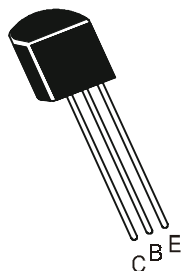


## PNP SILICON PLANAR EPITAXIAL TRANSISTORS



BC 446, A, B  
BC 448, A, B  
BC 450, A, B

TO-92  
Plastic Package

### General Purpose High Voltage Transistors.

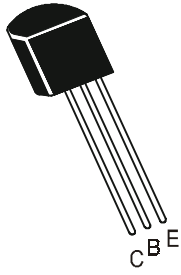
#### ABSOLUTE MAXIMUM RATINGS (Ta=25°C unless specified otherwise)

DESCRIPTION	SYMBOL TEST CONDITION	MIN	TYP	MAX	UNITS
Collector Emitter Voltage	$V_{CEO}$	60	80	100	V
Collector Base Voltage	$V_{CBO}$	60	80	100	V
Emitter Base Voltage	$V_{EBO}$	5	5	5	V
Collector Current Continuous	$I_C$	300			mA
Total Device Dissipation@ Ta=25°C	$P_D$		625		mW
Derate Above 25°C			5		mW/ °C
Total Device Dissipation@ Tc=25°C	$P_D$		1.5		W
Derate Above 25°C			12		mW/ °C
Operating And Storage Junction Temperature Range	$T_j, T_{stg}$		-55 to +150		°C

#### THERMAL RESISTANCE

Junction to ambient	$R_{th(j-a)}$	200	°C/W
Junction to case	$R_{th(j-c)}$	83.3	°C/W

# SILICON PLANAR EPITAXIAL TRANSISTORS



BC 446, A, B  
BC 448, A, B  
BC 450, A, B

TO-92  
Plastic Package

## ELECTRICAL CHARACTERISTICS (Ta=25°C unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
Collector Emitter Breakdown Voltage	$BV_{CEO}$	* $I_C=1mA, I_B=0$				
BC446			60			V
BC448			80			V
BC450			100			V
Collector Base Breakdown Voltage	$BV_{CBO}$	$I_C=100\mu A, I_E=0$				
BC446			60			V
BC448			80			V
BC450			100			V
Emitter Base Breakdown Voltage	$BV_{EBO}$	$I_E=10\mu A, I_C=0$	5			V
Collector-Cut off Current	$I_{CBO}$					
BC446		$V_{CB}=40V, I_E=0$			100	nA
BC448		$V_{CB}=60V, I_E=0$			100	nA
BC450		$V_{CB}=80V, I_E=0$			100	nA
DC Current Gain	$h_{FE}$	*				
NON SUFFIX		$I_C=2mA, V_{CE}=5V$	50		460	
A			120		220	
B			180		460	
NON SUFFIX		$I_C=2mA, V_{CE}=5V$	50			
A			100			
B			160			
NON SUFFIX		$I_C=100mA, V_{CE}=5V$	50			
A			60			
B			90			
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100mA, I_B=10mA$			0.25	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=100mA, I_B=10mA$		0.85		V
Base Emitter On Voltage	$V_{BE(on)}$	$I_C=2mA, V_{CE}=5V$	0.55		0.70	V
		$I_C=100mA, V_{CE}=5V^*$			1.2	V

## DYNAMICS CHARACTERISTICS

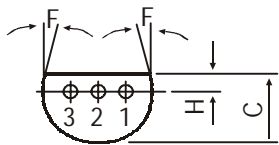
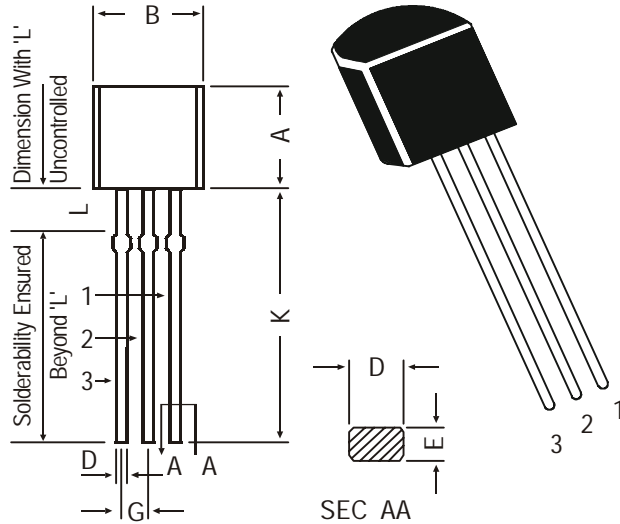
Transition Frequency	$f_T$	$I_C=50mA, V_{CE}=5V$ $f=100MHz$	100			MHz
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Pulse Test : Pulse width  $\leq 300\mu s$ , Duty Cycle  $\leq 2\%$ .

BC 446, A, B  
BC 448, A, B  
BC 450, A, B

## TO-92 Plastic Package

### TO-92 Plastic Package



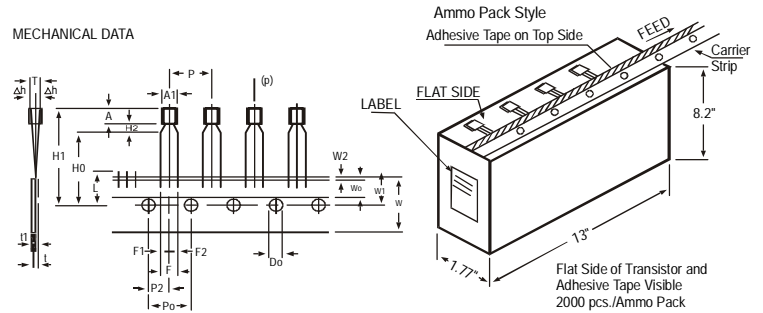
#### PIN CONFIGURATION

1. EMITTER
2. BASE
3. COLLECTOR

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.

### 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	
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		t1 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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