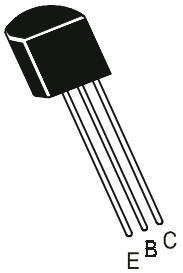
NPN SILICON HILGH VOLTAGE VIDEO TRANSISTORS

BF391
BF392
BF393



TO-92
Plastic Package

Designed For High Voltage Video Amplifier in Television Receivers.

ABSOLUTE MAXIMUM RATINGS(Ta=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	391	392	393	UNITS
Collector Emitter Voltage	V_{CEO}	200	250	300	V
Collector Base Voltage	V_{CBO}	200	250	300	V
Emitter Base Voltage	V_{EBO}	6	6	6	V
Collector Current Continuous	I_C		500		mA
Power Dissipation@ Ta=25ºC	P_D		625		mW
Power Dissipation@ Tc=25ºC	P_D		1.5		W
Operating And Storage Junction Temperature Range	T_j, T_{stg}		-55 to +150		ºC
THERMAL RESISTANCE					
Junction to ambient	$R_{th(j-a)}$		200		ºC/W
Junction to case	$R_{th(j-c)}$		83.3		ºC/W

ELECTRICAL CHARACTERISTICS (Ta=25ºC Unless Otherwise Specified)

DESCRIPTION	SYMBOL	TEST CONDITION	391	392	393	UNITS
Collector Emitter Voltage	V_{CEO}*	I_C=1.0mA,I_B=0	>200	>250	>300	V
Collector Base Voltage	V_{CBO}	I_C=100µA.I_E=0	>200	>250	>300	V
Emitter Base Voltage	V_{EBO}	I_E=100µA, I_C=0	>6	>6	>6	V
Collector Cut off Current	I_{CBO}	V_{CB}=160V,I_E=0	<0.1			µA
		V_{CB}=200V,I_E=0		<0.1	<0.1	µA
Emitter Cut off Current	I_{EBO}	V_{EB}=4.0V, I_C = 0	<0.1			µA
		V_{EB}=6.0V, I_C = 0		<0.1	<0.1	µA
DC Current Gain	h_{FE}	I_C=1.0mA,V_{CE}=10V	>25	>25	>25	
		I_C=10mA,V_{CE}=10V	>40	>40	>40	

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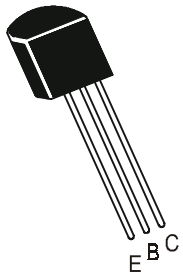

TO-92
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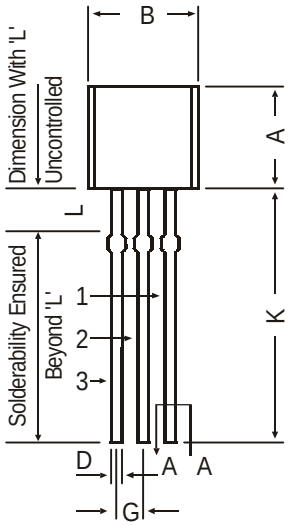
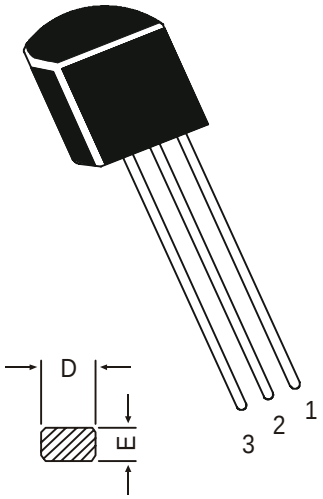
ELECTRICAL CHARACTERISTICS (Ta=25ºC Unless Specified Otherwise)

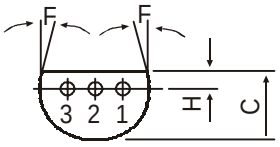
DESCRIPTION	SYMBOL	TEST CONDITION	391	392	393	UNITS
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=20mA,I_B=2mA	<2	<2	<2	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=20mA,I_B=2mA	<2	<2	<2	V
Feedback Capacitance	C_{re}	I_E=0, V_{CB}=60V, f=1.0MH_Z	<2	<2	<2	pF
Current Gain - Bandwidth Product	f_T	Ic=10mA, V_{CE}=20V, f=20MH_Z	>50	>50	>50	MHz

***Pulse Condition: = Pulse Width ≤ 300us, Duty Cycle ≤ 2%.**

TO-92 Plastic Package





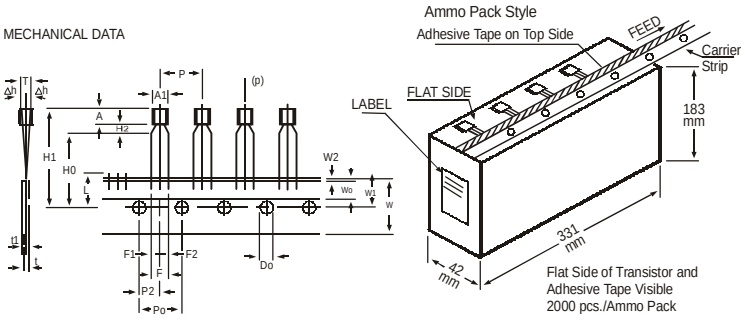


PIN CONFIGURATION
1. COLLECTOR
2. BASE
3. EMITTER

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 diminsions in mm.

TO-92 Transistors on Tape and Ammo Pack



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	CUMULATIVE PITCH ERROR 1.0 mm/20 PITCH
FEED HOLE CENTRE TO COMPONENT CENTRE	P2		6.35		±0.4	TO BE MEASURED AT BOTTOM OF CLINCH
DISTANCE BETWEEN OUTER LEADS	F		5.08		+0.6 -0.2	
COMPONENT ALIGNMENT	△h		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		t1 0.3 - 0.6
LEAD - TO - LEAD DISTANCEF1,	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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