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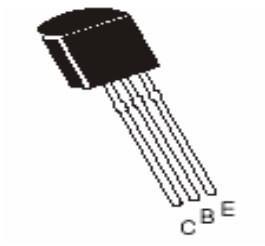
NPN SILICON EPITAXIAL PLANAR TRANSISTORS

BC546_BC550



TO-92
Plastic Package

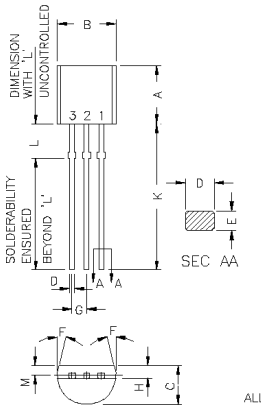
For switching and AF amplifier application

ABSOLUTE MAXIMUM RATINGS (T_a=25ºC 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					ºC
Junction Temperature	T_j	150					ºC

Characteristics at Ta = 25ºC

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNITS
DC Current Gain	h_{FE}	I_C=2mA, V_{CE}=5V	75	800	
		A	110	220	
		B	200	450	
		C	420	800	
Collector Emitter Saturation Voltage	$V_{CE(Sat)}$	I_C=10mA, I_B=0.5mA	-	0.25	V
		I_C=100mA, I_B=5mA	-	0.60	V
Base Emitter on Voltage	$V_{BE(on)}$	I_C=2mA, V_{CE}=5V	0.55	0.70	V
		I_C=10mA, V_{CE}=5V	-	0.77	V
Collector Base Cut off Current	I_{CBO}	V_{CB}=30V, I_E=0	-	15	nA
Emitter Base Cut off Current	I_{EBO}	V_{EB}=5V	-	100	nA
Collector Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=100µA			V
BC546			80	-	
BC547 , BC550			50	-	
BC548 , BC549			30	-	
Collector Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=2mA			V
BC546			65	-	
BC547 , BC550			45	-	
BC548 , BC549			30	-	
Emitter Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=10µA	6	-	V
Transition Frequency	f_T	I_C=10mA, V_{CE}=5V,f=100MHz	100	-	MHz
Collector Base Capacitance	C_{cb}	V_{CB}=10V, f=1MHz	-	6.0	pF



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

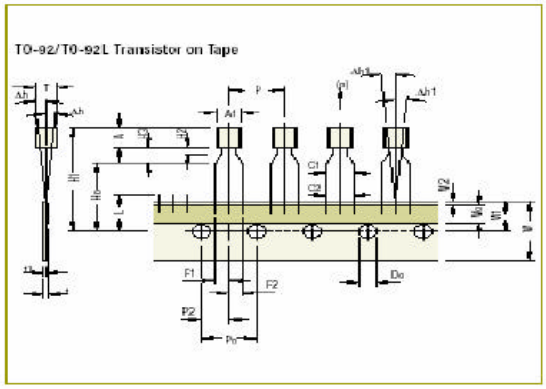
ALL DIMENSIONS ARE IN mm

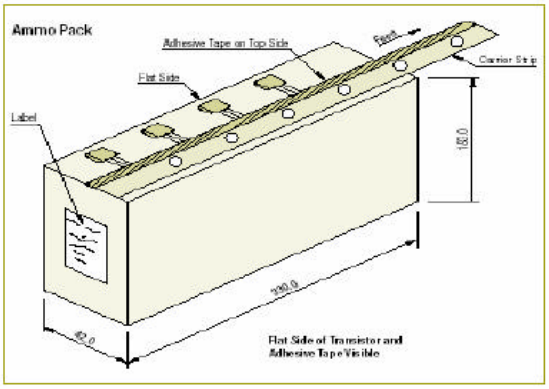
Packaging Specifications ...

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 Min	TO-92 Nom	TO-92 Max	TO-92 Tol	TO-92L Min	TO-92L Nom	TO-92L Max	TO-92L Tol
Body width	Δ1	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[Cr]	P		12.7		±1.0		12.7		±0.3
Feed hole pitch[§1]	Po		12.7		±0.3		12.7		±0.2
Feed hole center to component centre[§2]	P2		6.35		±0.4		6.35		±0.3
Comp. alignment, Side view[§3]	Dh		0	1.0			0		±1.0
Comp. alignment, Front view[§3]	Dht		0	1.3			0		±1.0
Tape width[Cr]	W		18		±0.5		18.0		+1.0 -0.5
Hold down tape width[Cr]	Wo		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	Ho		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[Cr]	Do		4		±0.2		4.0		±0.2
Total tape thickness[§4]	t			1.2			0.2		±0.5
Lead-to-lead distance[Cr]	F1, F2	2.4		2.7		2.2		2.8	
Stand off	H2	0.45		1.45		0.45		1.45	
Clinch height	H3			3.0				4.0	
Lead parallelism[Cr]	Δh-Δh2			0.22				0.22	
Pull-out force	(p)	6N				6N			

Taping Specification

- Maximum alignment deviation between leads not to be greater than 0.2 mm.
- Maximum non-cumulative variation between tape feed 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 tl = 0.3 – 0.6 mm
Cr Critical Dimension.

BC546_550Rev_6 231112E

TO-92
Plastic Package

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).**

Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD is believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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BC546_550Rev_6 231112E