

**General Purpose NPN Epitaxial Planar Transistor**

# BTN8050SA3

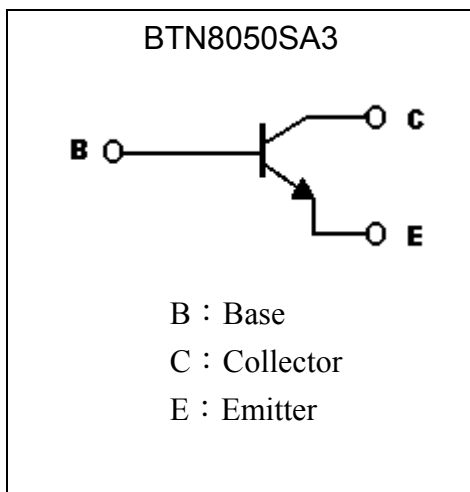
## Description

The BTN8050SA3 is designed for use in output amplifier of portable radios in class B push pull operation.

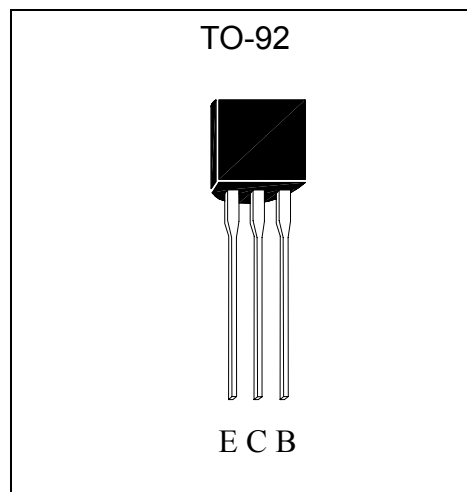
## Features

- High collector current ,  $I_c = 700\text{mA}$
- Low  $V_{CE(sat)}$
- Complementary to BTP8550SA3.

## Symbol



## Outline



## Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	$V_{CBO}$	25	V
Collector-Emitter Voltage	$V_{CEO}$	20	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	700	mA
Base Current	$I_B$	100	mA
Power Dissipation	$P_d$	625	mW
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 <sub>CB0</sub>	25	-	-	V	I <sub>C</sub> =10μA
BV <sub>CEO</sub>	20	-	-	V	I <sub>C</sub> =1mA
BV <sub>EBO</sub>	6	-	-	V	I <sub>E</sub> =10μA
I <sub>CBO</sub>	-	-	1	μA	V <sub>CB</sub> =20V
I <sub>EBO</sub>	-	-	100	nA	V <sub>EB</sub> =5V
*V <sub>CE(sat)</sub>	-	-	0.5	V	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA
*V <sub>BE(on)</sub>	-	-	1	V	V <sub>CE</sub> =1V, I <sub>C</sub> =150mA
*h <sub>FE 1</sub>	100	-	500	-	V <sub>CE</sub> =1V, I <sub>C</sub> =150mA
*h <sub>FE 2</sub>	-	100	-	-	V <sub>CE</sub> =1V, I <sub>C</sub> =500mA
f <sub>T</sub>	150	-	-	MHz	V <sub>CE</sub> =10V, I <sub>C</sub> =20mA, f=100MHz
C <sub>ob</sub>	-	-	10	pF	V <sub>CB</sub> =10V, f=1MHz

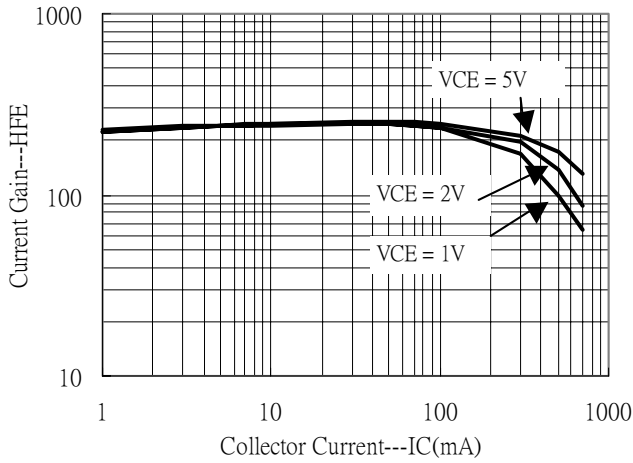
\*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

**Classification Of h<sub>FE 1</sub>**

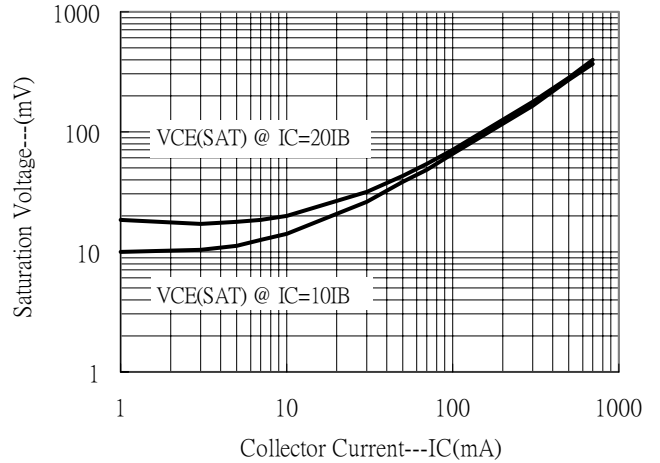
Rank	C	D	E
Range	100~180	160~300	250~500

**Characteristic Curves**

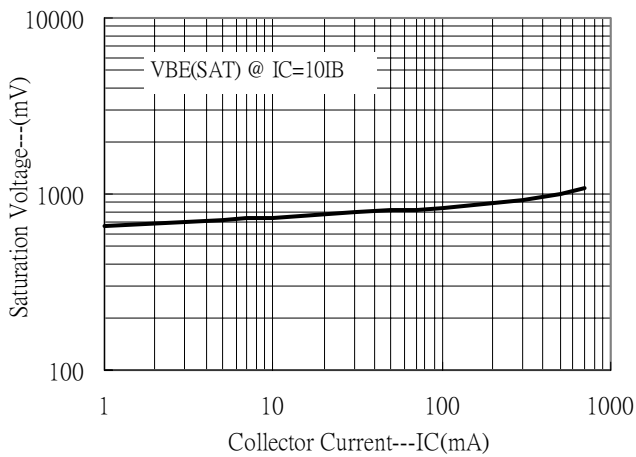
Current Gain vs Collector Current



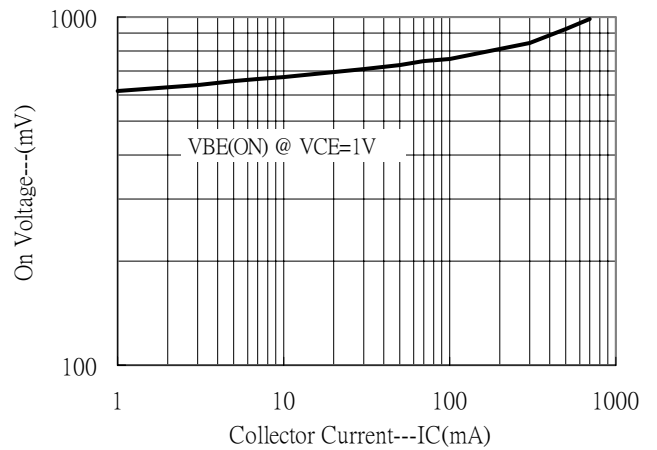
Saturation Voltage vs Collector Current



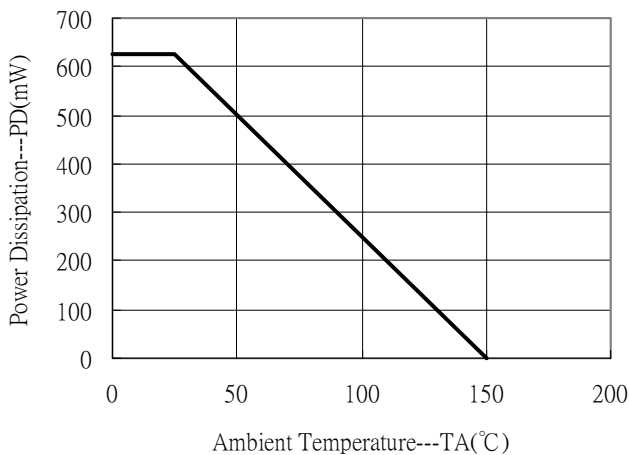
Saturation Voltage vs Collector Current



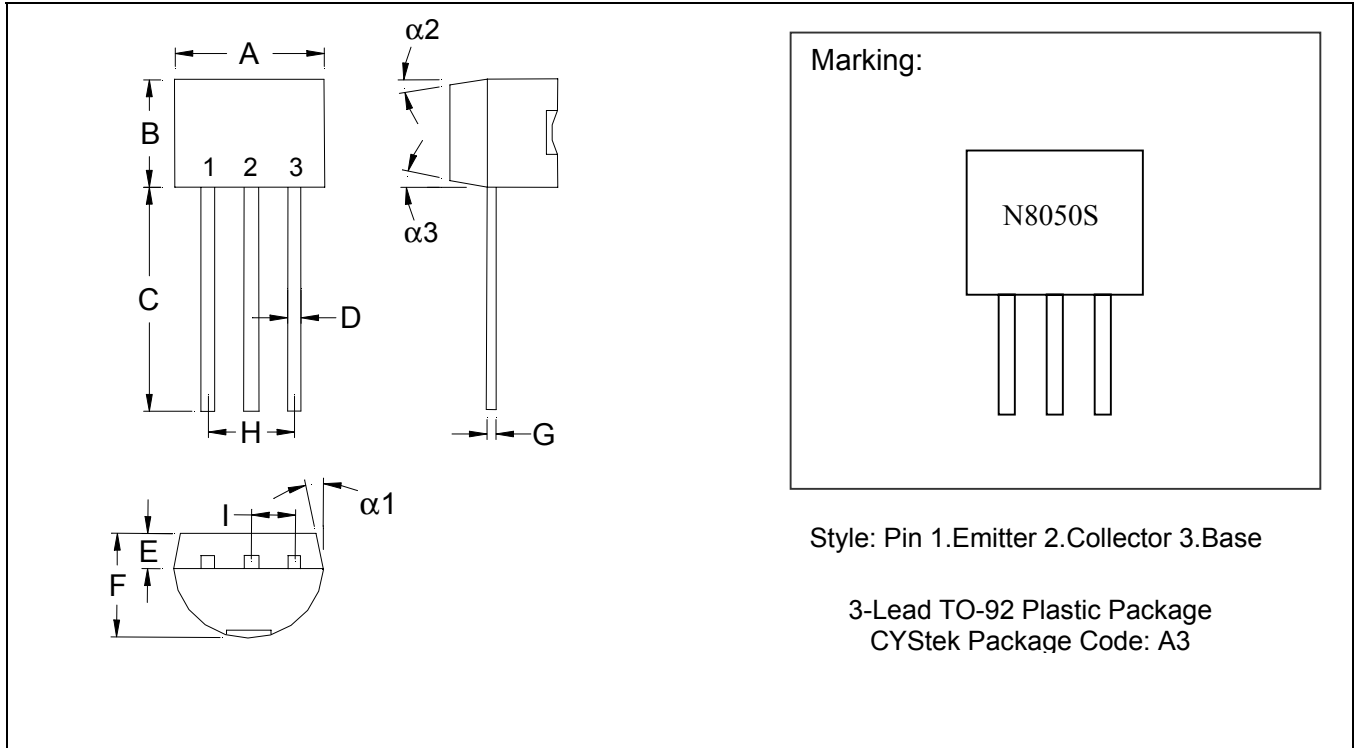
On Voltage vs Collector Current



Power Derating Curve



**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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