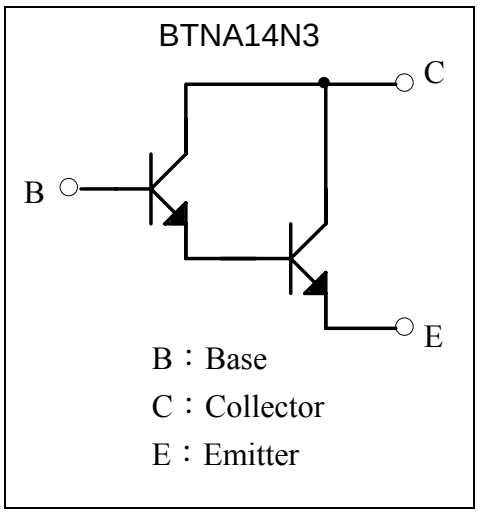
General Purpose NPN Epitaxial Planar Transistor

BTNA14N3

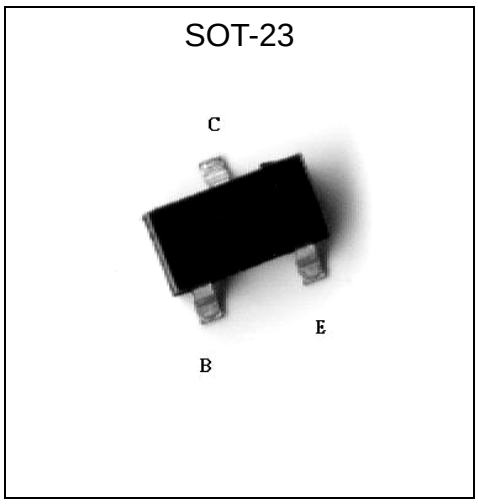
Description

- The BTNA14N3 is a darlington amplifier transistor
- Complementary to BTPA64N3.
- Pb-free lead plating and halogen-free package

Equivalent Circuit

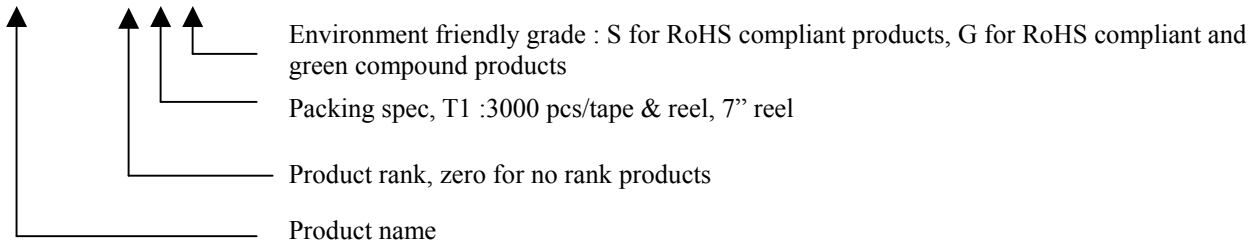


Outline



Ordering Information

Device	Package	Shipping
BTNA14N3-0-T1-G	SOT-23 (Pb-free lead plating and halogen-free package)	3000 pcs / Tape & Reel



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CES}	60	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	12	V
Collector Current	I_C	0.5	A
Power Dissipation	P_D	225	mW
Operating Junction Temperature Range	Tj	-55~+150	°C
Storage Temperature Range	Tstg	-55~+150	°C

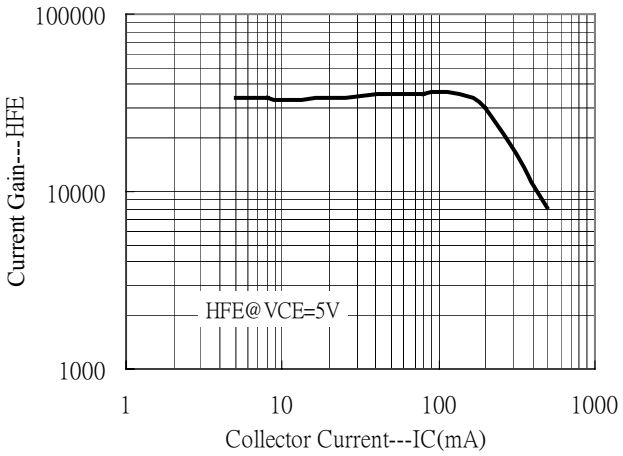
Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	100	-	-	V	I_C=100μA
BV_{CES}	60	-	-	V	I_C=100μA, V_{BE}=0V
BV_{CEO}	60	-	-	V	I_C=10mA
BV_{EBO}	12	-	-	V	I_C=10μA
I_{CBO}	-	-	50	nA	V_{CE}=80V
I_{EBO}	-	-	50	nA	V_{EB}=10V
*$V_{CE(sat)}$	-	-	1.2	V	I_C=100mA, I_B=0.1mA
*$V_{BE(on)}$	-	-	2.0	V	V_{CE}=5V, I_C=100mA
*$h_{FE}1$	10K	-	-		V_{CE}=5V, I_C=10mA
*$h_{FE}2$	20K	-	-		V_{CE}=5V, I_C=100mA
f_T	125	-	-	MHz	V_{CE}=5V, I_C=10mA, f=100MHz
Cob	-	-	7	pF	V_{CB}=10V, f=1MHz

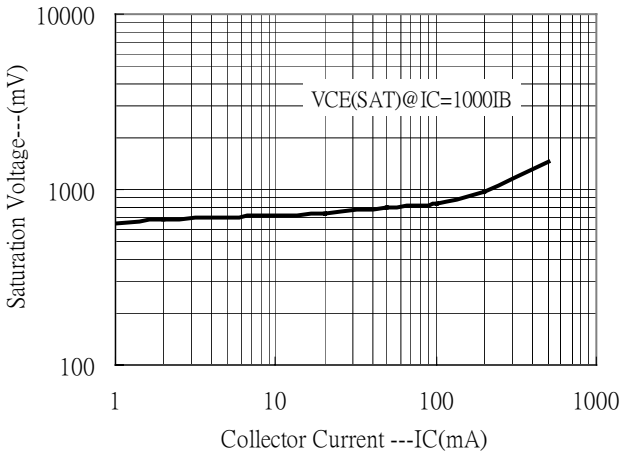
*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

Typical Characteristics

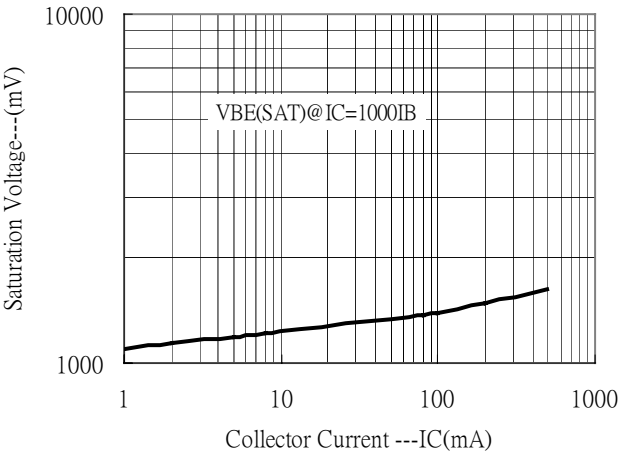
Current Gain vs Collector Current



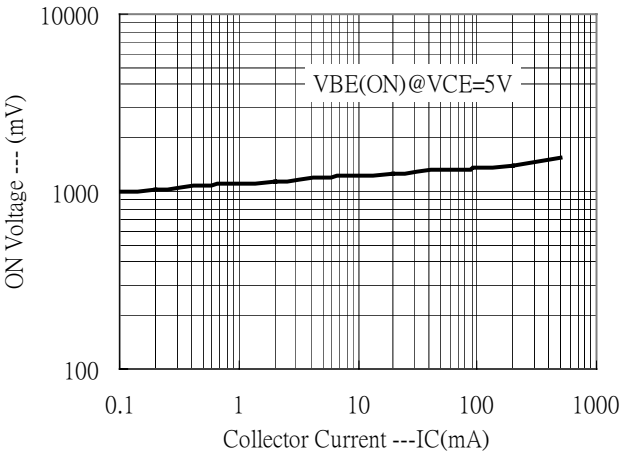
Saturation Voltage vs Collector Current



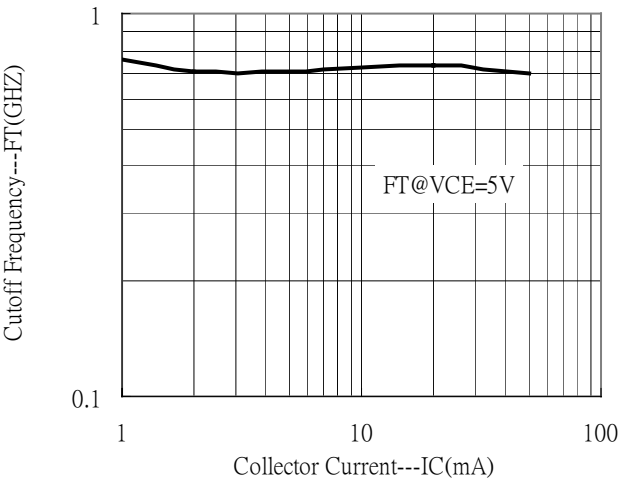
Saturation Voltage vs Collector Current



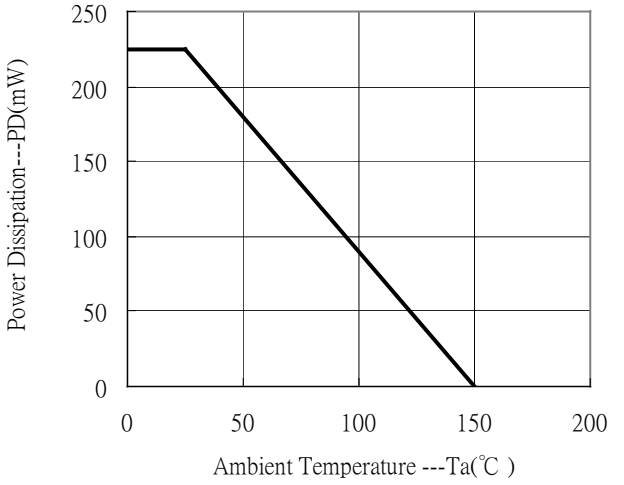
ON Voltage vs Collector Current



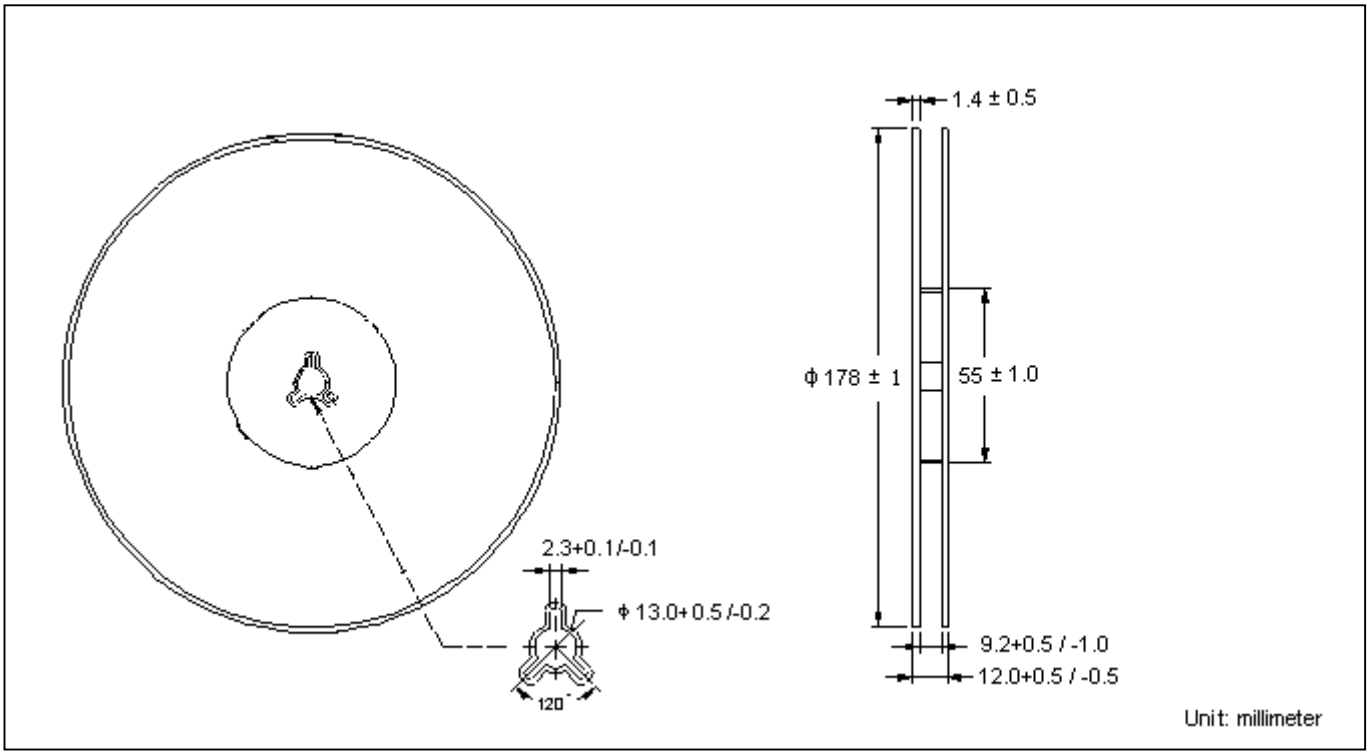
Cutoff Frequency vs Collector Current



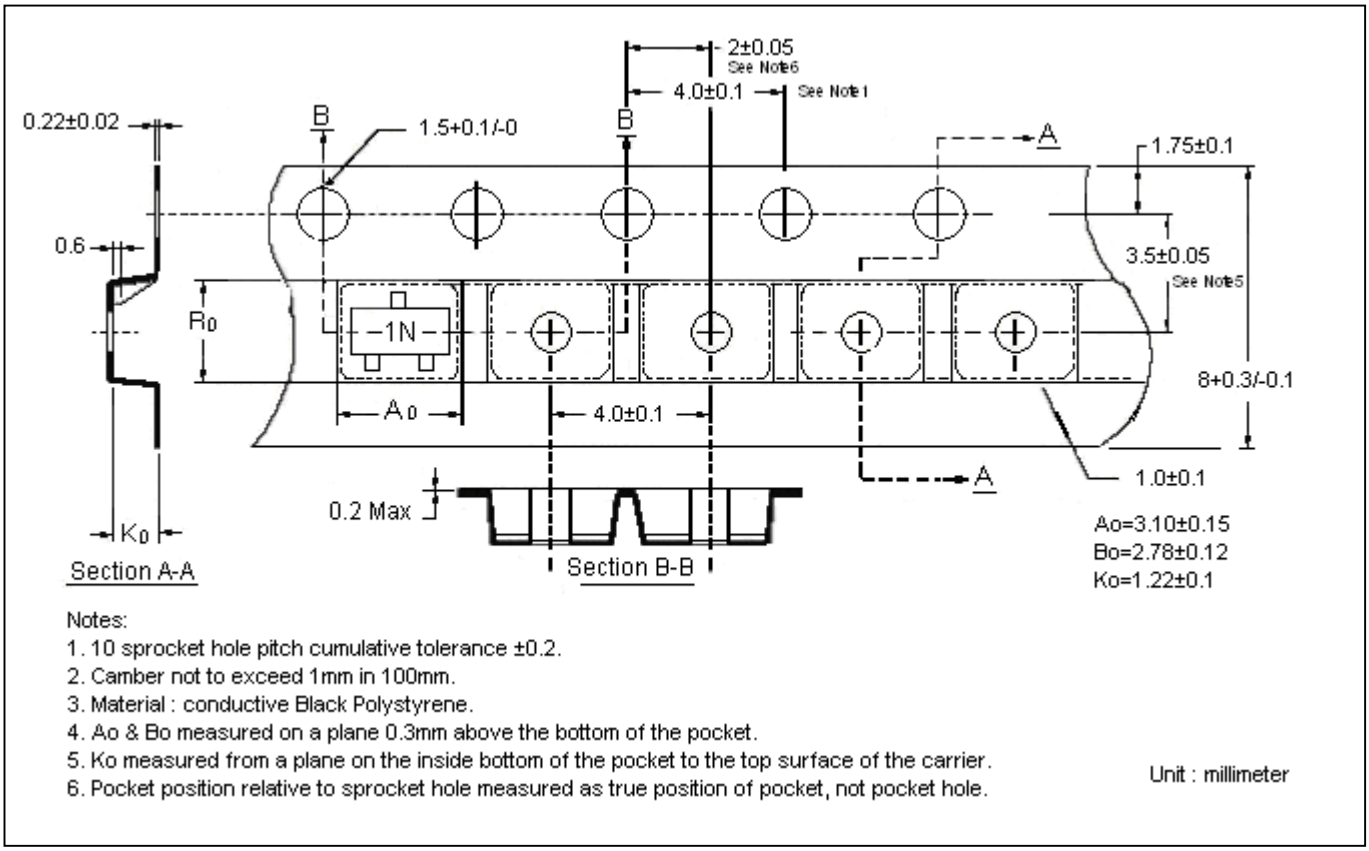
Power Derating Curve



Reel Dimension



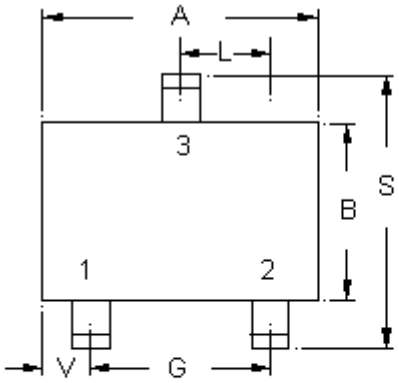
Carrier Tape Dimension

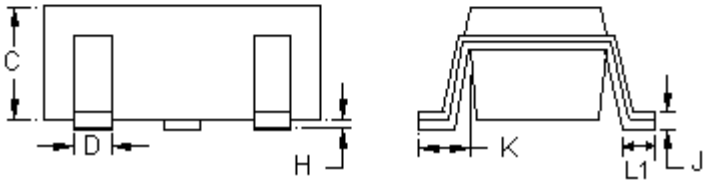


Notes:
1. 10 sprocket hole pitch cumulative tolerance ±0.2.
2. Camber not to exceed 1mm in 100mm.
3. Material : conductive Black Polystyrene.
4. Ao & Bo measured on a plane 0.3mm above the bottom of the pocket.
5. Ko measured from a plane on the inside bottom of the pocket to the top surface of the carrier.
6. Pocket position relative to sprocket hole measured as true position of pocket, not pocket hole.

Unit : millimeter

SOT-23 Dimension

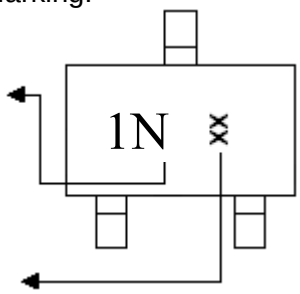




Device Code

Date Code: Year+Month
Year: 3→2003, 4→2004
Month: 1→1, 2→2, • • •
9→9, A→10, B→11, C→12

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	0.0032	0.0079	0.08	0.20
B	0.0472	0.0669	1.20	1.70	K	0.0118	0.0266	0.30	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	0.1161	2.10	2.95
G	0.0669	0.0910	1.70	2.30	V	0.0098	0.0256	0.25	0.65
H	0.0000	0.0040	0.00	0.10	L1	0.0118	0.0197	0.30	0.50

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 :Pure tin plated.
- Mold Compound : Epoxy resin family, flammability solid burning class:UL94V-0.