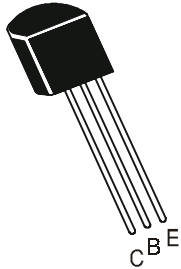


**PNP SILICON PLANAR EPITAXIAL TRANSISTORS**

**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)**

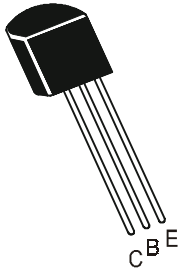
DESCRIPTION	SYMBOL TEST CONDITION	MIN	TYP	MAX	UNITS
Collector Emitter Voltage	$V_{CEO}$	60	80	100	V
Collector Base Voltage	$V_{CBO}$	60	80	100	V
Emitter Base Voltage	$V_{EBO}$	5	5	5	V
Collector Current Continuous	$I_C$	300			mA
Total Device Dissipation@ Ta=25°C	$P_D$		625		mW
Derate Above 25°C			5		mW/ °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	$h_{FE}^*$	$I_C=2mA, V_{CE}=5V$	NON SUFFIX	50		460	
			A	120		220	
			B	180		460	
		$I_C=2mA, V_{CE}=5V$	NON SUFFIX	50			
			A	100			
			B	160			
	$I_C=100mA, V_{CE}=5V$	NON SUFFIX	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

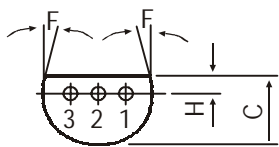
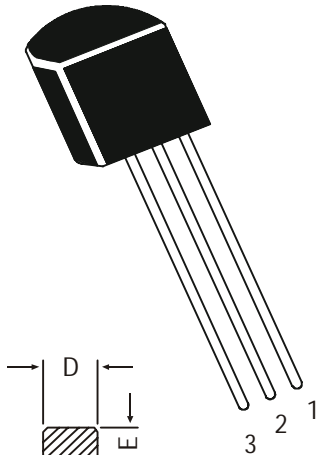
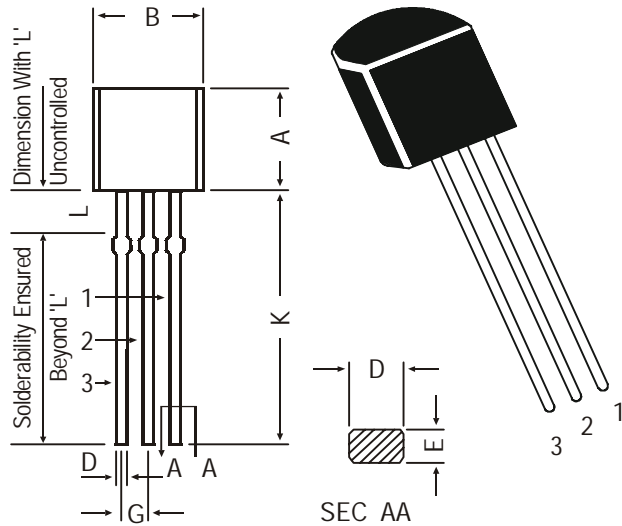
Transition Frequency	$f_T$	$I_C=50mA, V_{CE}=5V$ $f=100MHz$	100			MHz
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Pulse Test : Pulse width  $\leq 300\mu s$ , Duty Cycle  $\leq 2\%$ .

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

**TO-92  
 Plastic Package**

**TO-92 Plastic Package**

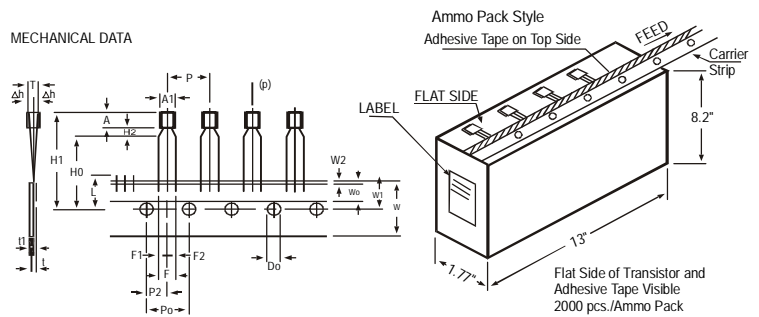


**PIN CONFIGURATION**  
 1. EMITTER  
 2. BASE  
 3. COLLECTOR

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	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	Δh	0		1		AT TOP OF BODY
TAPE WIDTH	W	18			±0.5	
HOLD-DOWN TAPE WIDTH	W0	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,	F1		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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