

PNP Epitaxial Planar Transistor

BF423A3

Description

- PNP high voltage transistors in a TO-92 plastic package.
- Complementary to BF422A3
- Pb-free lead plating package

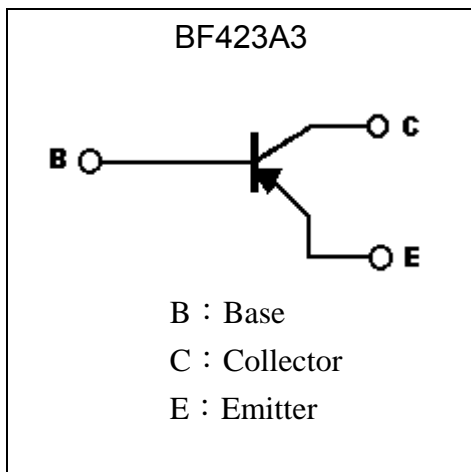
Features

- Low feedback capacitance.

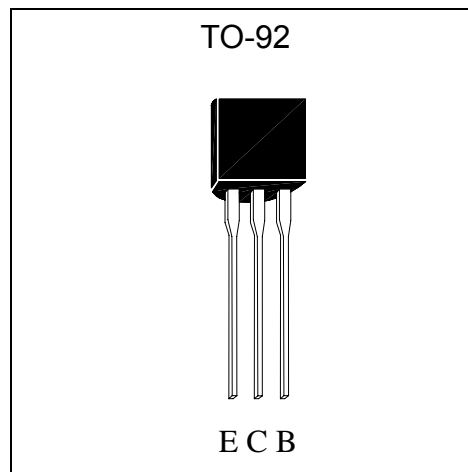
Applications

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

Symbol

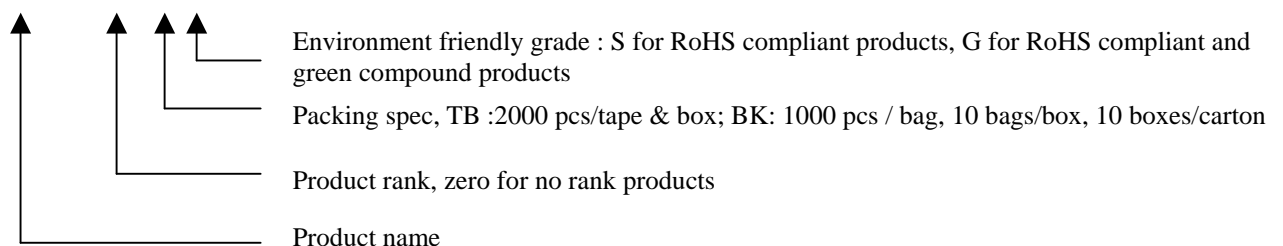


Outline



Ordering Information

Device	Package	Shipping
BF423A3-0-TB-X	TO-92 (Pb-free lead plating package)	2000 pcs / Tape & Box
BF423A3-0-BK-X	TO-92 (Pb-free lead plating package)	1000 pcs/ bag, 10 bags/box, 10boxes/carton



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

Parameter	Symbol	Conditions	Min	Max	Unit
Collector-Base Voltage	V _{CB0}	Open emitter	-	-250	V
Collector-Emitter Voltage	V _{CEO}	Open base	-	-250	V
Emitter-Base Voltage	V _{EBO}	Open collector	-	-5	V
Collector Current (DC)	I _C		-	-50	mA
Peak Collector Current	I _{CM}		-	-100	mA
Peak Base Current	I _{BM}		-	-50	mA
Power Dissipation	P _d	T _{amb} ≤ 25°C, Note	-	830	mW
Junction Temperature	T _j		-	150	°C
Storage Temperature	T _{stg}		-65	+150	°C
Operating Ambient Temperature	T _{amb}		-65	+150	°C

Note : Transistor mounted on a printed-circuit board.

Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV _{CB0}	-250	-	-	V	I _C = -100μA, I _E = 0
BV _{CEO}	-250	-	-	V	I _C = -1mA, I _B = 0
BV _{EBO}	-5	-	-	V	I _E = -10μA, I _C = 0
I _{CB0}	-	-	-10	nA	V _{CB} = -200V, I _E = 0
	-	-	-10	μA	I _E = 0, V _{CB} = -200V, T _j = 150°C
I _{EBO}	-	-	-50	nA	V _{EB} = -5V, I _C = 0
*V _{CE(sat)}	-	-	-0.6	V	I _C = -30mA, I _B = -5mA
*h _{FE}	50	-	-	-	V _{CE} = -20V, I _C = -25mA
C _{re}	-	-	1.6	pF	I _C = i _C = 0, V _{CE} = -30V, f = 1MHz
f _T	60	-	-	MHz	V _{CE} = -10V, I _C = -10mA, f = 100MHz

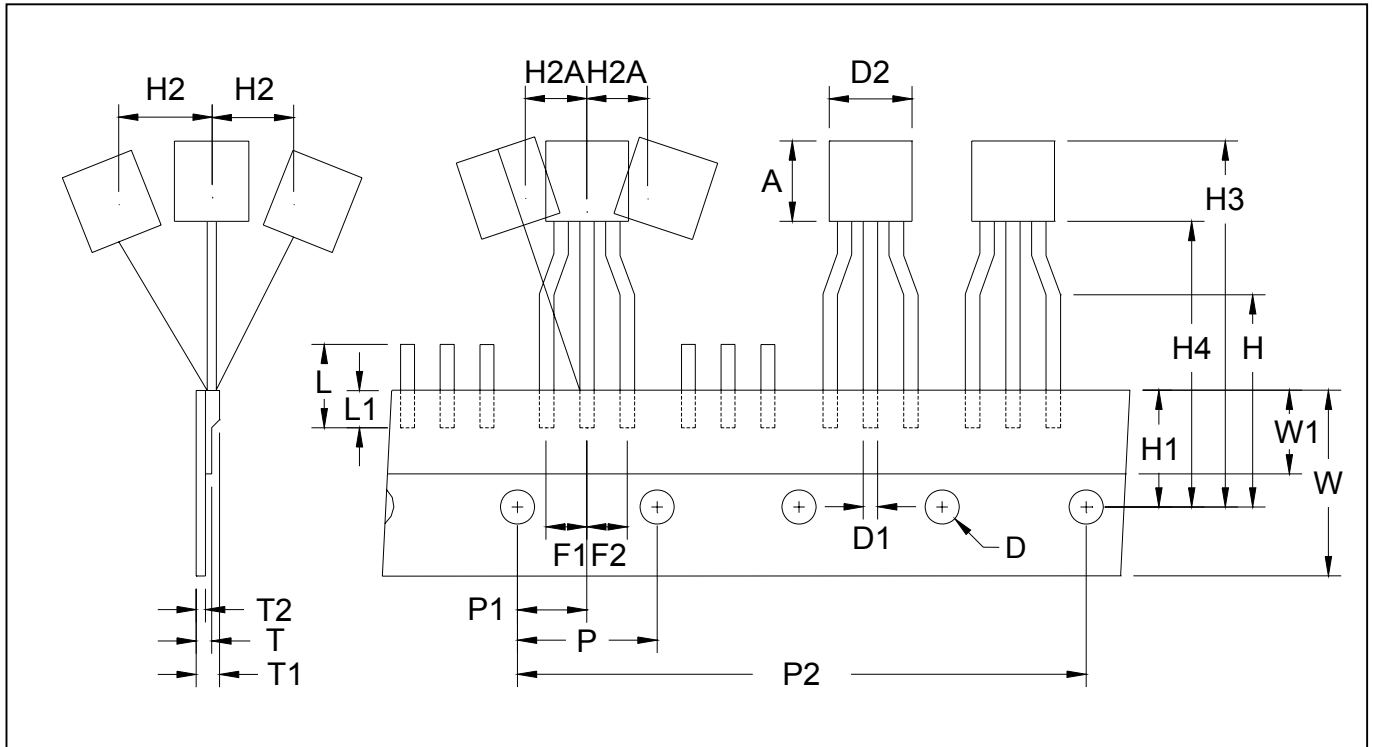
*Pulse Test: Pulse Width ≤ 380μs, Duty Cycle ≤ 2%

Thermal Characteristics

Symbol	Parameter	Conditions	Value	Unit
R _{thJA}	Thermal resistance from junction to ambient	Note	150	K/W

Note : Transistor mounted on a printed-circuit board.

TO-92 Taping Outline

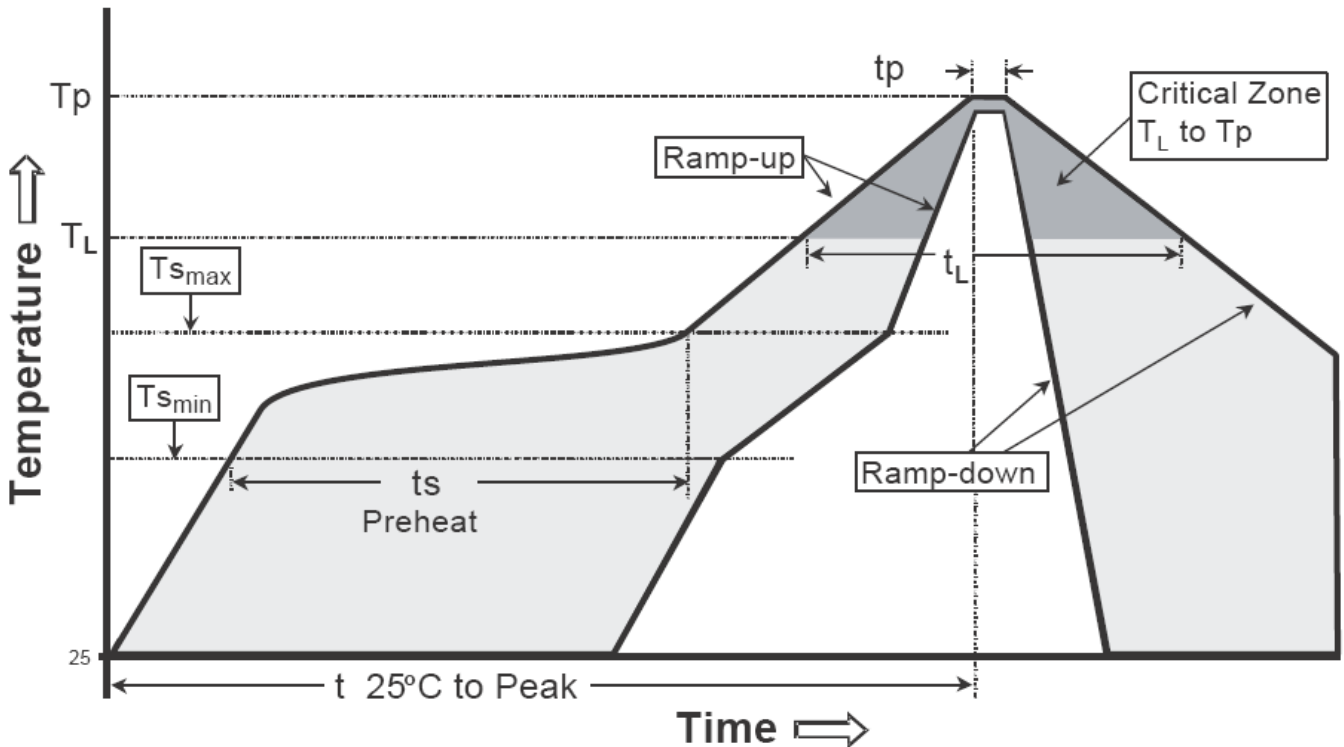


DIM	Item	Millimeters	
		Min.	Max.
A	Component body height	4.33	4.83
D	Tape Feed Diameter	3.80	4.20
D1	Lead Diameter	0.36	0.53
D2	Component Body Diameter	4.33	4.83
F1,F2	Component Lead Pitch	2.40	2.90
F1,F2	F1-F2	-	±0.3
H	Height Of Seating Plane	15.50	16.50
H1	Feed Hole Location	8.50	9.50
H2	Front To 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

Recommended wave soldering condition

Product	Peak Temperature	Soldering Time
Pb-free devices	260 +0/-5 °C	5 +1/-1 seconds

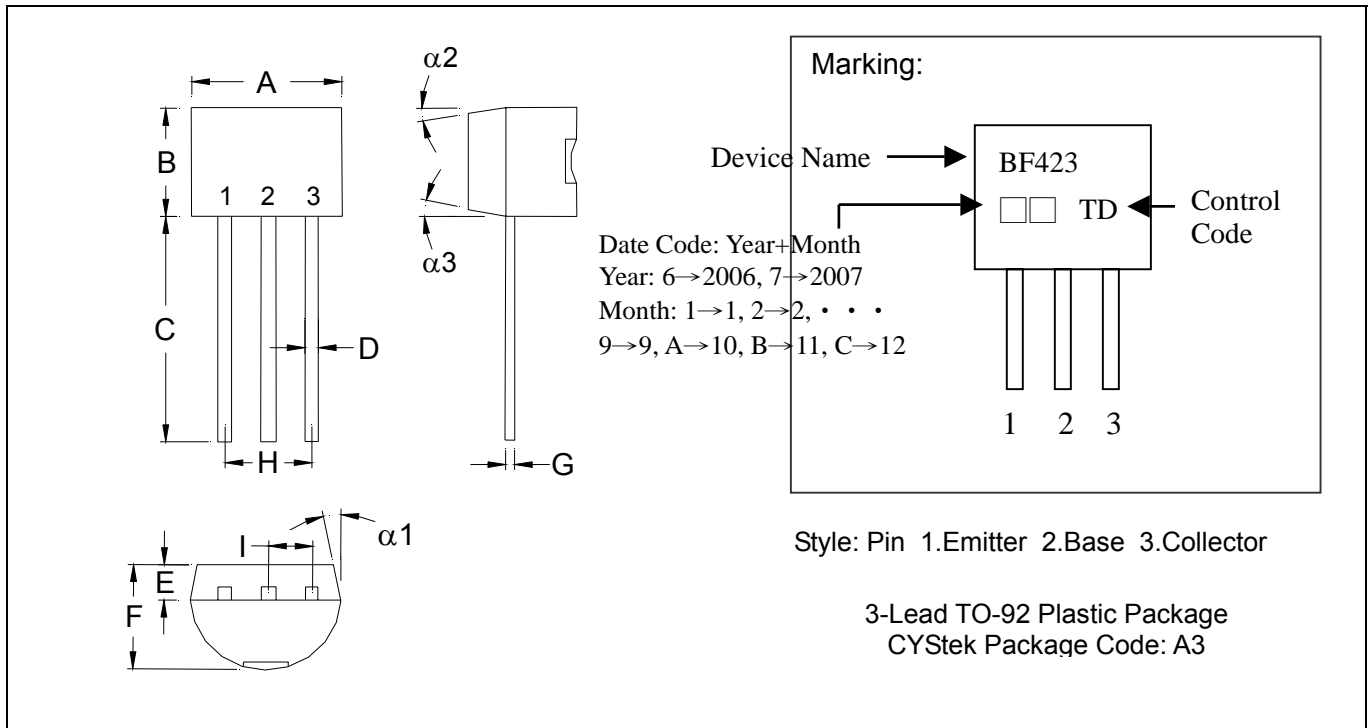
Recommended temperature profile for IR reflow



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (T _{smax} to T _p)	3°C/second max.	3°C/second max.
Preheat		
-Temperature Min(T _{s min})	100°C	150°C
-Temperature Max(T _{s max})	150°C	200°C
-Time(t _{s min} to t _{s max})	60-120 seconds	60-180 seconds
Time maintained above:		
-Temperature (T _L)	183°C	217°C
- Time (t _L)	60-150 seconds	60-150 seconds
Peak Temperature(T _P)	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(tp)	10-30 seconds	20-40 seconds
Ramp down rate	6°C/second max.	6°C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

Note : All temperatures refer to topside of the package, measured on the package body surface.

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: Pure tin plated.
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

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