

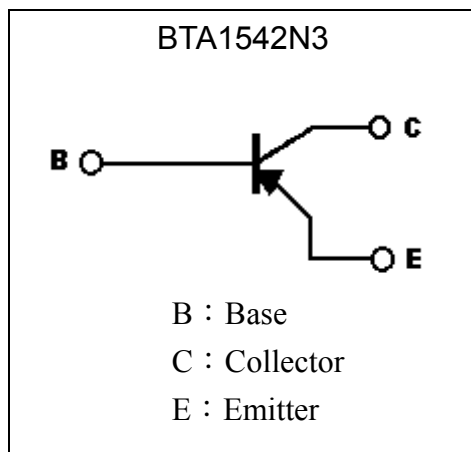
# PNP Epitaxial Planar Transistor

## BTA1542N3

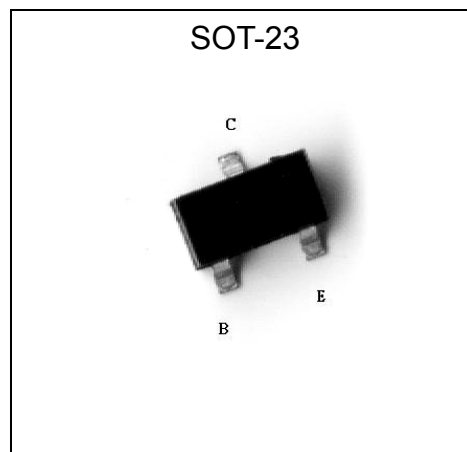
### Description

- Large current capability
- Low collector-to-emitter saturation voltage.
- High speed switching.
- Ultra-small package facilitates miniaturization in end products.
- High allowable power dissipation.
- Pb-free package

### Symbol



### Outline



### Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Limits	Unit
Collector-Base Voltage		V <sub>CB0</sub>	-30	V
Collector-Emitter Voltage		V <sub>CEO</sub>	-20	V
Emitter-Base Voltage		V <sub>EB0</sub>	-5	V
Collector Current	DC	I <sub>C</sub>	-3	A
	Pulse	I <sub>CP</sub>	-5	
Base Current		I <sub>B</sub>	-600	mA
Power Dissipation		P <sub>d</sub>	0.9 (Note)	W
Junction Temperature		T <sub>j</sub>	150	°C
Storage Temperature		T <sub>stg</sub>	-55~+150	°C

Note : When device mounted on a ceramic board (600mm<sup>2</sup>×0.8mm)

**Characteristics (Ta=25°C)**

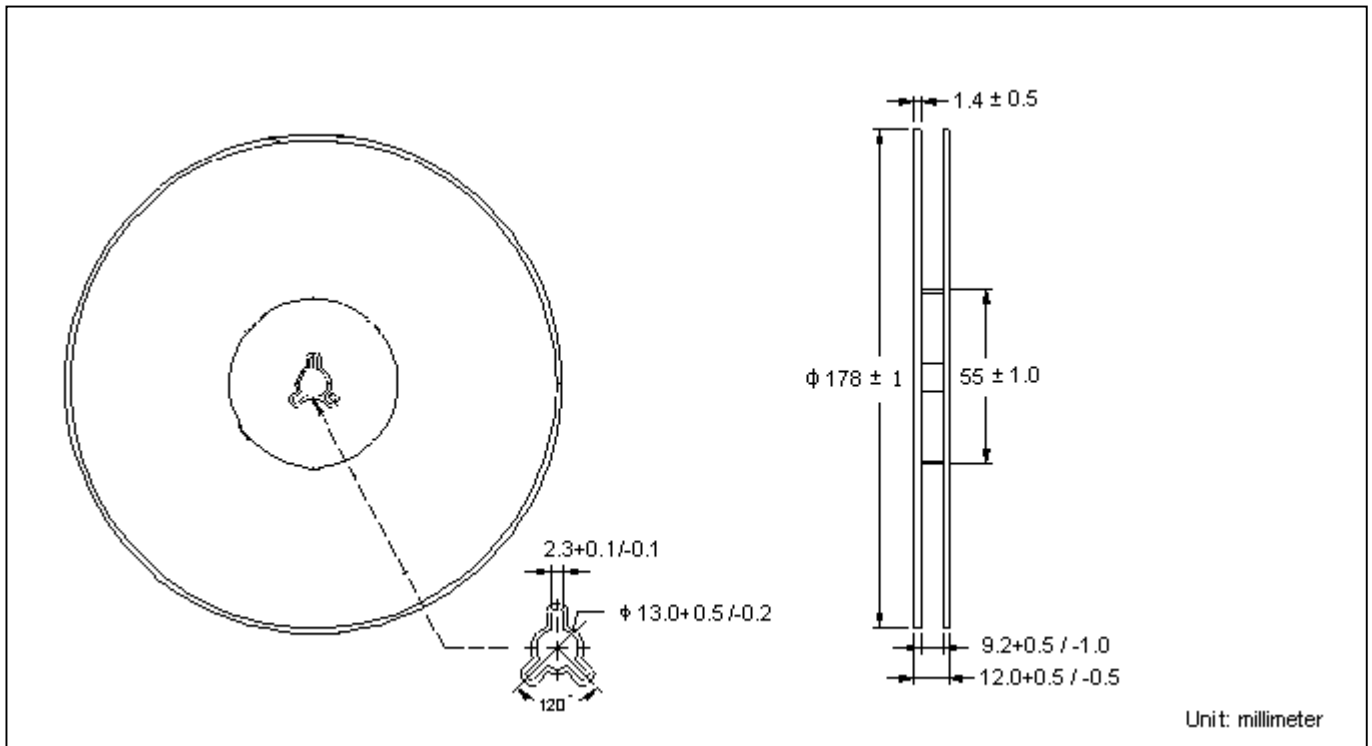
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV <sub>CB0</sub>	-30	-	-	V	I <sub>C</sub> =-10μA
BV <sub>CEO</sub>	-20	-	-	V	I <sub>C</sub> =-1mA
BV <sub>EBO</sub>	-5	-	-	V	I <sub>E</sub> =-10μA
I <sub>CB0</sub>	-	-	-100	nA	V <sub>CB</sub> =-30V
I <sub>EBO</sub>	-	-	-100	nA	V <sub>EB</sub> =-4V
V <sub>CE(sat)</sub> 1	-	-	-230	mV	I <sub>C</sub> =-1.5A, I <sub>B</sub> =-30mA
*V <sub>CE(sat)</sub> 2	-	-	-155	mV	I <sub>C</sub> =-1.5mA, I <sub>B</sub> =-75mA
*V <sub>BE(sat)</sub>	-	-	-1.2	V	I <sub>C</sub> =-1.5A, I <sub>B</sub> =-30mA
h <sub>FE</sub> 1	200	-	560	-	V <sub>CE</sub> =-2V, I <sub>C</sub> =-500mA
f <sub>T</sub>	-	380	-	MHz	V <sub>CE</sub> =-10V, I <sub>C</sub> =-500mA
C <sub>ob</sub>	-	25	-	pF	V <sub>CB</sub> =-10V, I <sub>E</sub> =0A, f=1MHz
t <sub>on</sub>	-	50	-	ns	V <sub>CC</sub> =-12V, R <sub>L</sub> =24Ω, I <sub>C</sub> =-20I <sub>B1</sub> =20I <sub>B2</sub> =-500mA
t <sub>stg</sub>	-	270	-	ns	
t <sub>f</sub>	-	25	-	ns	

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

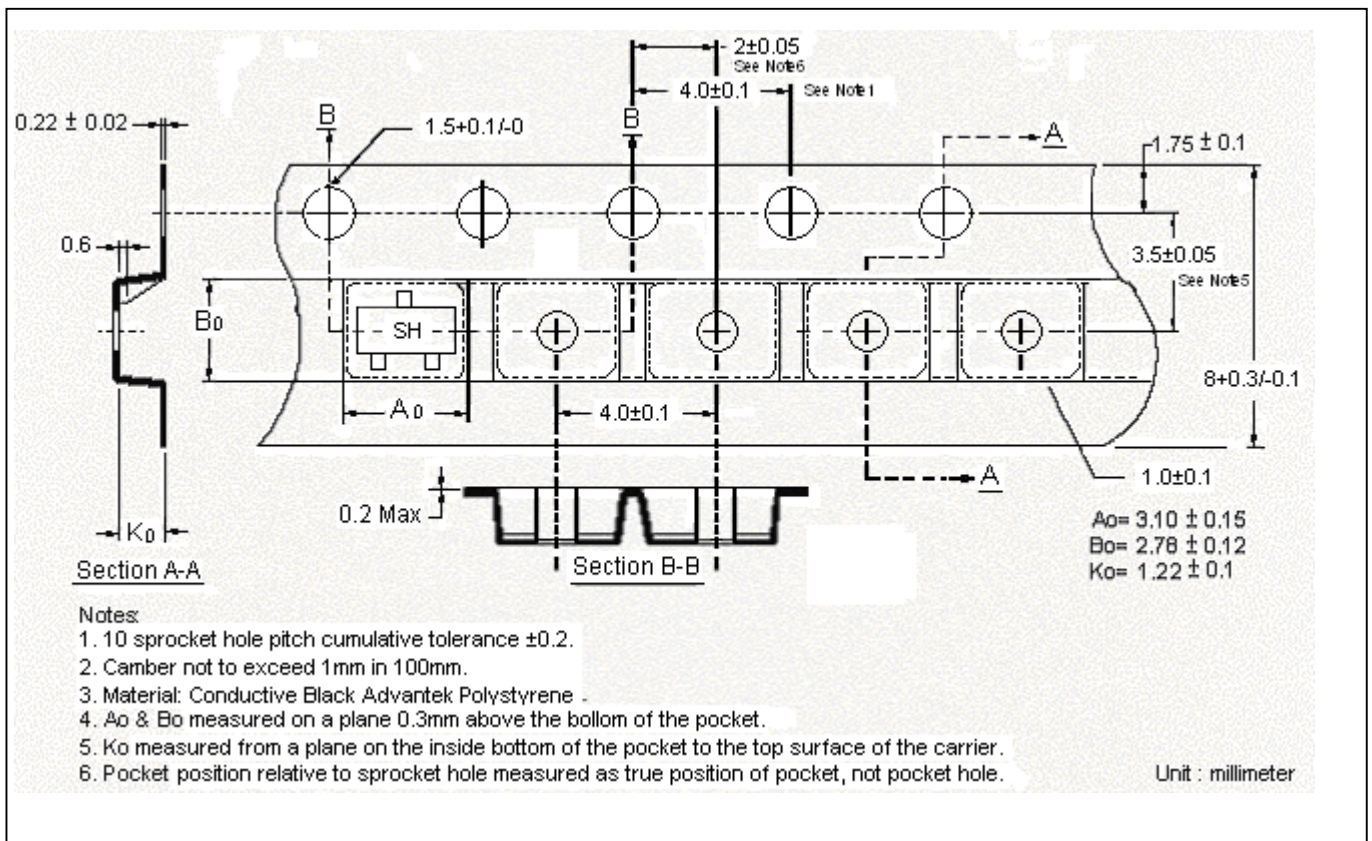
**Ordering Information**

Device	Package	Shipping	Marking
BTA1542N3	SOT-23 (Pb-free)	3000 pcs / Tape & Reel	SH

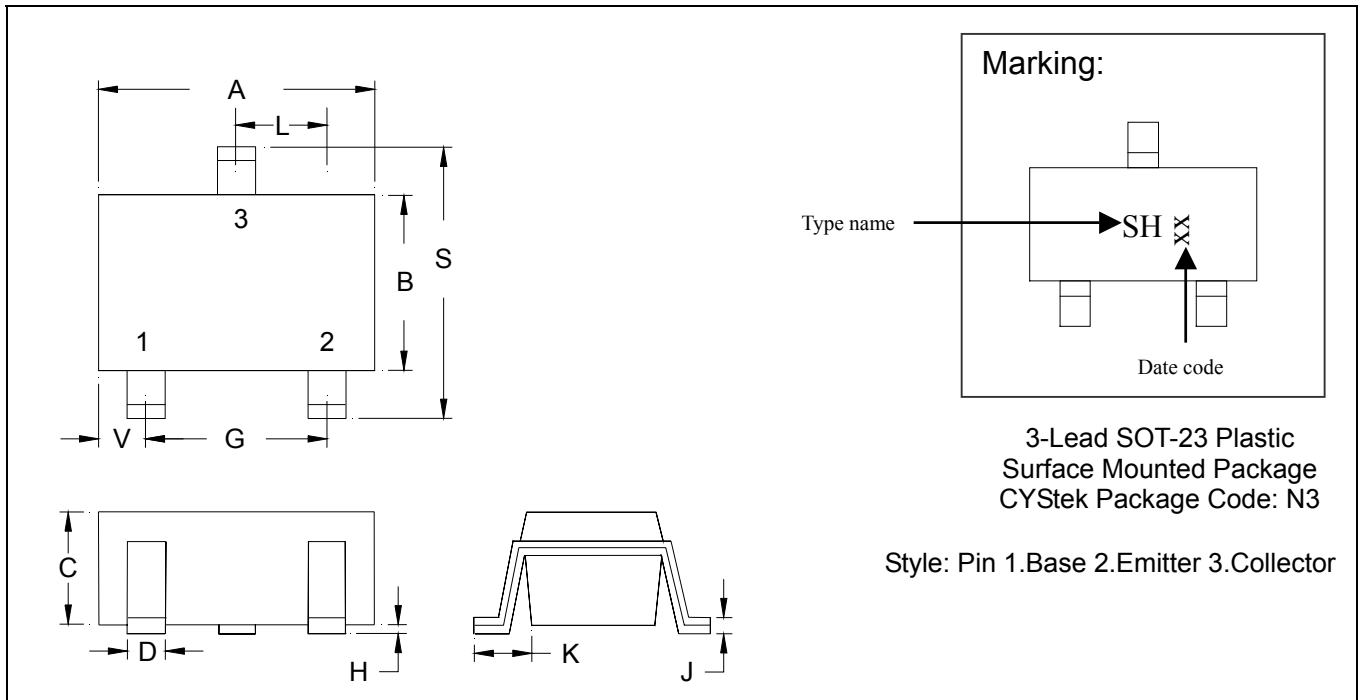
**Reel Dimension**



**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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