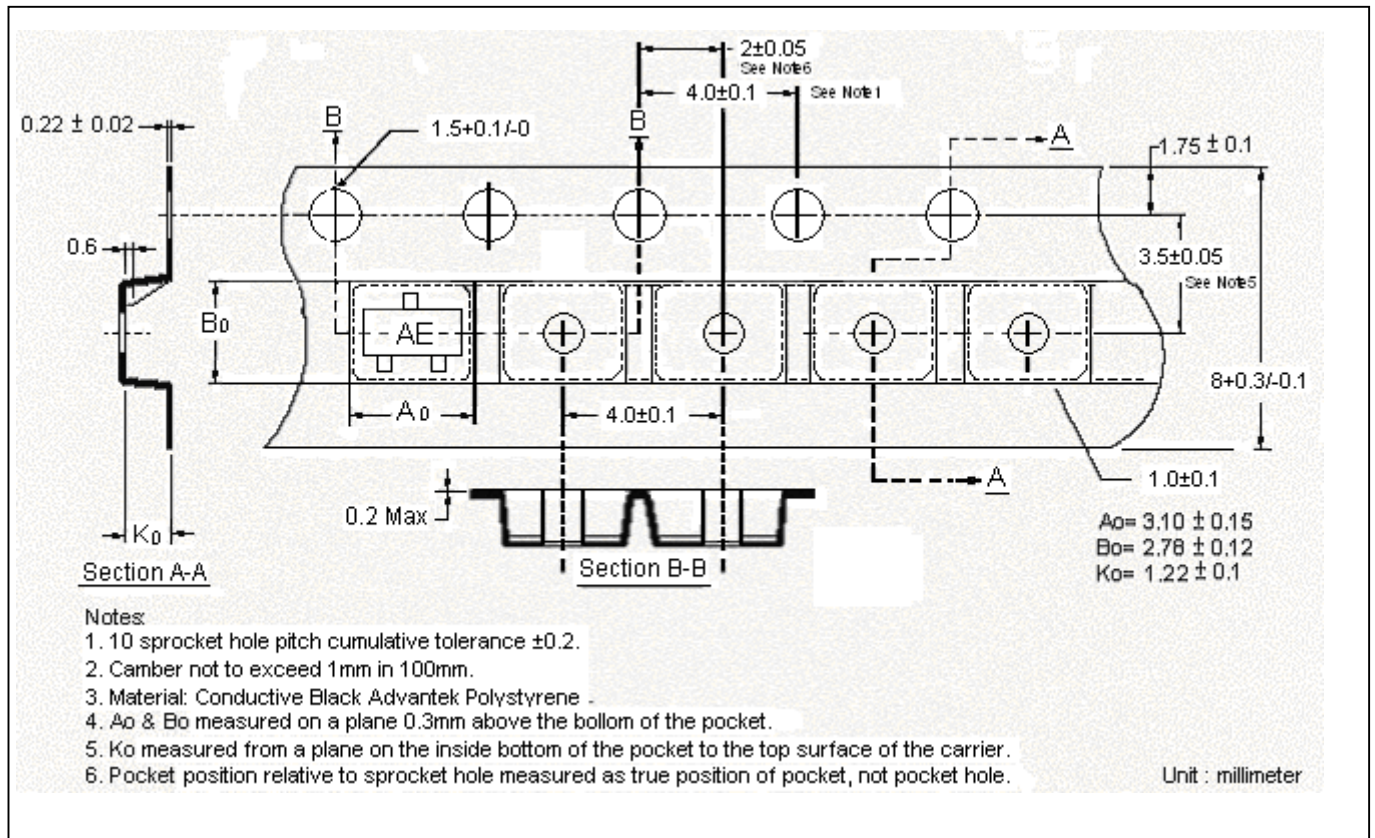
Power Derating Curve



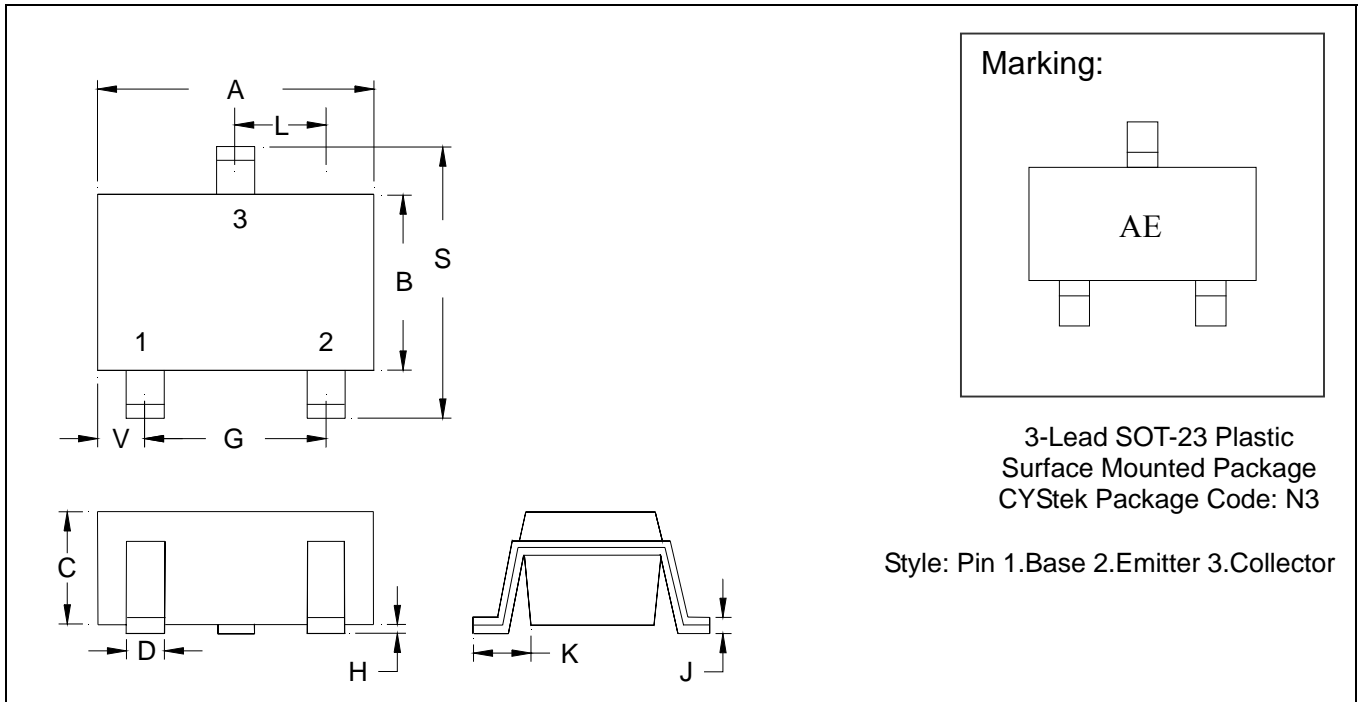
**Reel Dimension**



**Carrier Tape Dimension**



**SOT-23 Dimension**



\*: 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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