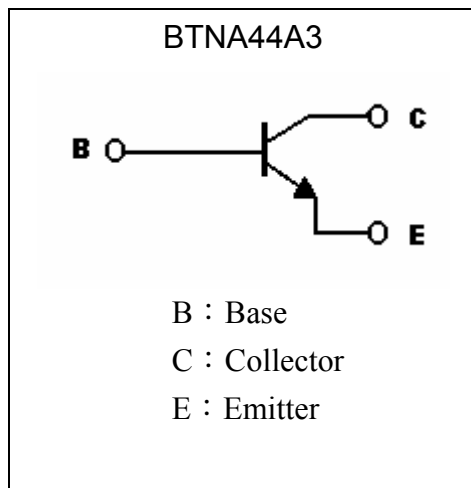
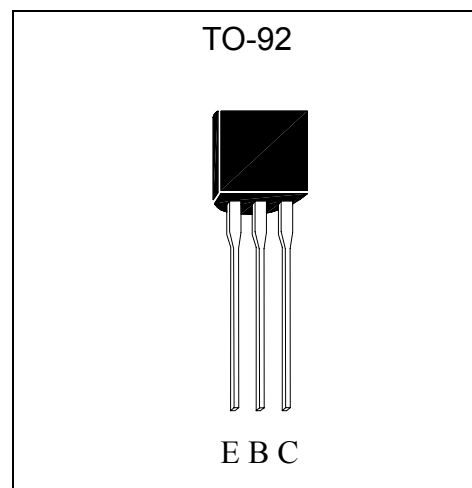


High Voltage NPN Epitaxial Planar Transistor

BTNA44A3

Features

- High breakdown voltage. ($BV_{CEO}=400V$)
- Low saturation voltage, typically $V_{CE(sat)}=60mV$ at $I_C/I_B=10mA/1mA$.
- Complementary to BTPA94A3

Symbol

Outline

Absolute Maximum Ratings ($T_A=25^{\circ}C$)

Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V_{CBO}	400	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	300	mA
Power Dissipation ($T_A=25^{\circ}C$)	P_D	0.625	W
Junction Temperature	T_j	150	$^{\circ}C$
Storage Temperature	T_{stg}	-55~+150	$^{\circ}C$

Note : *1. Single Pulse $P_w \leq 380\mu s, Duty \leq 2\%$.

**Characteristics (Ta=25°C)**

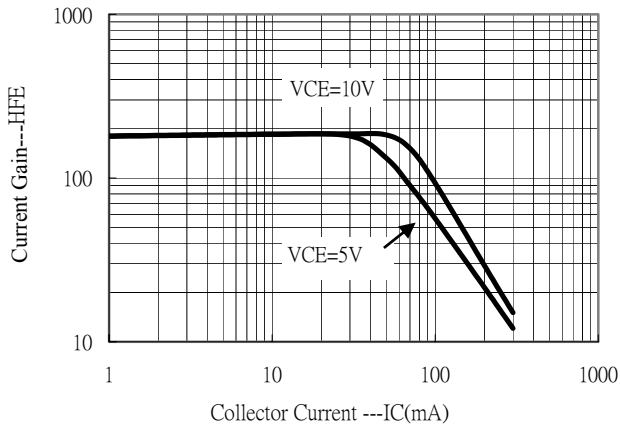
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	400	-	-	V	$I_C=100\mu A, I_E=0$
BV_{CEO}	400	-	-	V	$I_C=1mA, I_B=0$
BV_{EBO}	6	-	-	V	$I_E=10\mu A, I_C=0$
I_{CBO}	-	-	0.1	μA	$V_{CB}=400V, I_E=0$
I_{EBO}	-	-	0.1	μA	$V_{EB}=4V, I_C=0$
I_{CES}	-	-	0.5	μA	$V_{CE}=400V, V_{BE}=0$
$V_{CE(sat) 1}$	-	0.06	0.35	V	$I_C=1mA, I_B=0.1mA$
$V_{CE(sat) 2}$	-	0.06	0.35	V	$I_C=10mA, I_B=1mA$
* $V_{CE(sat) 3}$	-	0.1	0.75	V	$I_C=50mA, I_B=5mA$
$V_{BE(sat)}$	-	0.68	0.75	V	$I_C=10mA, I_B=1mA$
$h_{FE 1}$	40	-	-	-	$V_{CE}=10V, I_C=1mA$
$h_{FE 2}$	52	-	270	-	$V_{CE}=10V, I_C=10mA$
* $h_{FE 3}$	45	-	-	-	$V_{CE}=10V, I_C=50mA$
* $h_{FE 4}$	40	-	-	-	$V_{CE}=10V, I_C=100mA$
f_T	50	-	-	MHz	$V_{CE}=20V, I_E=10mA, f=100MHz$
Cob	-	4	-	pF	$V_{CB}=20V, f=1MHz$

*Pulse Test : Pulse Width $\leq 380\mu s$, Duty Cycle $\leq 2\%$ **Classification Of h_{FE2}**

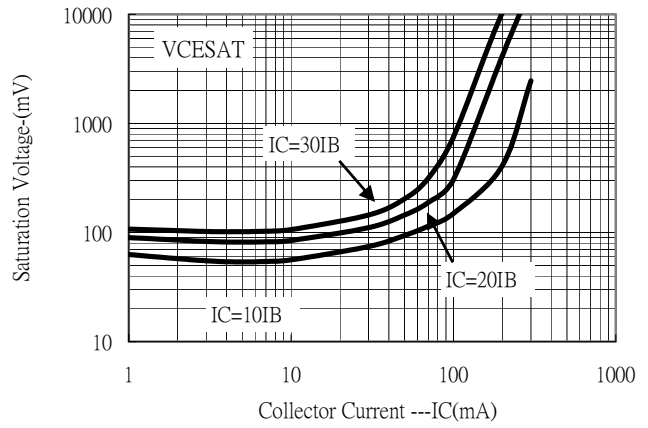
Rank	K	P	Q
Range	52~120	82~180	120~270

Characteristic Curves

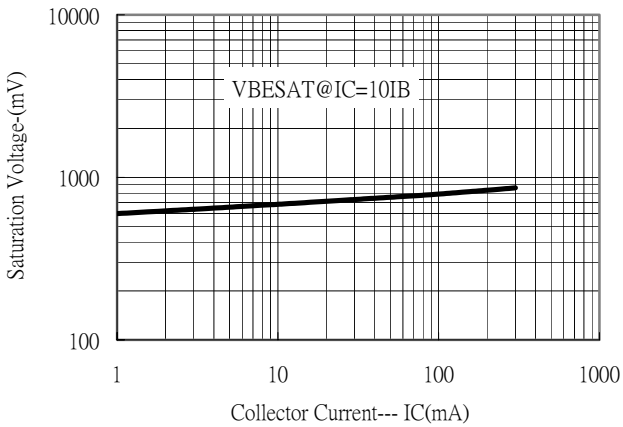
Current Gain vs Collector Current



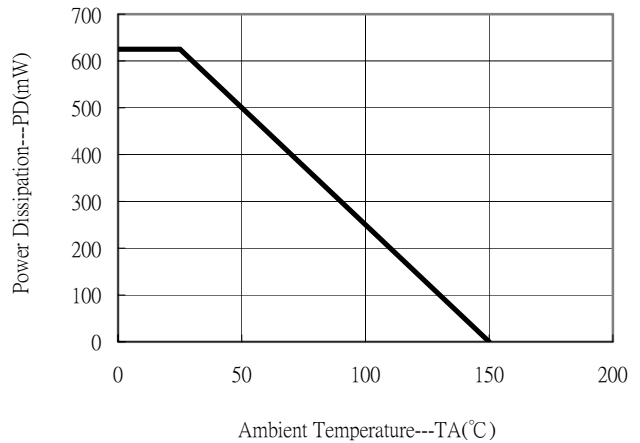
Saturation Voltage vs Collector Current



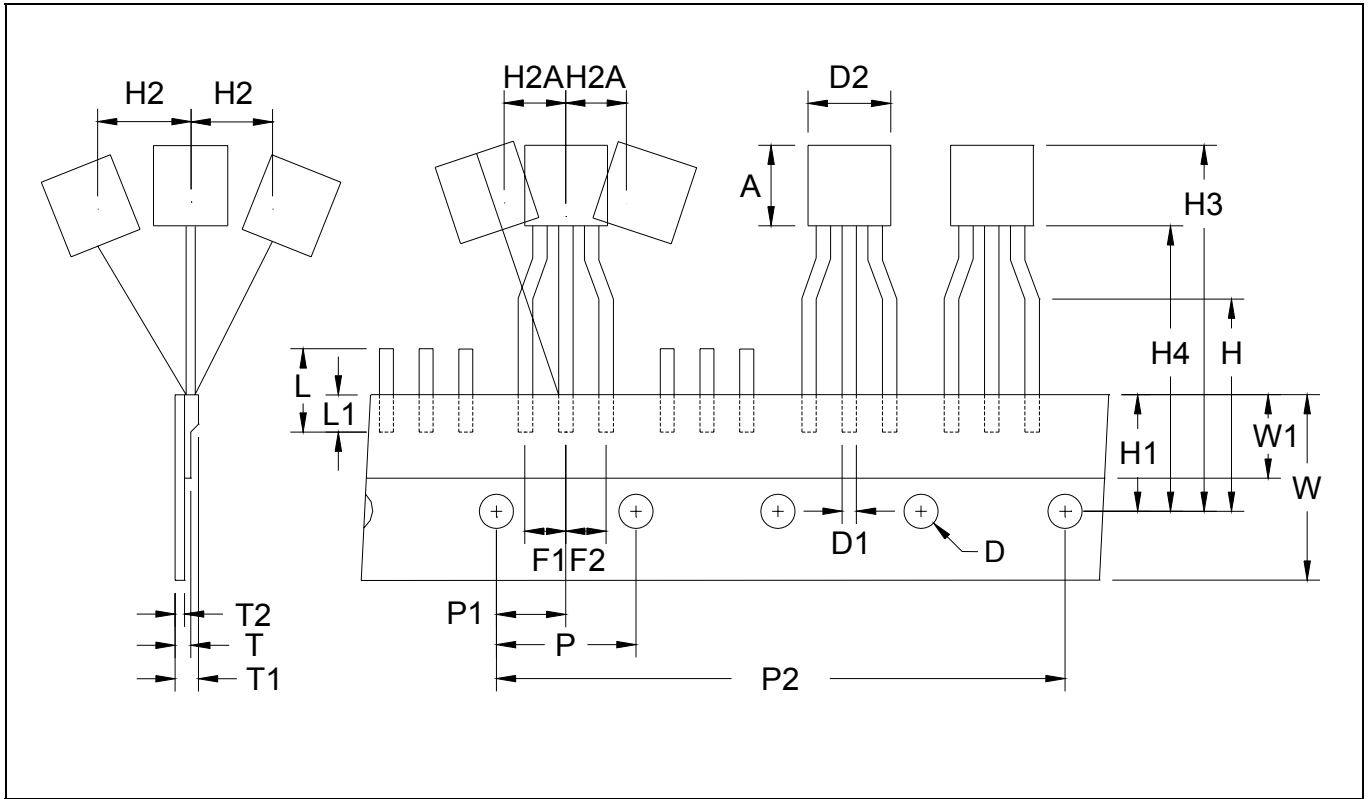
Saturation Voltage vs Collector Current



Power Derating Curve

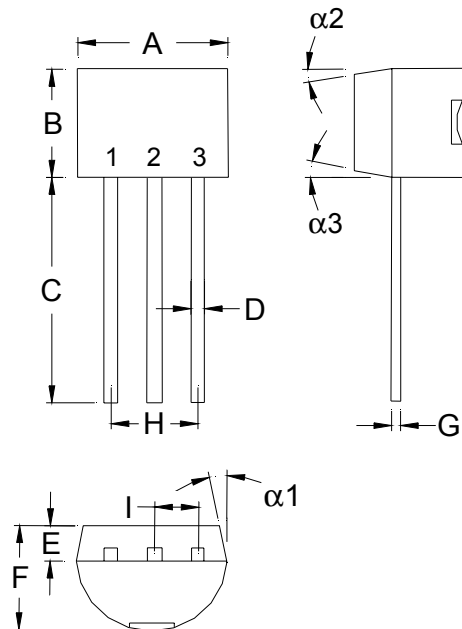


TO-92 Taping Outline



DIM	Item	Millimeters	
		Min.	Max.
A	Component body height	4.33	4.83
D	Tape Feed Diameter	3.80	4.20
D1	Lead Diameter	0.36	0.53
D2	Component Body Diameter	4.33	4.83
F1,F2	Component Lead Pitch	2.40	2.90
F1,F2	F1-F2	-	±0.3
H	Height Of Seating Plane	15.50	16.50
H1	Feed Hole Location	8.50	9.50
H2	Front To Rear Deflection	-	1
H2A	Deflection Left Or Right	-	1
H3	Component Height	-	27
H4	Feed Hole To Bottom Of Component	-	21
L	Lead Length After Component Removal	-	11
L1	Lead Wire Enclosure	2.50	-
P	Feed Hole Pitch	12.50	12.90
P1	Center Of Seating Plane Location	5.95	6.75
P2	4 Feed Hole Pitch	50.30	51.30
T	Over All Tape Thickness	-	0.55
T1	Total Taped Package Thickness	-	1.42
T2	Carrier Tape Thickness	0.36	0.68
W	Tape Width	17.50	19.00
W1	Adhesive Tape Width	5.00	7.00
-	20 pcs Pitch	253	255

TO-92 Dimension



Marking:

NA44

1 2 3

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

3-Lead TO-92 Plastic Package
 CYStek Package Code: A3

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1704	0.1902	4.33	4.83	G	0.0142	0.0220	0.36	0.56
B	0.1704	0.1902	4.33	4.83	H	-	*0.1000	-	*2.54
C	0.5000	-	12.70	-	I	-	*0.0500	-	*1.27
D	0.0142	0.0220	0.36	0.56	$\alpha 1$	-	*5°	-	*5°
E	-	*0.0500	-	*1.27	$\alpha 2$	-	*2°	-	*2°
F	0.1323	0.1480	3.36	3.76	$\alpha 3$	-	*2°	-	*2°

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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