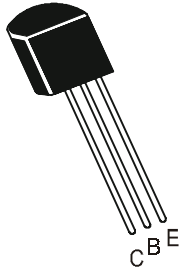


PNP SILICON PLANAR EPITAXIAL TRANSISTORS

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)

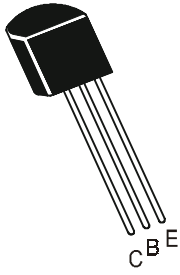
DESCRIPTION	SYMBOL TEST CONDITION	MIN	TYP	MAX	UNITS
Collector Emitter Voltage	V_{CEO}	60	80	100	V
Collector Base Voltage	V_{CBO}	60	80	100	V
Emitter Base Voltage	V_{EBO}	5	5	5	V
Collector Current Continuous	I_C	300			mA
Total Device Dissipation@ Ta=25°C	P_D		625		mW
Derate Above 25°C			5		mW/ °C
Total 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

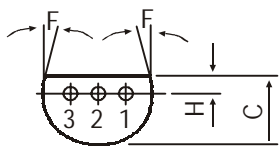
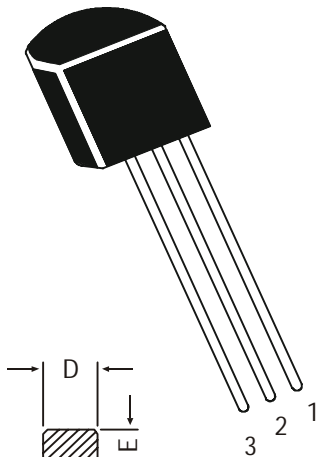
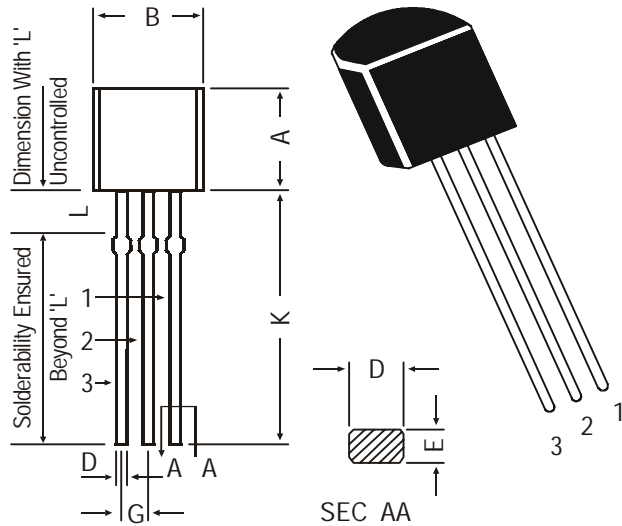
Transition Frequency	f_T	$I_C=50mA, V_{CE}=5V$ $f=100MHz$	100			MHz
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Pulse Test : Pulse width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

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

**TO-92
 Plastic Package**

TO-92 Plastic Package

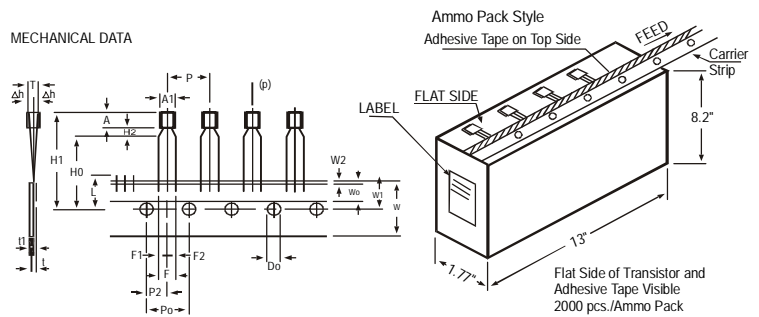


PIN CONFIGURATION
 1. EMITTER
 2. BASE
 3. COLLECTOR

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	
FEED HOLE CENTRE TO COMPONENT CENTRE	P2		6.35		±0.4	CUMULATIVE PITCH ERROR 1.0 mm/20 PITCH
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,	F1					
LEAD - TO - LEAD DISTANCE F2,	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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