

TO-92 Plastic-Encapsulate Transistors

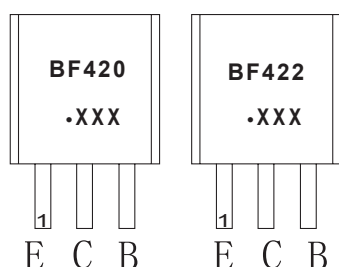
BF420
BF422

TRANSISTOR (NPN)

FEATURES

- Low feedback capacitance.
- NPN transistors in a TO-92 plastic package.
PNP complements: BF421 and BF423
- Class-B video output stages in colour television and professional monitor equipment.

MARKING



BF420,BF422=Device code

Solid dot=Green molding compound device,

if none,the normal device

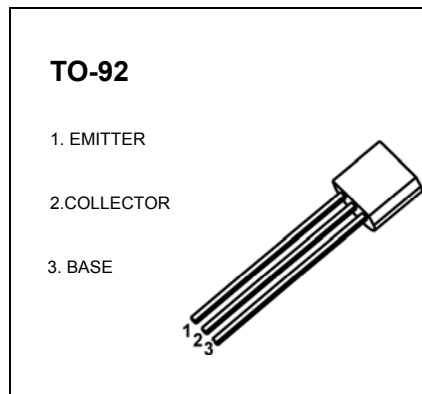
XXX=Code

ORDERING INFORMATION

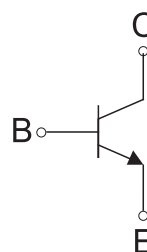
Part Number	Package	Packing Method	Pack Quantity
BF420	TO-92	Bulk	1000pcs/Bag
BF420-TA	TO-92	Tape	2000pcs/Box
BF422	TO-92	Bulk	1000pcs/Bag
BF422-TA	TO-92	Tape	2000pcs/Box

MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	BF420	BF422	Unit
V _{CB0}	Collector-Base Voltage	300	250	V
V _{CE0}	Collector-Emitter Voltage	300	250	V
V _{EB0}	Emitter-Base Voltage	5		V
I _c	Collector Current -Continuous	100		mA
P _c	Collector Power Dissipation	0.830		W
R _{thja}	Thermal resistance from junction to ambient	151		°C /W
T _j	Junction temperature	150		°C
T _{stg}	Storage Temperature Range	-55~150		°C



Equivalent Circuit

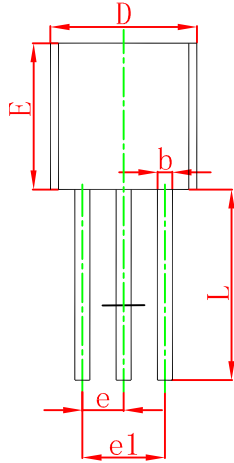
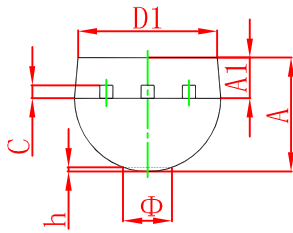


ELECTRICAL CHARACTERISTICS

$T_a=25^{\circ}\text{C}$ unless otherwise specified

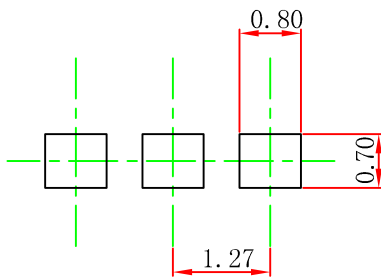
Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage BF420 BF422	$V_{(BR)CBO}$	$I_C=100\mu\text{A}$, $I_E=0$	300 250		V
Collector-emitter breakdown voltage BF420 BF422	$V_{(BR)CEO}$	$I_C=1\text{mA}$, $I_B=0$	300 250		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}$, $I_C=0$	5		V
Collector cut-off current	I_{CBO}	$V_{CB}=200\text{V}$, $I_E=0$		0.01	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}$, $I_C=0$		0.05	μA
DC current gain	h_{FE}	$V_{CE}=20\text{V}$, $I_C=25\text{mA}$	50		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=30\text{mA}$, $I_B=5\text{mA}$		0.6	V
Transition frequency	f_T	$V_{CE}=10\text{V}$, $I_C=10\text{mA}$ $f=100\text{MHz}$	60		MHz
Feedback capacitance	C_{re}	$V_{CE}=30\text{V}$, $I_C=0$, $f=1\text{MHz}$		1.6	pF

TO-92 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015

TO-92 Suggested Pad Layout



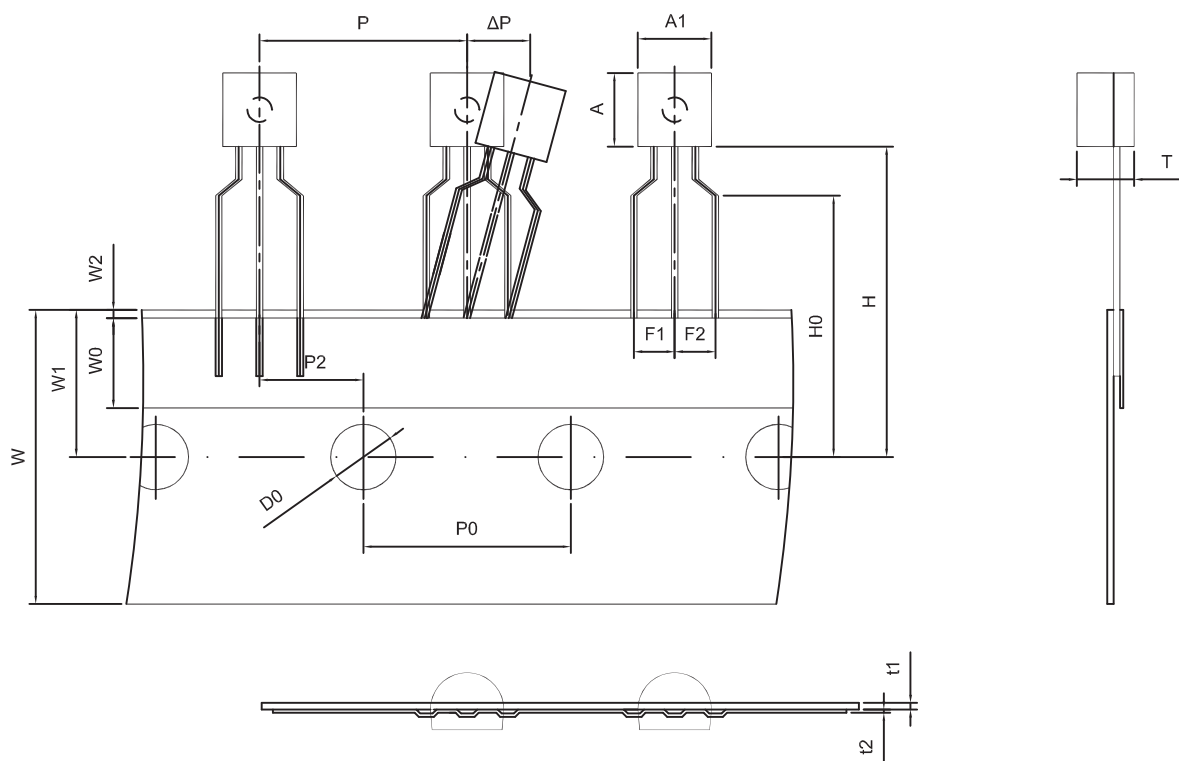
Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

NOTICE

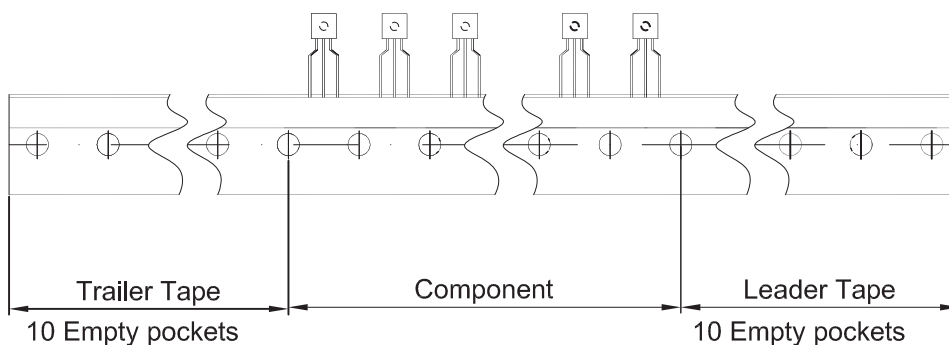
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TO-92 PACKAGE TAPEING DIMENSION



Dimiensions are in millimeter

A1	A	T	P	P0	P2	F1	F2	W
4.5	4.5	3.5	12.7	12.7	6.35	2.5	2.5	18.0
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0	9.0	1.0 MAX.	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	2000 pcs	333×162×43	20,000 pcs	350×340×250