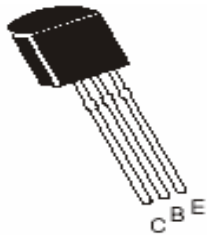


## PNP SILICON EPITAXIAL PLANAR TRANSISTORS

## BC556\_BC560



### TO-92 Plastic Package

For switching and AF amplifier application

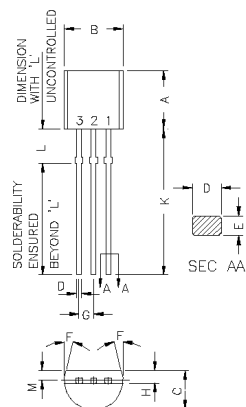
**ABSOLUTE MAXIMUM RATINGS** ( $T_a=25^\circ\text{C}$  unless specified otherwise)

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	$V_{(BR)CBO}$	$I_C=100\mu\text{A}$	80	-	
BC556			50	-	V
BC557 , BC560			30	-	
BC558 , BC559					
Collector Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=2\text{mA}$	65	-	
BC556			45	-	V
BC557 , BC560			30	-	
BC558 , BC559					
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

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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

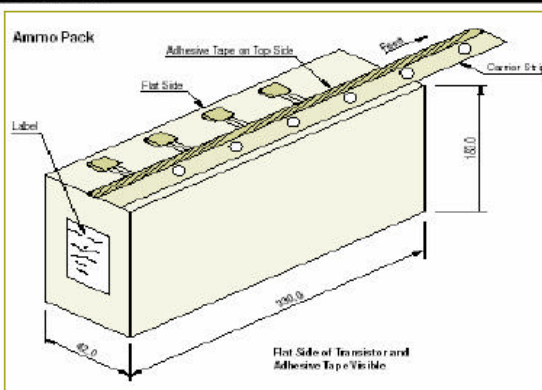
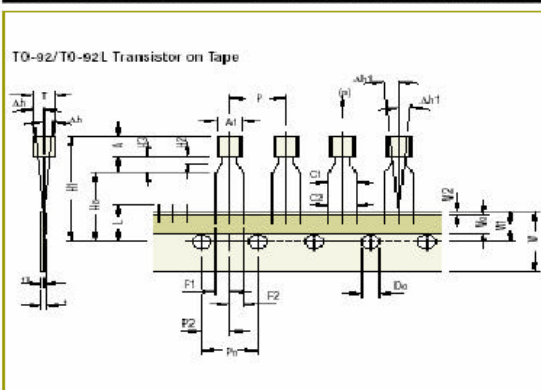
ALL DIMENSIONS ARE IN mm

## 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
Body width	A1
Body height	A
Body thickness	T
Pitch of component <sup>S1</sup>	P
Feed hole pitch <sup>S1</sup>	P0
Feed hole center to component center <sup>S2</sup>	P2
Comp. alignment, Side view <sup>S3</sup>	Dh
Comp. alignment, Front view <sup>S3</sup>	Dht
Tape width <sup>S4</sup>	W
Hold down tape width <sup>S1</sup>	W0
Hole position	W1
Hold-down tape position	W2
Lead wire clinch height	Hc
Component height	H1
Length of snipped leads	L
Feed hole diameter <sup>S4</sup>	De
Total tape thickness <sup>S4</sup>	t
Lead-to-lead distance <sup>S1</sup>	F1, F2
Stand off	H2
Clinch height	H3
Lead parallelism <sup>S1</sup>	C1-C2
Pull-out force	(P)

TO-92	Min	Nom	Max	Tol
A1	4.45		5.20	
A	4.32		5.33	
T	3.18		4.19	
P		12.7		±1.0
P0		12.7		±0.3
P2		6.35		±0.4
Dh		0	1.0	
Dht		0	1.3	
W		18		±0.5
W0		6		±0.2
W1		9		+0.7 -0.5
W2	0.0		0.7	
Hc		10		±0.5
H1			24.0	
L			11.0	
De		4		±0.2
t			1.2	
F1, F2	2.4		2.7	
H2	0.45		1.45	
H3			3.0	
C1-C2			0.22	
(P)	6N			

TO-92L	Min	Nom	Max	Tol
A1	4.7		5.1	
A	7.8		8.2	
T	3.7		4.1	
P		12.7		±0.3
P0		12.7		±0.2
P2		6.35		±0.3
Dh		0		±1.0
Dht		0		±1.0
W		18.0		+1.0 -0.5
W0		6.0		±0.5
W1		9.0		±0.5
W2			1.0	
Hc		10.0		±0.5
H1			29.0	
L			11.0	
De		4.0		±0.2
t		0.2		±0.5
F1, F2	2.2		2.0	
H2	0.45		1.45	
H3			4.0	
C1-C2			0.22	
(P)	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 H = 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).**

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