

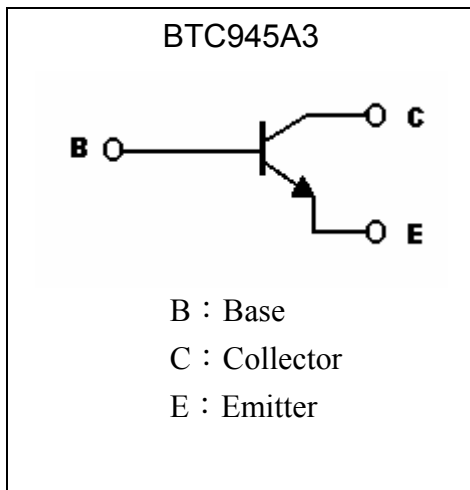
General Purpose NPN Epitaxial Planar Transistor

BTC945A3

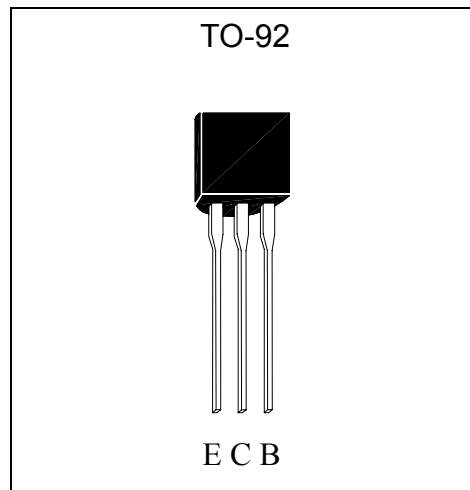
Description

- The BTC945A3 is designed for use in driver stage of AF amplifier and low speed switching.
- Complementary to BTA733A3.
- Pb-free package

Symbol



Outline



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V _{CB0}	60	V
Collector-Emitter Voltage	V _{CEO}	50	V
Emitter-Base Voltage	V _{EBO}	5	V
Collector Current	I _C	100	mA
Base Current	I _B	20	mA
Power Dissipation @Ta=25°C	P _d	625	mW
Thermal Resistance, Junction to Ambient	R _{θJA}	200	°C/W
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55~+150	°C

**Characteristics (Ta=25°C)**

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV _{CB0}	60	-	-	V	I _C =100μA
BV _{CEO}	50	-	-	V	I _C =1mA
BV _{EBO}	5	-	-	V	I _E =10μA
I _{CB0}	-	-	100	nA	V _{CB} =60V
I _{EBO}	-	-	100	nA	V _{EB} =5V
*V _{CE(sat)}	-	0.2	0.3	V	I _C =100mA, I _B =10mA
*V _{BE(sat)}	-	0.85	1.0	V	I _C =100mA, I _B =10mA
V _{BE}	0.55	-	0.65	V	V _{CE} =6V, I _C =1mA
h _{FE1}	50	-	-	-	V _{CE} =6V, I _C =0.1mA
h _{FE2}	135	-	600	-	V _{CE} =6V, I _C =1mA
f _T	150	-	-	MHz	V _{CE} =6V, I _C =10mA, f=100MHz
C _{ob}	-	-	4	pF	V _{CB} =6V, I _E =0A, f=1MHz

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

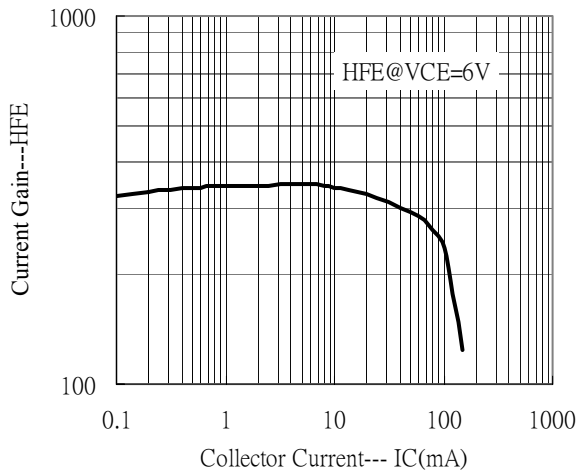
Classification of hFE 2

Rank	Q	P	K
Range	135-270	200-400	300-600

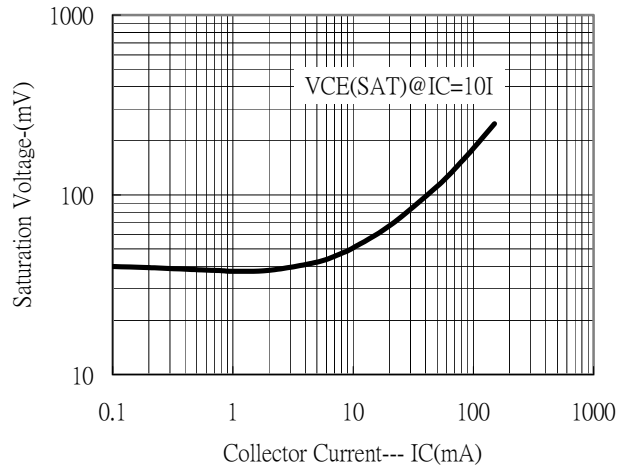


Characteristic Curves

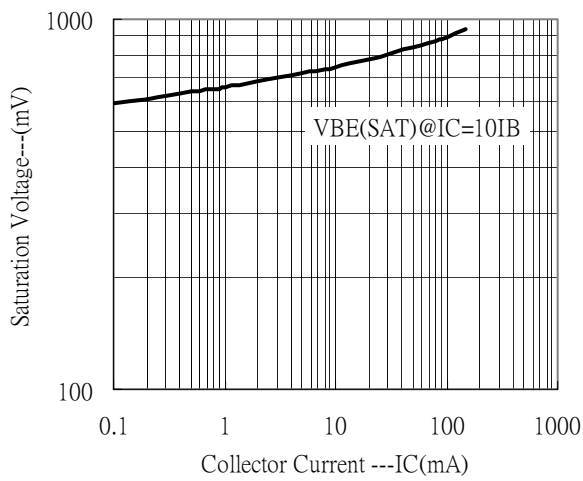
Current Gain vs Collector Current



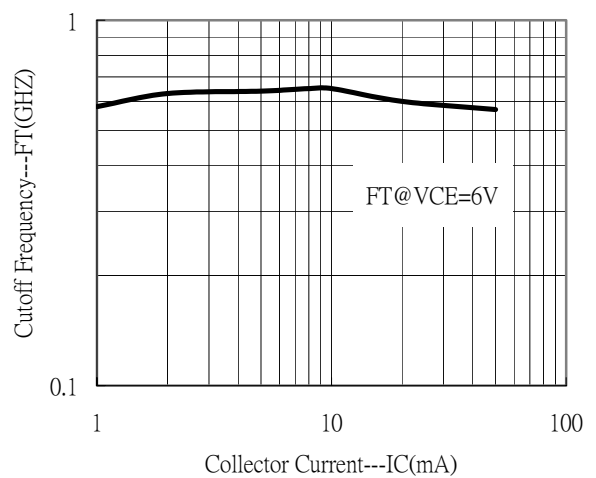
Saturation Voltage vs Collector Current



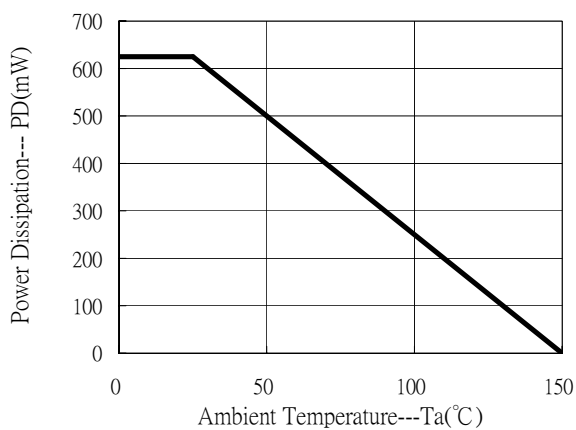
Saturation Voltage vs Collector Current



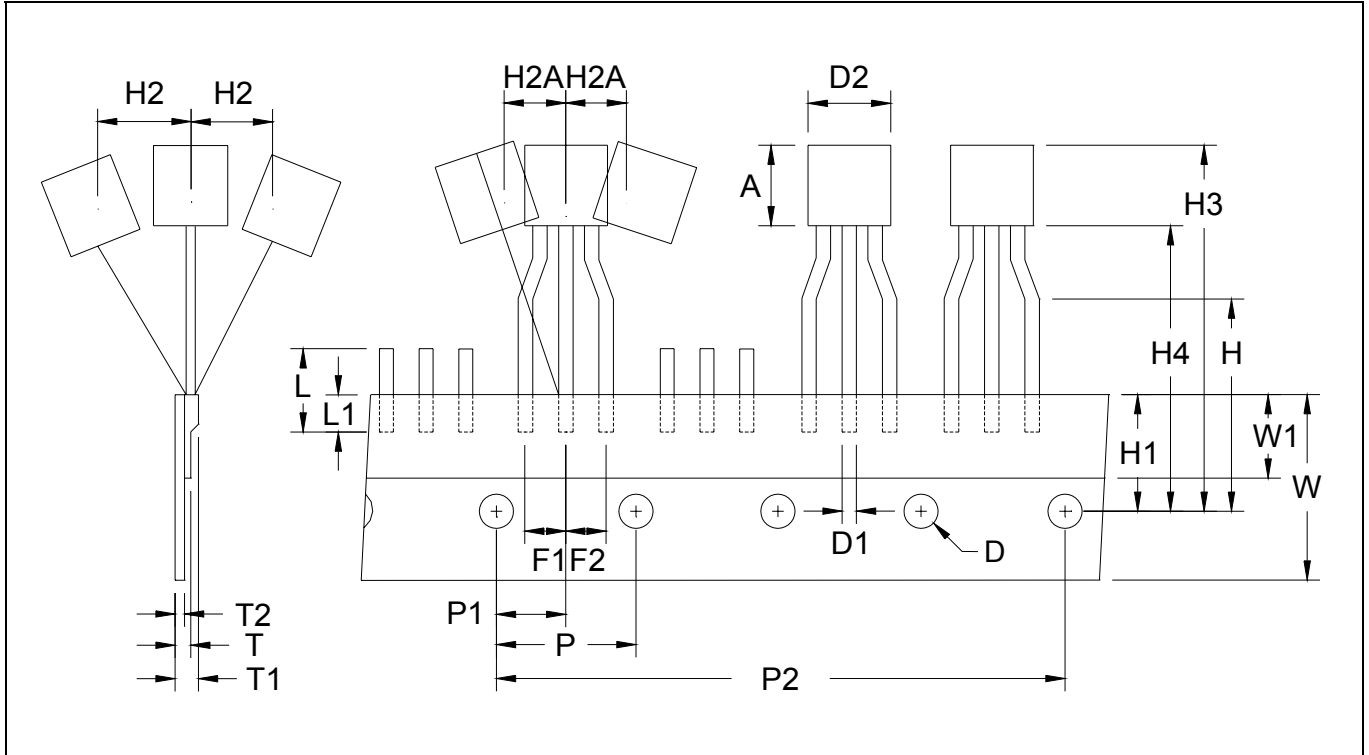
Cutoff Frequency vs Collector Current



Power Derating Curve

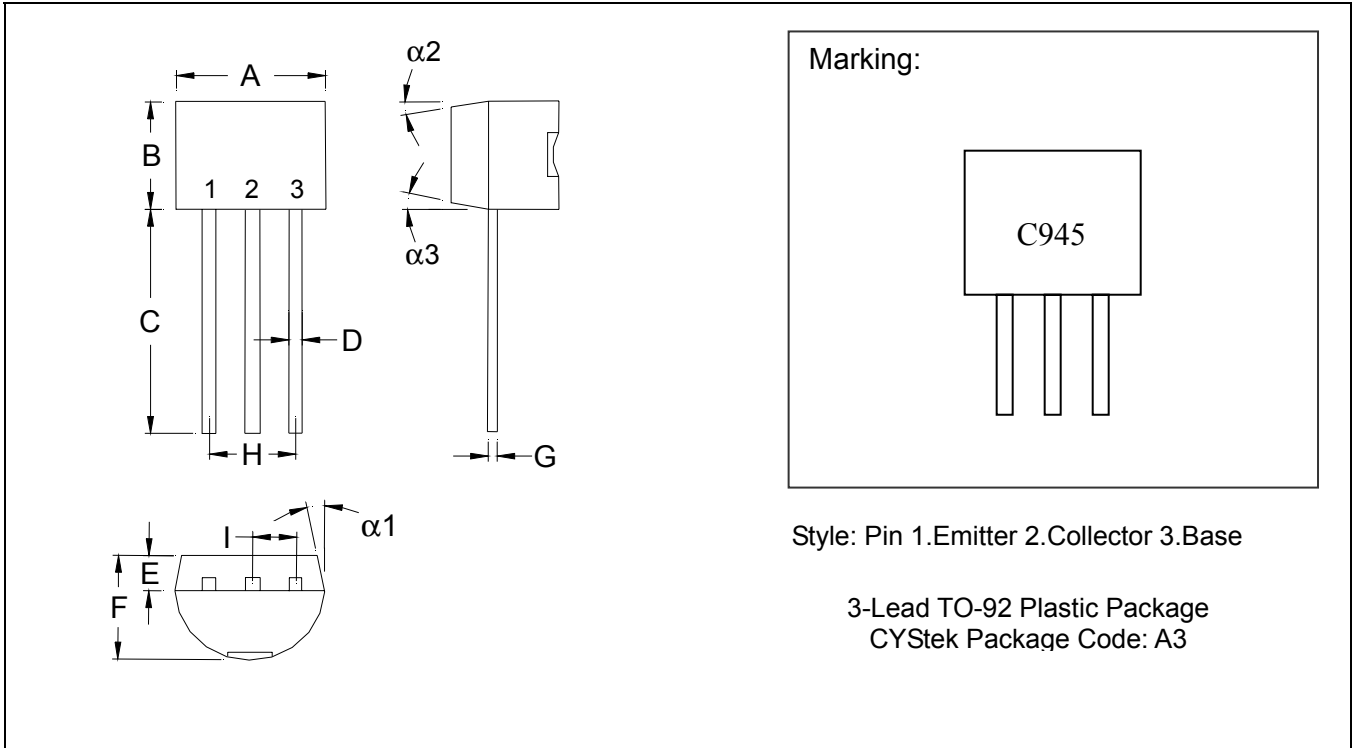


TO-92 Taping Outline



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



*: 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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