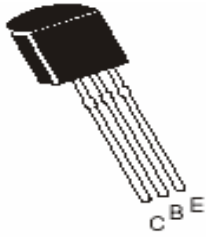


## NPN SILICON EPITAXIAL PLANAR TRANSISTORS

BC546\_BC550



TO-92  
Plastic Package

For switching and AF amplifier application

ABSOLUTE MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$  unless specified otherwise)

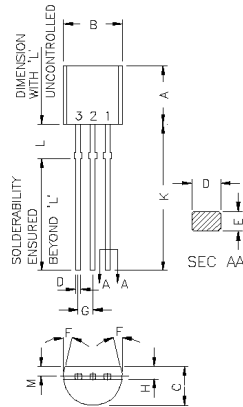
DESCRIPTION	SYMBOL	BC546	BC547	BC550	BC548	BC549	UNITS
Collector Base Voltage	$V_{CBO}$	80	50		30		V
Collector Emitter Voltage	$V_{CEO}$	65	45		30		V
Emitter Base Voltage	$V_{EBO}$	6					V
Collector Current (DC)	$I_C$	100					mA
Collector Current - Peak	$I_{CM}$	200					mA
Power Dissipation	$P_{tot}$	500					mW
Storage Temperature	$T_{stg}$	- 65 to +150					$^\circ\text{C}$
Junction Temperature	$T_j$	150					$^\circ\text{C}$

Characteristics at  $T_a = 25^\circ\text{C}$

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNITS
DC Current Gain	$h_{FE}$	$I_C=2\text{mA}, V_{CE}=5\text{V}$	75	800	
		<b>A</b>	110	220	
		<b>B</b>	200	450	
		<b>C</b>	420	800	
Collector Emitter Saturation Voltage	$V_{CE(Sat)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$	-	0.25	V
		$I_C=100\text{mA}, I_B=5\text{mA}$	-	0.60	V
Base Emitter on Voltage	$V_{BE(on)}$	$I_C=2\text{mA}, V_{CE}=5\text{V}$	0.55	0.70	V
		$I_C=10\text{mA}, V_{CE}=5\text{V}$	-	0.77	V
Collector Base Cut off Current	$I_{CBO}$	$V_{CB}=30\text{V}, I_E=0$	-	15	nA
Emitter Base Cut off Current	$I_{EBO}$	$V_{EB}=5\text{V}$	-	100	nA
Collector Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}$	80	-	
			50	-	V
			30	-	
Collector Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=2\text{mA}$	65	-	
			45	-	V
			30	-	
Emitter Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}$	6	-	V
Transition Frequency	$f_T$	$I_C=10\text{mA}, V_{CE}=5\text{V}, f=100\text{MHz}$	100	-	MHz
Collector Base Capacitance	$C_{cb}$	$V_{CB}=10\text{V}, f=1\text{MHz}$	-	6.0	pF

BC546\_550Rev\_6 231112E

**BC546\_BC550  
TO-92  
Plastic Package**



DIM	MIN	MAX
A	4.30	5.33
B	4.10	5.20
C	3.10	4.19
D	0.35	0.55
E	0.29	0.55
F	8 DEG	
G	1.14	1.40
H	1.00	1.80
K	11.50	—
L	1.982	2.082
M	1.03	1.53

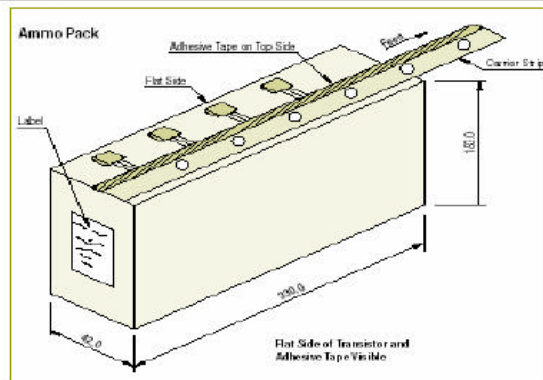
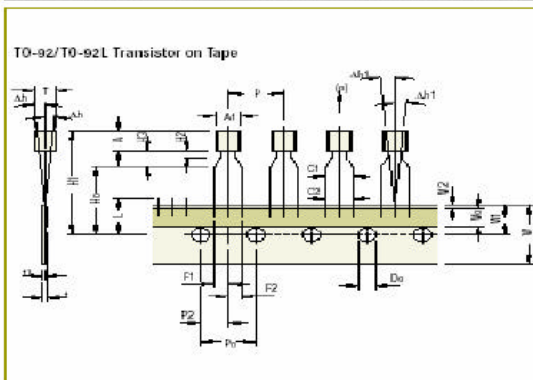
ALL DIMENSIONS ARE IN mm

**Packaging Specifications . . .**

**T & A:** Tape and Ammo Pack; **T & R:** Tape and Reel; **Bulk:** Loose in Poly Bags; **Tube:** Tube and Carton; **K:** 1,000

Package / Case Type	Packaging Type	Std. Packing		Inner Carton		Outer Carton		
		Qty	Qty	Size L x W x H (cm)	Gross Weight (Kg)	Qty	Size L x W x H (cm)	Gross Weight (Kg)
TO-92	Bulk	1,000	5K	19 x 19 x 8	1.1	80K	43 x 40 x 35	20.0
	T & A	2,000	2K	32 x 4.5 x 20	0.7	40K	43 x 40 x 35	15.2

**TO-92 and TO-92L Tape and Ammo Packaging**



**Tape Specifications**

Item description	Symbol	TO-92				TO-92L			
		Min	Nom	Max	Tol	Min	Nom	Max	Tol
Body width	A1	4.45		5.20		4.7		5.1	
Body height	A	4.32		5.33		7.8		8.2	
Body thickness	T	3.18		4.19		3.7		4.1	
Pitch of component <sup>§2</sup>	P		12.7		±1.0		12.7		±0.3
Feed hole pitch <sup>§1</sup>	Po		12.7		±0.3		12.7		±0.2
Feed hole center to component center <sup>§2</sup>	P2		6.35		±0.4		6.35		±0.3
Comp. alignment, Side view <sup>§3</sup>	Dh		0	1.0			0		±1.0
Comp. alignment, Front view <sup>§3</sup>	Dht		0	1.3			0		±1.0
Tape width <sup>§4</sup>	W		18		±0.5		18.0		+1.0 -0.5
Hold down tape width <sup>§1</sup>	W0		6		±0.2		6.0		±0.5
Hole position	W1		9		+0.7 -0.5		9.0		±0.5
Hold-down tape position	W2	0.0		0.7				1.0	
Lead wire clinch height	H0		16		±0.5		16.0		±0.5
Component height	H1			24.0				29.0	
Length of snipped leads	L			11.0				11.0	
Feed hole diameter <sup>§4</sup>	Do		4		±0.2		4.0		±0.2
Total tape thickness <sup>§4</sup>	t			1.2			0.2		±0.5
Lead-to-lead distance <sup>§4</sup>	F1, F2	2.4		2.7		2.2		2.0	
Stand off	H2	0.45		1.45		0.45		1.45	
Clinch height	H3			3.0				4.0	
Lead parallelism <sup>§4</sup>	C1-C2			0.22				0.22	
Pull-out force	(p)		6N				6N		

**Taping Specification**

- Maximum alignment deviation between leads not to be greater than 0.20 mm.
- Maximum non-cumulative variation between tape lead holes shall not exceed 1 mm in 20 pitches.
- Hold down tape not to exceed beyond the edge(s) carrier tape and there shall be no exposure of adhesive.
- No more than 3 consecutive missing components is permitted.
- A tape trailer, having at least three feed holes is required after the last component.
- Splices shall not interfere with the sprocket feed holes.

§1 Cumulative pitch error: 1.0 mm/20 pitch.  
 §2 To be measured at bottom of clinch.  
 §3 At top of body.  
 §4 t = 0.3 - 0.6 mm  
 C: Critical Dimension.

**Component Disposal Instructions**

- 1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.**
- 2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).**

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