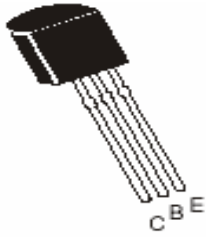


PNP SILICON EPITAXIAL PLANAR TRANSISTORS

BC556_BC560



TO-92
Plastic Package

For switching and AF amplifier application

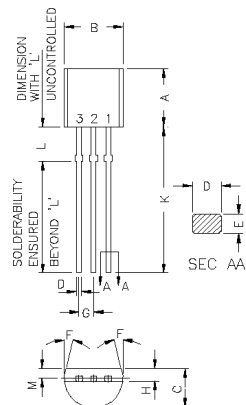
ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless specified otherwise)

DESCRIPTION	SYMBOL	BC556	BC557	BC560	BC558	BC559	UNITS
Collector Base Voltage	V_{CBO}	80	50		30		V
Collector Emitter Voltage	V_{CEO}	65	45		30		V
Emitter Base Voltage	V_{EBO}			5			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		
		A	110	220	-	
		B	200	450	-	
		C	420	800	-	
Collector Emitter Saturation Voltage	$V_{CE(Sat)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$	-	0.30	V	
		$I_C=100\text{mA}, I_B=5\text{mA}$	-	0.65	V	
Base Emitter on Voltage	$V_{BE(on)}$	$I_C=2\text{mA}, V_{CE}=5\text{V}$	0.55	0.75	V	
		$I_C=10\text{mA}, V_{CE}=5\text{V}$	-	0.82	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	$V_{(BR)CBO}$	$I_C=100\mu\text{A}$	BC556	80	-	
			BC557, BC560	50	-	V
			BC558, BC559	30	-	
Collector Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=2\text{mA}$	BC556	65	-	
			BC557, BC560	45	-	V
			BC558, BC559	30	-	
Emitter Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}$	5	-	V	
Transition Frequency	f_T		100	-	MHz	
Collector Base Capacitance	C_{cb}	$V_{CB}=10\text{V}, f=1\text{MHz}$	-	6.0	pF	

BC556_560Rev_6 231112E



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

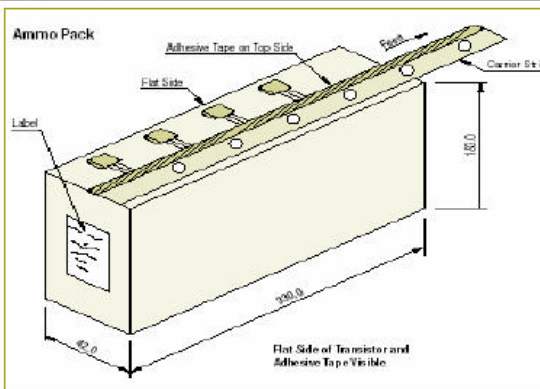
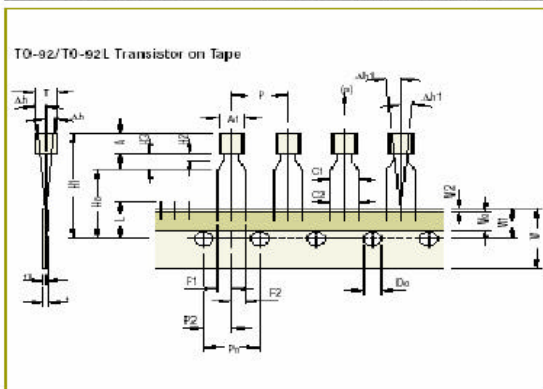
ALL DIMENSIONS ARE IN mm

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	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 ^{S1}	P		12.7		±1.0		12.7		±0.3
Feed hole pitch ^{S1}	P0		12.7		±0.3		12.7		±0.2
Feed hole center to component centre ^{S2}	P2		6.35		±0.4		6.35		±0.3
Comp. alignment, Side view ^{S3}	Dh		0	1.0			0		±1.0
Comp. alignment, Front view ^{S3}	Dhr		0	1.3			0		±1.0
Tape width ^{S4}	W		18		±0.5		18.0		+1.0 -0.5
Hold down tape width ^{S1}	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		10		±0.5		10.0		±0.5
Component height	H1			24.0			29.0		
Length of snipped leads	L			11.0			11.0		
Feed hole diameter ^{S4}	D0		4		±0.2		4.0		±0.2
Total tape thickness ^{S4}	t			1.2			0.2		±0.5
Lead-to-lead distance ^{S1}	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 ^{S1}	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 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.

S1 Cumulative pitch error: 1.0 mm/20 pitches.

S2 To be measured at bottom of clinch.

S3 At top of body.

S4 $\pm 0.3 - 0.5$ 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).**

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).

CDIL strives for continuous improvement and reserves the right to change the specifications of its products without prior notice.



CDIL is a registered Trademark of

Continental Device India Limited

C-120 Naraina Industrial Area, New Delhi 110 028, India.

Telephone + 91-11-2579 6150, 4141 1112 Fax + 91-11-2579 5290, 4141 1119

email@cdil.com www.cdil.com