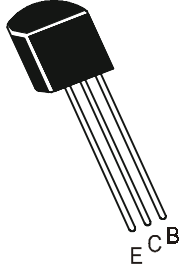


PNP SILICON PLANAR EPITAXIAL HIGH VOLTAGE VIDEO TRANSISTORS

**BF421
BF423**



**TO-92
Plastic Package**

High Voltage Video Amplifier

ABSOLUTE MAXIMUM RATINGS(Ta=25°C unless specified otherwise)

DESCRIPTION	SYMBOL	423	421	UNITS
Collector Emitter Voltage	V_{CEO}	250	300	V
Collector Base Voltage	V_{CBO}	250	300	V
Emitter Base Voltage	V_{EBO}	5		V
Collector Current Continuous	I_C	500		mA
Power Dissipation@ Ta=25°C	P_D	800		mW
Derate Above 25°C		6.4		mW/°C
Power Dissipation@ Tc=25°C	P_D	2.75		W
Derate Above 25°C		22		mW/°C
Operating And Storage Junction Temperature Range	T_j, T_{stg}	-55 to +150		°C
THERMAL RESISTANCE				
Junction to ambient	$R_{th(j-a)}$	156		°C/W
Junction to case	$R_{th(j-c)}$	45		°C/W

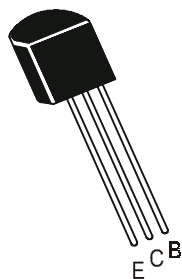
ELECTRICAL CHARACTERISTICS (Ta=25°C Unless Otherwise Specified)

DESCRIPTION	SYMBOL	TEST CONDITION	423	421	UNITS
Collector Emitter Voltage*	V_{CEO}	$I_C=1.0mA, I_B=0$	>250	>300	V
Collector Base Voltage	V_{CBO}	$I_C=100\mu A, I_E=0$	>250	>300	V
EmitterBase Voltage	V_{EBO}	$I_E=100\mu A, I_C=0$	>5	>5	V
Collector-Cut off Current	I_{CBO}	$V_{CB}=200V, I_E=0$	<10	<10	nA
Emitter-Cut off Current	I_{EBO}	$V_{EB}=5.0V, I_C=0$	<100	<100	nA
DC Current Gain	h_{FE}	$I_C=25mA, V_{CE}=20V$	>50	>50	
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=20mA, I_B=2mA$	<0.5	<0.5	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=20mA, I_B=2mA$	<2	<2	V

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VIDEO TRANSISTORS**

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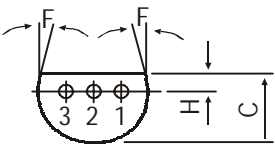
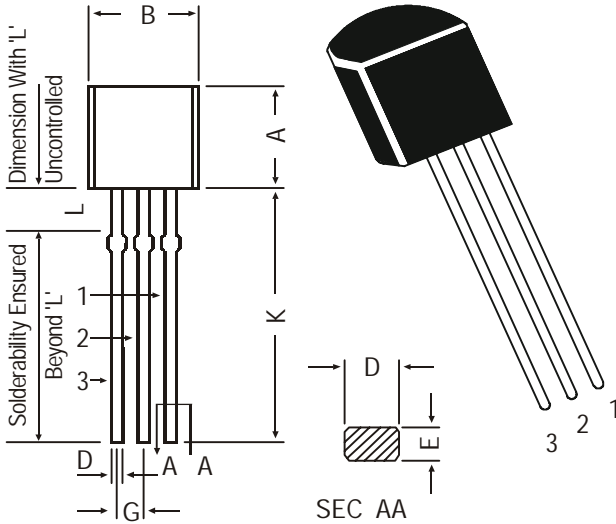
ELECTRICAL CHARACTERISTICS (Ta=25°C Unless Specified Otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	423	421	UNITS
DYNAMIC CHARACTERISTICS					
Current Gain-Bandwidth Product	f_T	$I_C=10\text{mA}$, $V_{CE}=10\text{V}$ $f=50\text{MHz}$	>60	>60	MHz
Feedback Capacitance	C_{re}	$V_{CB}=30\text{V}$, $I_E=0$ $f=1\text{MHz}$	<2.8	<2.8	pF

***Pulse Condition: = Width \leq 300us, Duty Cycle \leq 2.0%.**

TO-92 Plastic Package

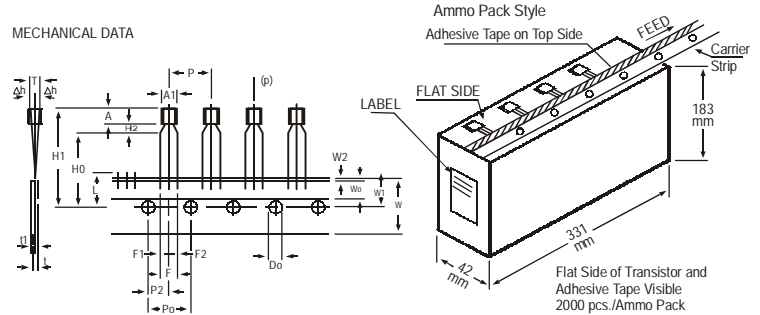
TO-92 Transistors on Tape and Ammo Pack



PIN CONFIGURATION
 1. BASE
 2. COLLECTOR
 3. EMITTER

DIM	MIN.	MAX.
A	4.32	5.33
B	4.45	5.20
C	3.18	4.19
D	0.41	0.55
E	0.35	0.50
F	5 DEG	
G	1.14	1.40
H	1.14	1.53
K	12.70	—
L	1.982	2.082

All dimensions in mm.



All dimensions in mm unless specified otherwise

ITEM	SYMBOL	SPECIFICATION				REMARKS
		MIN.	NOM.	MAX.	TOL.	
BODY WIDTH	A1	4.0		4.8		
BODY HEIGHT	A	4.8		5.2		
BODY THICKNESS	T	3.9		4.2		
PITCH OF COMPONENT	P		12.7		±1	
FEED HOLE PITCH	Po		12.7		±0.3	
FEED HOLE CENTRE TO COMPONENT CENTRE	P2		6.35		±0.4	CUMULATIVE PITCH ERROR 1.0 mm/20 PITCH TO BE MEASURED AT BOTTOM OF CLINCH
DISTANCE BETWEEN OUTER LEADS	F		5.08		+0.6 -0.2	
COMPONENT ALIGNMENT	Δh		0	1		AT TOP OF BODY
TAPE WIDTH	W		18		±0.5	
HOLD-DOWN TAPE WIDTH	Wo		6		±0.2	
HOLE POSITION	W1		9		+0.7 -0.5	
HOLD-DOWN TAPE POSITION	W2		0.5		±0.2	
LEAD WIRE CLINCH HEIGHT	Ho		16		±0.5	
COMPONENT HEIGHT	H1			23.25		
LENGTH OF SNIPPED LEADS	L			11.0		
FEED HOLE DIAMETER	Do		4		±0.2	
TOTAL TAPE THICKNESS	t			1.2		11 0.3 - 0.6
LEAD - TO - LEAD DISTANCE F1,	F2		2.54		+0.4 -0.1	
CLINCH HEIGHT	H2			3		
PULL - OUT FORCE	(P)	6N				

NOTES

1. MAXIMUM ALIGNMENT DEVIATION BETWEEN LEADS NOT TO BE GREATER THAN 0.2 mm.
2. MAXIMUM NON-CUMULATIVE VARIATION BETWEEN TAPE FEED HOLES SHALL NOT EXCEED 1 mm IN 20 PITCHES.
3. HOLDDOWN TAPE NOT TO EXCEED BEYOND THE EDGE(S) OF CARRIER TAPE AND THERE SHALL BE NO EXPOSURE OF ADHESIVE.
4. NO MORE THAN 3 CONSECUTIVE MISSING COMPONENTS ARE PERMITTED.
5. A TAPE TRAILER, HAVING AT LEAST THREE FEED HOLES ARE REQUIRED AFTER THE LAST COMPONENT.
6. SPLICES SHALL NOT INTERFERE WITH THE SPROCKET FEED HOLES.

Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-92 Bulk	1K/polybag	200 gm/1K pcs	3" x 7.5" x 7.5"	5K	17" x 15" x 13.5"	80K	23 kgs
TO-92 T&A	2K/ammo box	645 gm/2K pcs	12.5" x 8" x 1.8"	2K	17" x 15" x 13.5"	32K	12.5 kgs

Disclaimer

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Continental Device India Limited

C-120 Naraina Industrial Area, New Delhi 110 028, India.

Telephone + 91-11-2579 6150, 5141 1112 Fax + 91-11-2579 5290, 5141 1119

email@cdil.com www.cdilsemi.com