

**NPN Epitaxial Planar Transistor**

# BF422A3

**Description**

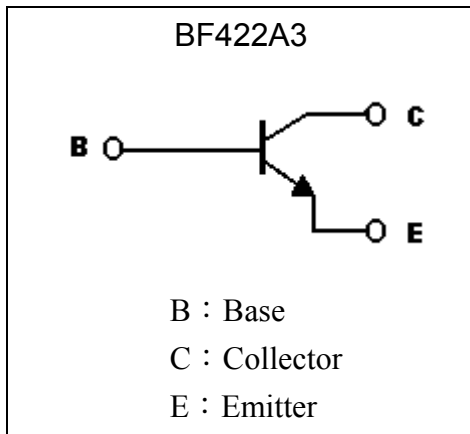
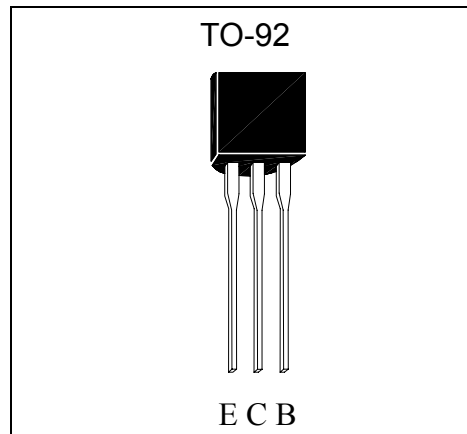
- NPN high voltage transistors in a TO-92 plastic package.
- Complementary to BF423A3.

**Features**

- Low feedback capacitance.

**Applications**

- Class-B video output stages in color television and professional monitor equipment.

**Symbol**

**Outline**

**Absolute Maximum Ratings** (Ta=25°C)

Parameter	Symbol	Conditions	Min	Max	Unit
Collector-Base Voltage	V <sub>CB0</sub>	Open emitter		250	V
Collector-Emitter Voltage	V <sub>CE0</sub>	Open base		250	V
Emitter-Base Voltage	V <sub>EB0</sub>	Open collector		5	V
Collector Current (DC)	I <sub>C</sub>			50	mA
Peak Collector Current	I <sub>CM</sub>			100	mA
Peak Base Current	I <sub>BM</sub>			50	mA
Power Dissipation;	P <sub>d</sub>	T <sub>amb</sub> ≤ 25°C ; Note		830	mW
Junction Temperature	T <sub>j</sub>			150	°C
Storage Temperature	T <sub>stg</sub>		-65	+150	°C
Operating Ambient Temperature	T <sub>amb</sub>		-65	+150	°C

Note : Transistor mounted on a printed-circuit board.

**Characteristics (Ta=25°C)**

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV <sub>CB0</sub>	250	-	-	V	I <sub>C</sub> =100μA
BV <sub>CEO</sub>	250	-	-	V	I <sub>C</sub> =1mA
BV <sub>EBO</sub>	5	-	-	V	I <sub>E</sub> =10μA
I <sub>CB0</sub>	-	-	10	nA	I <sub>E</sub> =0, V <sub>CB</sub> =200V
	-	-	10	μA	I <sub>E</sub> =0, V <sub>CB</sub> =200V, T <sub>j</sub> =150°C
I <sub>EBO</sub>	-	-	50	nA	I <sub>C</sub> =0, V <sub>EB</sub> =5V
*V <sub>CE(sat)</sub>	-	-	0.6	V	I <sub>C</sub> =30mA, I <sub>B</sub> =5mA
*h <sub>FE</sub>	50	-	-	-	V <sub>CE</sub> =20V, I <sub>C</sub> =25mA
Cre	-	-	1.6	pF	I <sub>C</sub> =i <sub>C</sub> =0, V <sub>CE</sub> =30V, f=1MHz
f <sub>T</sub>	60	-	-	MHz	V <sub>CE</sub> =10V, I <sub>C</sub> =10mA, f=100MHz

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

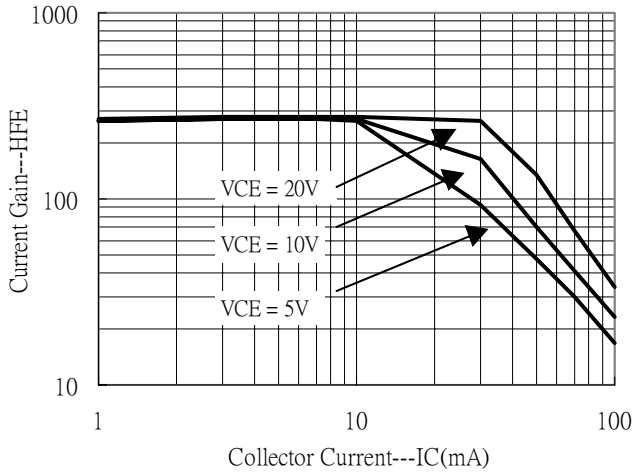
**Thermal Characteristics**

Symbol	Parameter	Conditions	Value	Unit
R <sub>thJA</sub>	Thermal resistance from junction to ambient	Note	150	K/W

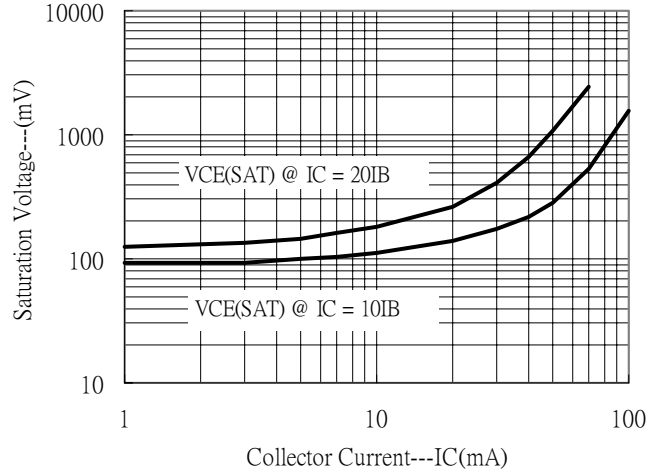
Note : Transistor mounted on a printed-circuit board

**Characteristic Curves**

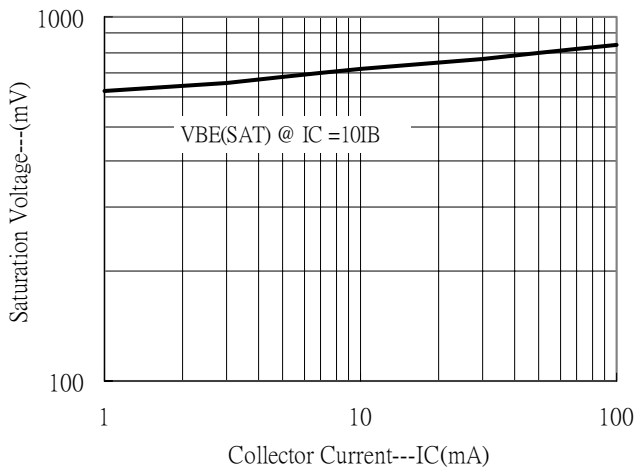
Current Gain vs Collector Current



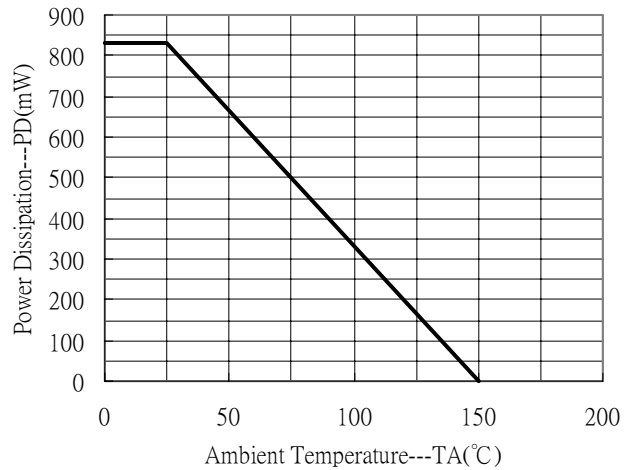
Saturation Voltage vs Collector Current



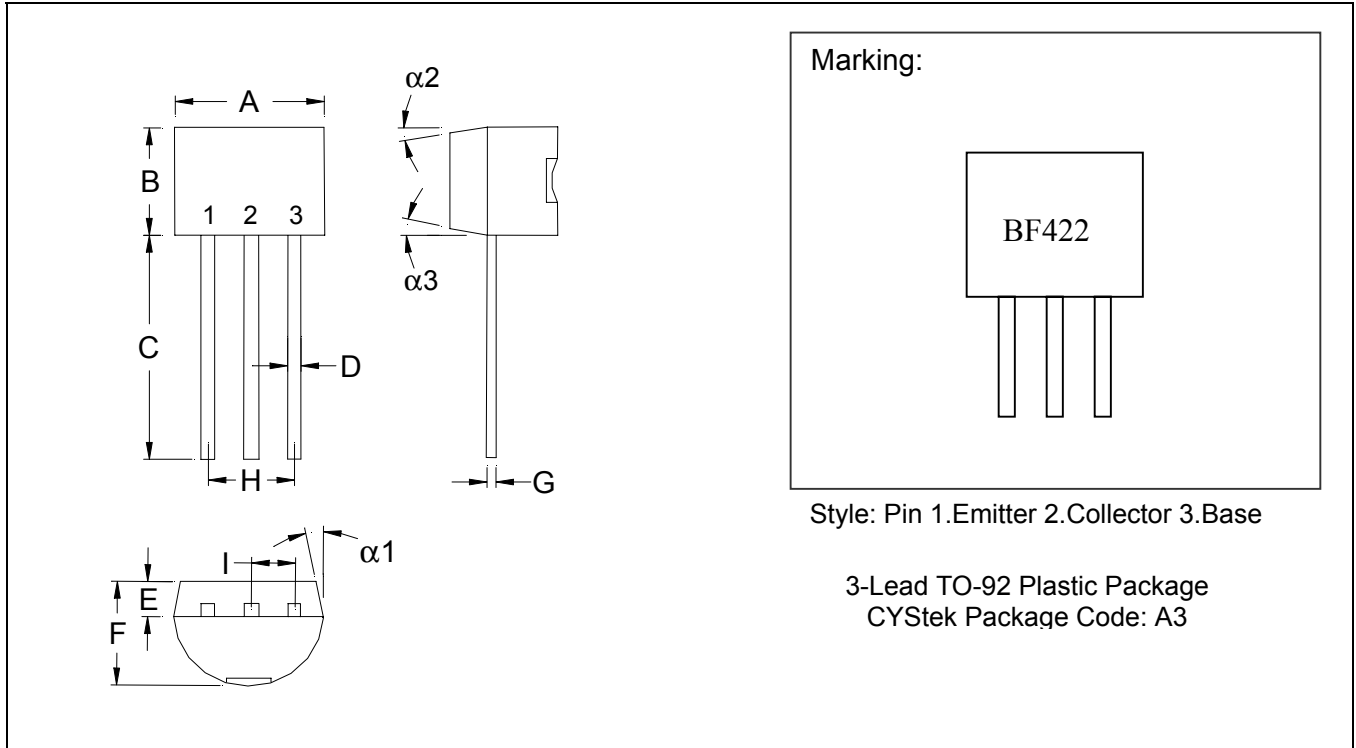
Saturation Voltage vs Collector Current



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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