

General Purpose NPN Epitaxial Planar Transistor

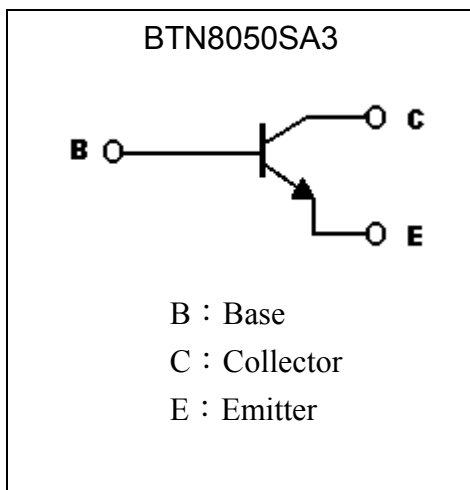
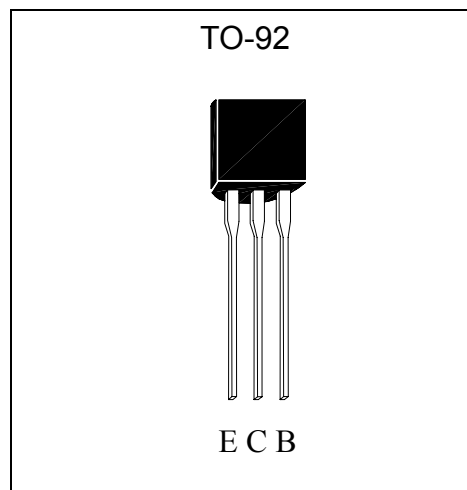
BTN8050SA3

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 ($T_a=25^\circ\text{C}$)

| 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 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | -55~+150 | $^\circ\text{C}$ |



Characteristics (Ta=25°C)

| Symbol | Min. | Typ. | Max. | Unit | Test Conditions |
|-----------------------|------|------|------|------|--|
| BV _{CB0} | 25 | - | - | V | I _C =10μA |
| BV _{CEO} | 20 | - | - | V | I _C =1mA |
| BV _{EBO} | 6 | - | - | V | I _E =10μA |
| I _{CB0} | - | - | 1 | μA | V _{CB} =20V |
| I _{EBO} | - | - | 100 | nA | V _{EB} =5V |
| *V _{CE(sat)} | - | - | 0.5 | V | I _C =500mA, I _B =50mA |
| *V _{BE(on)} | - | - | 1 | V | V _{CE} =1V, I _C =150mA |
| *h _{FE 1} | 100 | - | 500 | - | V _{CE} =1V, I _C =150mA |
| *h _{FE 2} | - | 100 | - | - | V _{CE} =1V, I _C =500mA |
| f _T | 150 | - | - | MHz | V _{CE} =10V, I _C =20mA, f=100MHz |
| C _{ob} | - | - | 10 | pF | V _{CB} =10V, f=1MHz |

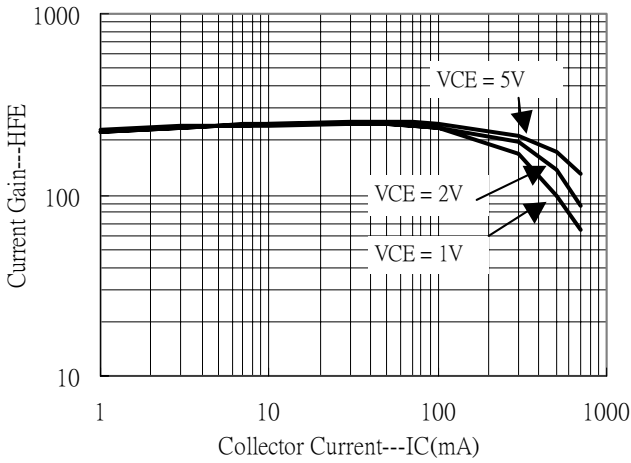
*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

Classification Of h_{FE 1}

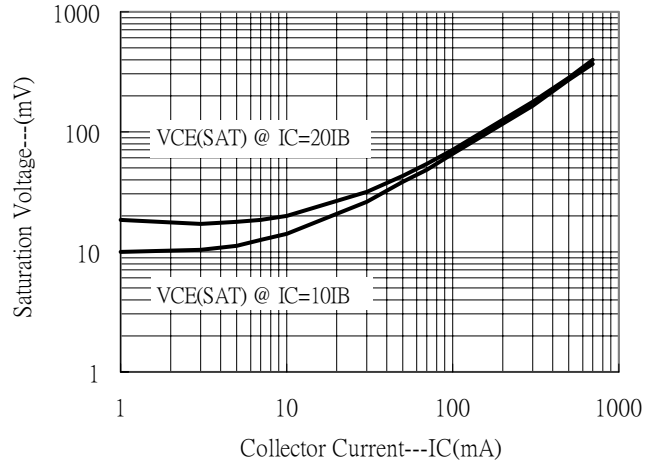
| Rank | C | D | E |
|-------|---------|---------|---------|
| Range | 100~180 | 160~300 | 250~500 |

Characteristic Curves

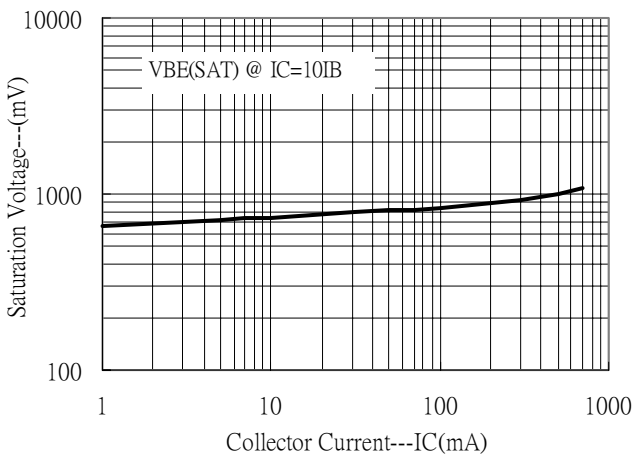
Current Gain vs Collector Current



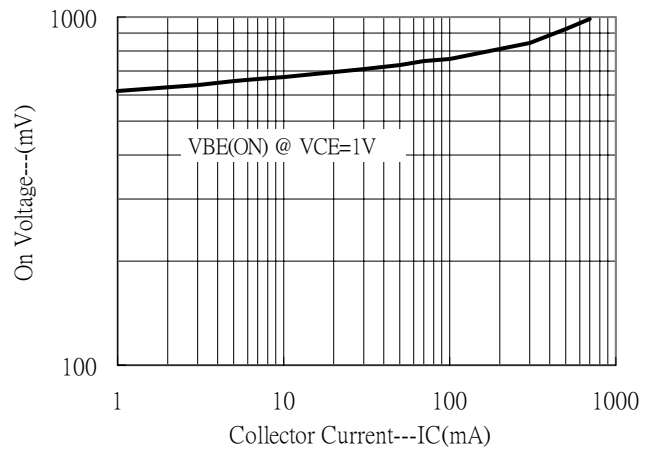
Saturation Voltage vs Collector Current



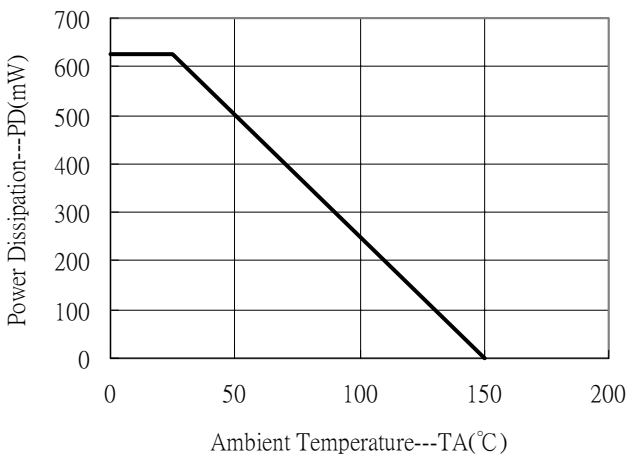
Saturation Voltage vs Collector Current



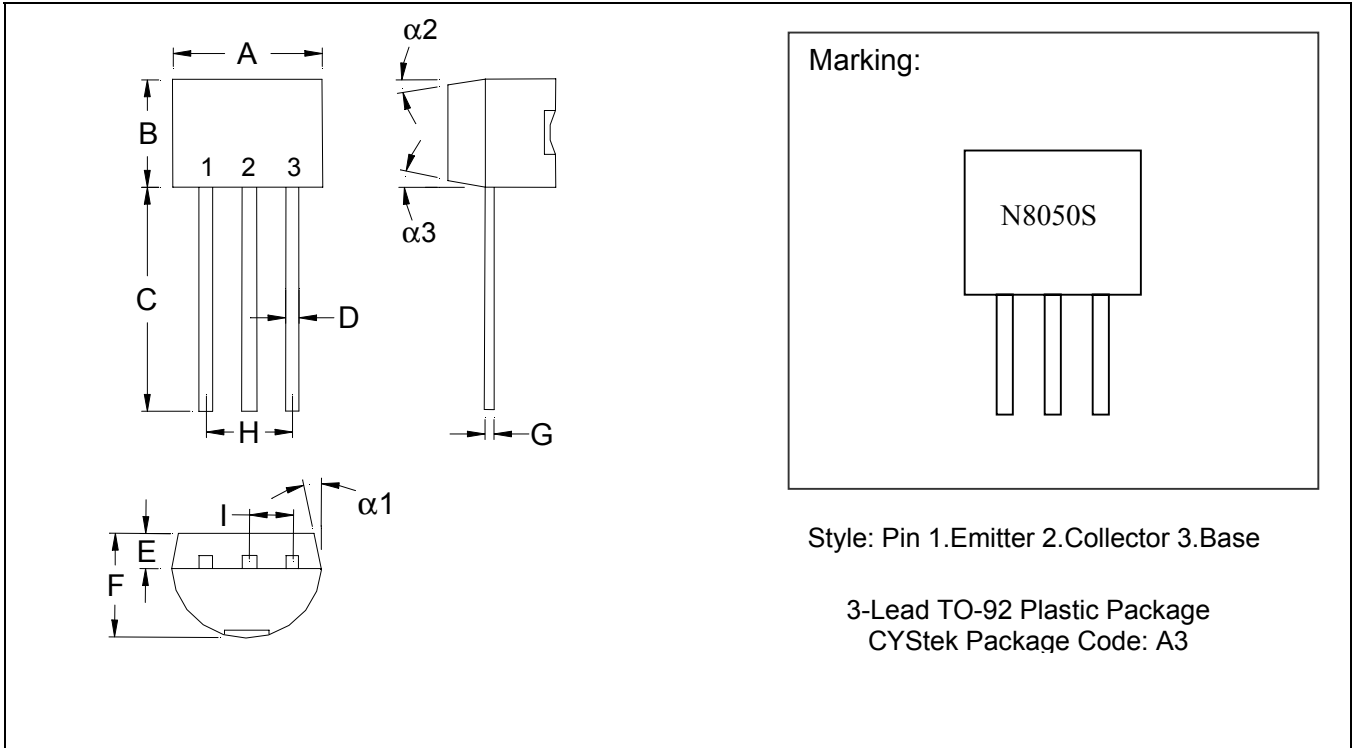
On Voltage vs Collector Current



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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