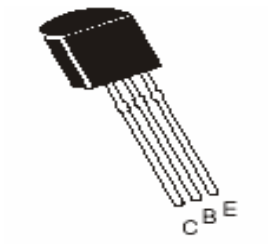
PNP SILICON EPITAXIAL PLANAR TRANSISTORS

BC556_BC560

TO-92
Plastic Package



For switching and AF amplifier application

ABSOLUTE MAXIMUM RATINGS (T_a=25°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					°C
Junction Temperature	T_j	150					°C

Characteristics at Ta = 25°C

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	-	0.30	V
		I_C=100mA, I_B=5mA	-	0.65	V
Base Emitter on Voltage	$V_{BE(on)}$	I_C=2mA, V_{CE}=5V	0.55	0.75	V
		I_C=10mA, V_{CE}=5V	-	0.82	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
BC556			80	-	
BC557 , BC560			50	-	
BC558 , BC559			30	-	
Collector Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=2mA			V
BC556			65	-	
BC557 , BC560			45	-	
BC558 , BC559			30	-	
Emitter Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=100µA	5	-	V
Transition Frequency	f_T		100	-	MHz
Collector Base Capacitance	C_{cb}	V_{CB}=10V, f=1MHz	-	6.0	pF

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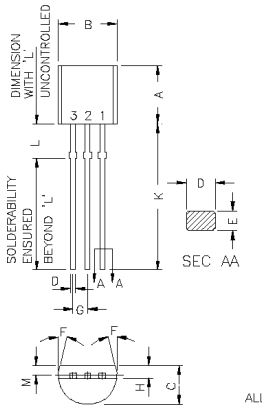


DIM	MIN	MAX
A	4.30	5.33
B	4.10	5.20
C	3.10	4.19
D	0.35	0.55
E	0.29	0.55
F	8 DEG	
G	1.14	1.40
H	1.00	1.80
K	11.50	–
L	1.982	2.082
M	1.03	1.53

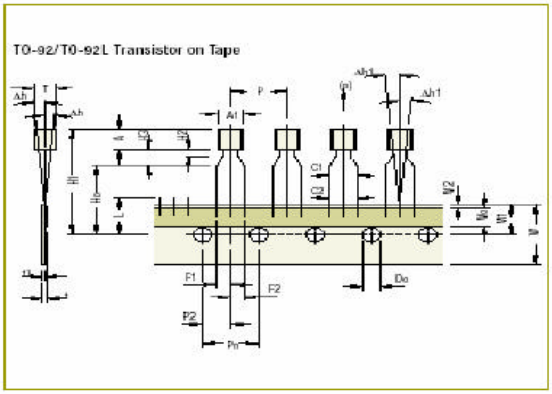
ALL DIMENSIONS ARE IN mm

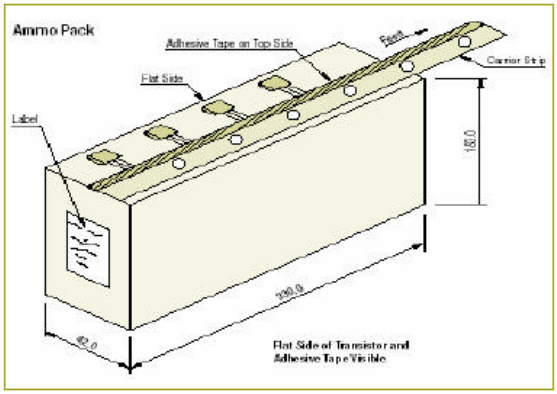
Packaging Specifications ...

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	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	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[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 center[§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]	C1-C2			0.22				0.22	
Pull-out force	(p)	6N				6N			

Taping Specification

- Maximum alignment deviation between leads not to be greater than 0.2 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 t1 = 0.3 – 0.6 mm
Cr Critical Dimension.

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TO-92
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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

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