

General Purpose NPN Epitaxial Planar Transistor

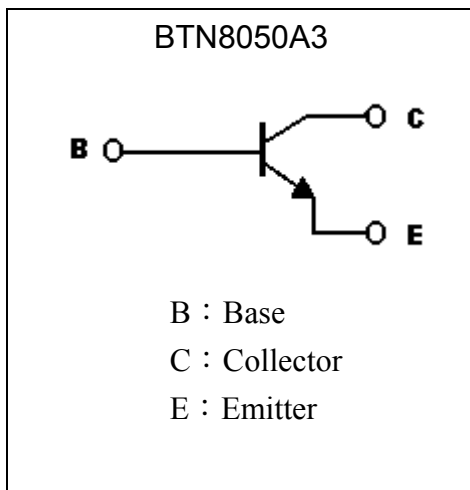
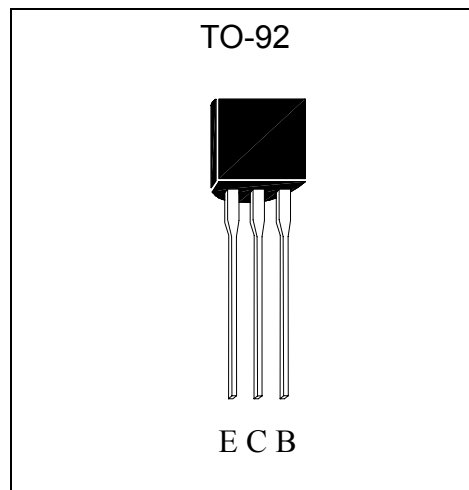
BTN8050A3

Description

The BTN8050A3 is designed for use in output amplifier of portable radios in class B push pull operation.

Features

- High collector current , $I_c = 1.5A$
- Low $V_{CE(sat)}$
- Complementary to BTP8550A3.

Symbol

Outline

Absolute Maximum Ratings ($T_a=25^\circ C$)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	1.5	A
Base Current	I_B	0.5	A
Power Dissipation	P_d	625	mW
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature	T_{stg}	-55~+150	$^\circ C$

**Characteristics (Ta=25°C)**

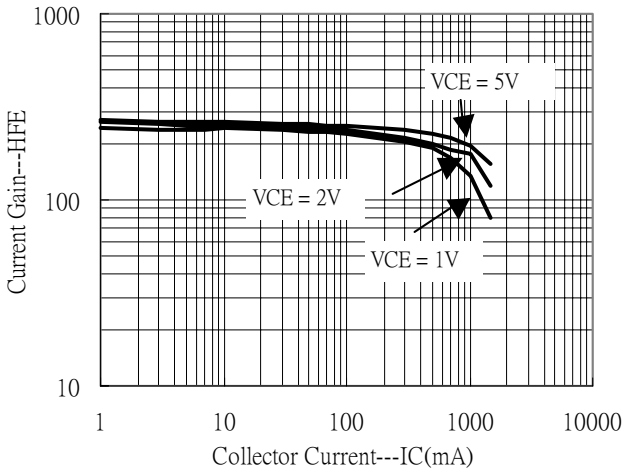
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	40	-	-	V	$I_C=100\mu A$
BV_{CEO}	25	-	-	V	$I_C=2mA$
BV_{EBO}	6	-	-	V	$I_E=100\mu A$
I_{CBO}	-	-	100	nA	$V_{CB}=35V$
I_{EBO}	-	-	100	nA	$V_{EB}=6V$
* $V_{CE(sat)}$	-	-	0.5	V	$I_C=800mA, I_B=80mA$
* $V_{BE(sat)}$	-	-	1.2	V	$I_C=800mA, I_B=80mA$
* $V_{BE(on)}$	-	-	1	V	$V_{CE}=1V, I_C=10mA$
* h_{FE1}	45	-	-	-	$V_{CE}=1V, I_C=5mA$
* h_{FE2}	85	-	500	-	$V_{CE}=1V, I_C=100mA$
* h_{FE3}	40	-	-	-	$V_{CE}=1V, I_C=800mA$
f_T	100	-	-	MHz	$V_{CE}=10V, I_C=50mA, f=100MHz$
C_{ob}	-	-	20	pF	$V_{CB}=10V, f=1MHz$

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

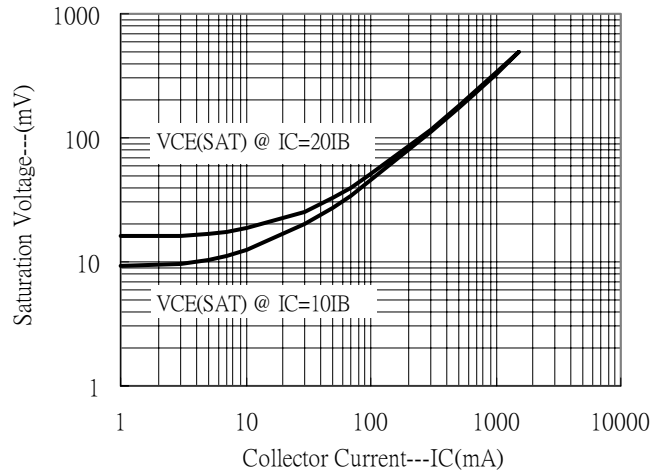
Rank	B	C	D	E
Range	85~160	120~200	160~320	250~500

Characteristic Curves

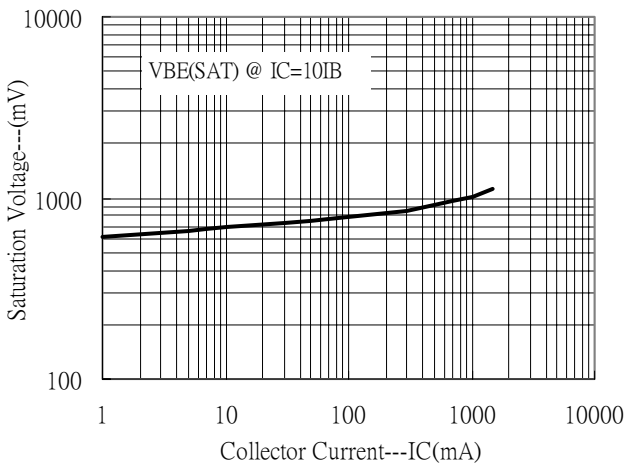
Current Gain vs Collector Current



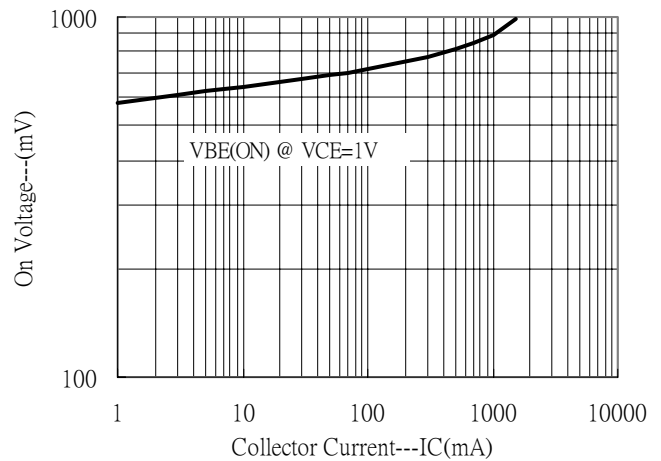
Saturation Voltage vs Collector Current



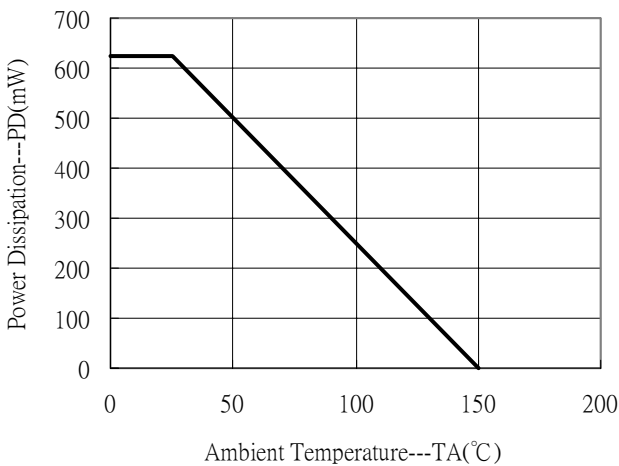
Saturation Voltage vs Collector Current



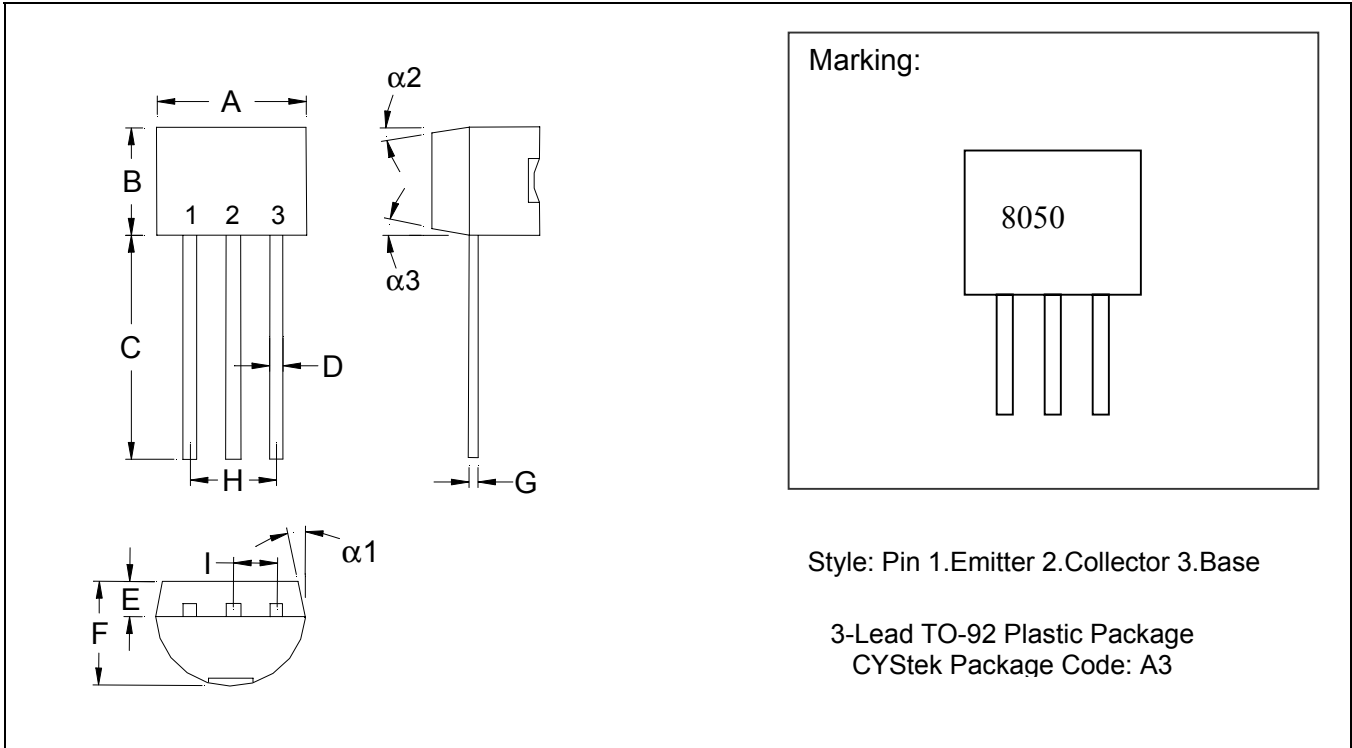
On Voltage vs Collector Current



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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