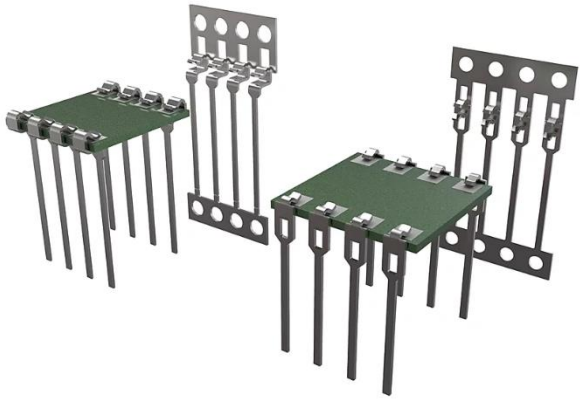
2021



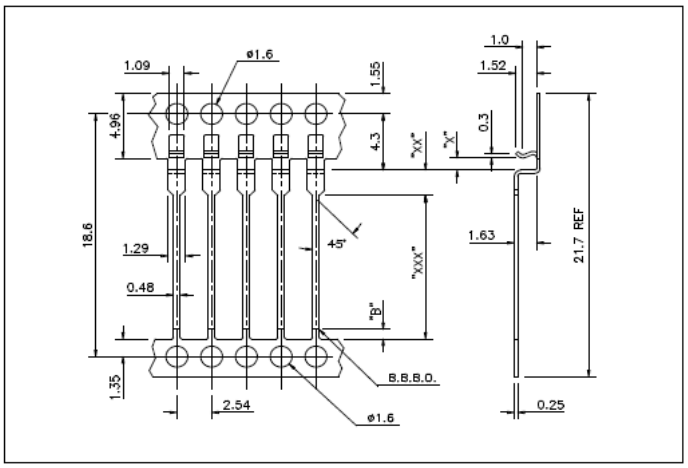
Dual In-Line Leadframes (G-Type)

Also known as Dual In Line Pin as well as edge clip connectors. Typical applications include resistor networks, hybrid circuits and PCB terminations. DIL leadframes are available with pitches of 1.27mm to 2.54mm, and “F” and “G” outlines as detailed in the catalogue. Customised versions and special designs are also possible.

BATTEN & ALLEN LTD

Contents

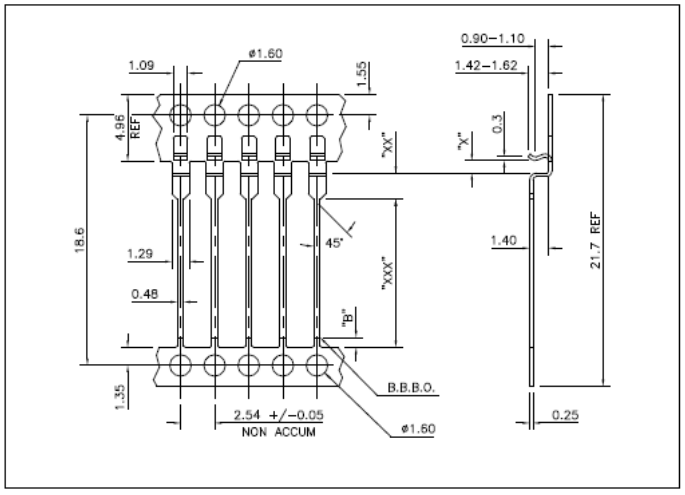
BA 3000 Series



All Dimensions in mm

Ordering Information						Technical Information						
Part Number	Top Bar Dim T	Bottom Bar Dim B	Plating Code	Qty per Reel	Wind Style	Material Thickness	Substrate Size	Gap Size Dim X	Stand Off Dim XX	Pin Length Dim XXX	Clip Length	MOQ
BA3000	none (TZ)	0.73 (BC)	1A/4A	40K (E)	5 to 8	0.25	0.62-0.70	0.56	1.27	11.68	1.52	480,000
BA3001	none (TZ)	0.73 (BC)	1A/4A	40K (E)	5 to 8	0.25	1.00-1.08	0.93	1.27	11.68	1.52	480,000
BA3002	none (TZ)	0.73 (BC)	1A/4A	40K (E)	5 to 8	0.25	1.25-1.34	1.18	1.27	11.68	1.52	480,000
BA3003	none (TZ)	0.73 (BC)	1A/4A	40K (E)	5 to 8	0.25	0.62-0.70	0.56	1.95	11.00	1.52	480,000
BA3004	none (TZ)	0.73 (BC)	1A/4A	40K (E)	5 to 8	0.25	1.00-1.08	0.93	1.95	11.00	1.52	1 Reel
BA3005	none (TZ)	0.73 (BC)	1A/4A	40K (E)	5 to 8	0.25	1.25-1.34	1.18	1.95	11.00	1.52	480,000
BA3006	none (TZ)	0.73 (BC)	1A/4A	40K (E)	5 to 8	0.25	0.62-0.70	0.56	3.30	9.65	1.52	480,000

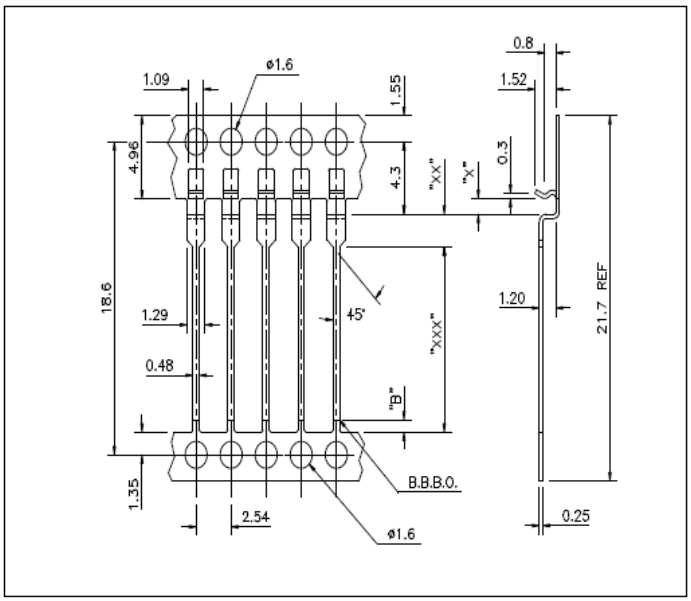
BA 3015 Series



All Dimensions in mm

Ordering Information						Technical Information						
Part Number	Top Bar Dim T	Bottom Bar Dim B	Plating Code	Qty per Reel	Wind Style	Material Thickness	Substrate Size	Gap Size Dim X	Stand Off Dim XX	Pin Length Dim XXX	Clip Length	MOQ
BA3015	none (TZ)	0.73 (BC)	4A	40K (E)	5 to 8	0.25	0.62-0.70	0.56	1.27	11.68	1.52	480,000
BA3016	none (TZ)	0.73 (BC)	4A	40K (E)	5 to 8	0.25	1.00-1.08	0.93	1.27	11.68	1.52	480,000
BA3018	none (TZ)	0.73 (BC)	4A	40K (E)	5 to 8	0.25	0.62-0.70	0.56	1.95	11.00	1.52	480,000
BA3019	none (TZ)	0.73 (BC)	4A	40K (E)	5 to 8	0.25	1.00-1.08	0.93	1.95	11.00	1.52	480,000
BA3020	none (TZ)	0.73 (BC)	4A	40K (E)	5 to 8	0.25	1.25-1.34	1.18	1.95	11.00	1.52	480,000
BA3021	none (TZ)	0.73 (BC)	4A	40K (E)	5 to 8	0.25	0.62-0.70	0.56	3.30	9.65	1.52	480,000
BA3022	none (TZ)	0.73 (BC)	4A	40K (E)	5 to 8	0.25	1.00-1.08	0.93	3.30	9.65	1.52	480,000

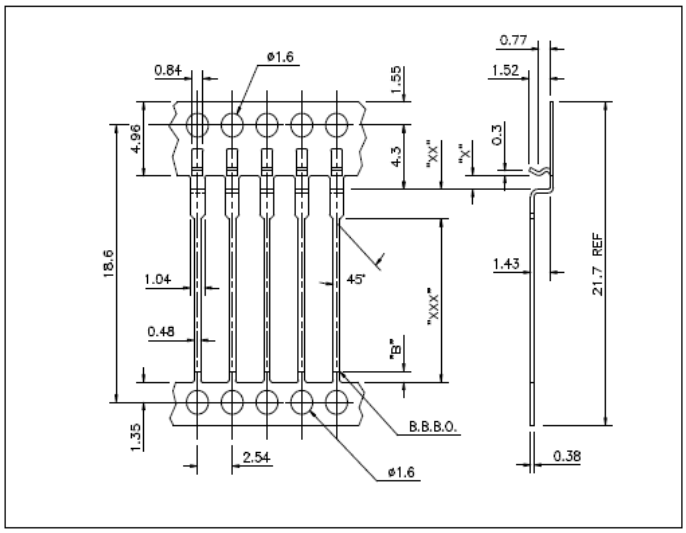
BA 3030 Series



All Dimensions in mm

Ordering Information						Technical Information						
Part Number	Top Bar Dim T	Bottom Bar Dim B	Plating Code	Qty per Reel	Wind Style	Material Thickness	Substrate Size	Gap Size Dim X	Stand Off Dim XX	Pin Length Dim XXX	Clip Length	MOQ
BA3030	none (TZ)	0.73 (BC)	4A	40K (E)	5 to 8	0.25	0.62-0.70	0.56	1.27	11.68	1.52	480,000
BA3031	none (TZ)	0.73 (BC)	4A	40K (E)	5 to 8	0.25	1.00-1.08	0.93	1.27	11.68	1.52	480,000
BA3032	none (TZ)	0.73 (BC)	4A	40K (E)	5 to 8	0.25	1.25-1.34	1.18	1.27	11.68	1.52	480,000
BA3035	none (TZ)	0.73 (BC)	4A	40K (E)	5 to 8	0.25	1.25-1.34	1.18	1.95	11.00	1.52	480,000
BA3039	none (TZ)	0.73 (BC)	4A	40K (E)	5 to 8	0.25	0.62-0.70	0.56	1.95	7.95	1.52	480,000

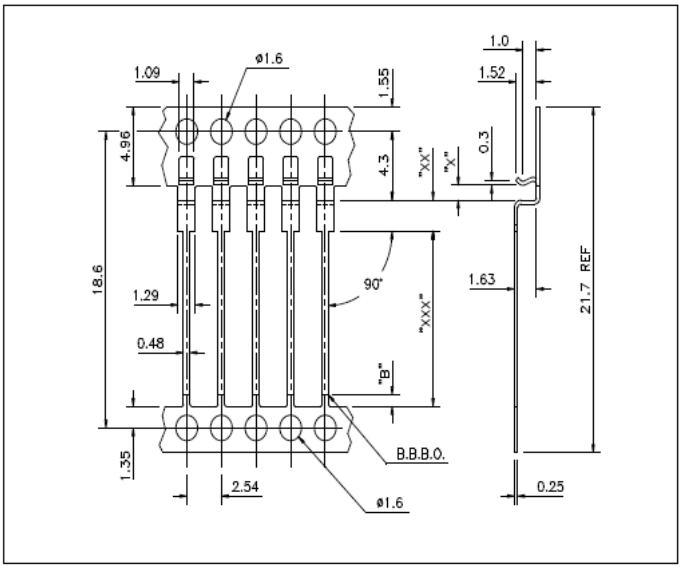
BA 3100 Series



All Dimensions in mm

Ordering Information						Technical Information						
Part Number	Top Bar Dim T	Bottom Bar Dim B	Plating Code	Qty per Reel	Wind Style	Material Thickness	Substrate Size	Gap Size Dim X	Stand Off Dim XX	Pin Length Dim XXX	Clip Length	MOQ
BA3100	none (TZ)	0.73 (BC)	4A	40K (E)	5 to 8	0.38	0.62-0.70	0.56	2.00	11.00	1.52	480,000
BA3101	none (TZ)	0.73 (BC)	4A	40K (E)	5 to 8	0.38	1.00-1.08	0.93	2.00	11.00	1.52	480,000
BA3102	none (TZ)	0.73 (BC)	4A	40K (E)	5 to 8	0.38	1.14-1.22	1.05	2.00	11.00	1.52	480,000

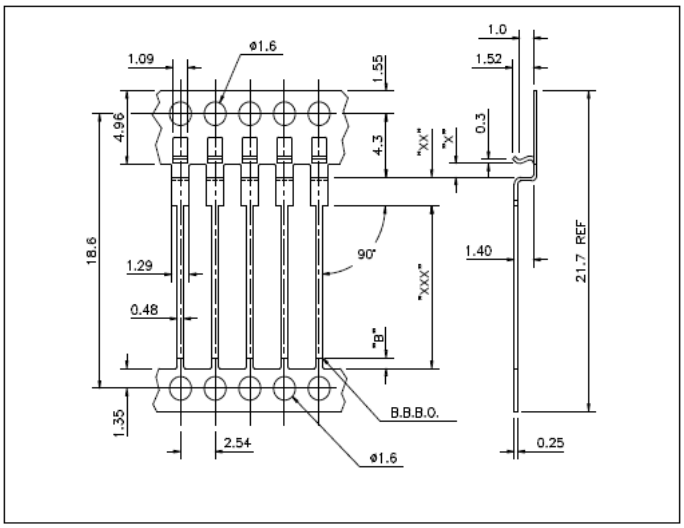
BA 3200 Series



All Dimensions in mm

Ordering Information						Technical Information						
Part Number	Top Bar Dim T	Bottom Bar Dim B	Plating Code	Qty per Reel	Wind Style	Material Thickness	Substrate Size	Gap Size Dim X	Stand Off Dim XX	Pin Length Dim XXX	Clip Length	MOQ
BA3200	none (TZ)	0.73 (BC)	4A	40K (E)	5 to 8	0.25	0.62-0.70	0.56	1.27	11.68	1.52	480,000
BA3203	none (TZ)	0.73 (BC)	4A	40K (E)	5 to 8	0.25	0.62-0.70	0.56	0.61	12.34	1.52	480,000
BA3203	none (TZ)	None (BZ)	4A	40K (E)	5 to 8	0.25	0.62-0.70	0.56	0.61	12.34	1.52	480,000
BA3204	none (TZ)	0.73 (BC)	4A	40K (E)	5 to 8	0.25	1.00-1.08	0.93	0.61	12.34	1.52	480,000

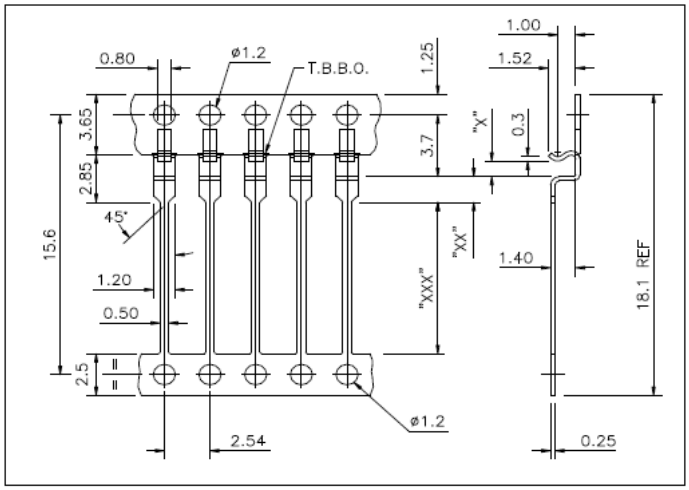
BA 3206 Series



All Dimensions in mm

Ordering Information						Technical Information						
Part Number	Top Bar Dim T	Bottom Bar Dim B	Plating Code	Qty per Reel	Wind Style	Material Thickness	Substrate Size	Gap Size Dim X	Stand Off Dim XX	Pin Length Dim XXX	Clip Length	MOQ
BA3206	none (TZ)	0.73 (BC)	4A	40K (E)	5 to 8	0.25	0.62-0.70	0.56	1.27	11.68	1.52	480,000

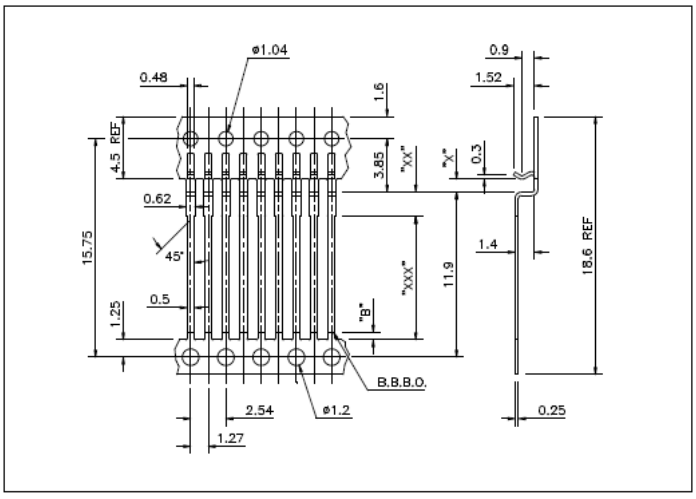
BA 3315 Series



All Dimensions in mm

Ordering Information						Technical Information						MOQ
Part Number	Top Bar Dim T	Bottom Bar Dim B	Plating Code	Qty per Reel	Wind Style	Material Thickness	Substrate Size	Gap Size Dim X	Stand Off Dim XX	Pin Length Dim XXX	Clip Length	
BA3315	12.85 (TY)	None (BZ)	4A	40K (E)	5 to 8	0.25	0.62-0.70	0.56	1.55	9.10	1.52	480,000
BA3316	13.20 (UE)	None (BZ)	4A	40K (E)	5 to 8	0.25	1.00-1.08	0.93	1.55	9.10	1.52	480,000

BA 6300 Series



All Dimensions in mm

Ordering Information						Technical Information						MOQ
Part Number	Top Bar Dim T	Bottom Bar Dim B	Plating Code	Qty per Reel	Wind Style	Material Thickness	Substrate Size	Gap Size Dim X	Stand Off Dim XX	Pin Length Dim XXX	Clip Length	
BA6300	none (TZ)	none (BZ)	4A	80K (G)	5 to 8	0.25	0.62-0.70	0.56	1.75	8.90	1.52	480,000
	none (TZ)	0.55 (BJ)	4A	80K (G)	5 to 8	0.25	0.62-0.70	0.56	1.75	8.90	1.52	480,000
BA6301	none (TZ)	none (BZ)	4A	80K (G)	5 to 8	0.25	1.00-1.08	0.56	1.75	8.90	1.52	480,000
	none (TZ)	0.55 (BJ)	4A	80K (G)	5 to 8	0.25	1.00-1.08	0.56	1.75	8.90	1.52	480,000

Component Ordering Key

Series & Part Number	-	Top Bar Break	Bottom Bar Break	-	Plating Code	-	Quantity Per Reel	Winding Style
Example								
BA1500	**-**	**TA**	**BZ**	**-**	**4A**	**-**	**A**	**1**

Break Off (see part drawing for dimension placing)				Plating Specifications		Quantity per Reel		Winding Style	
Top Bar		Bottom Bar		Code	Type of plating	Code	Quantity		
Code	Size	Code	Size						
TZ	None	BZ	None	1A	PRE-PLATE HOT TIN DIP 100% TIN 3-7 MICRONS	A	20,000	1	SIL
TA	2.00mm	BC	0.73mm			B	25,000	2	SIL
TE	12.31mm	BF	4.00mm			C	30,000	3	SIL
TF	12.49mm	BG	6.10mm			D	35,000	4	SIL
TG	12.70mm	BJ	0.55mm	4A	POST-PLATE ELECTROLYTIC Pure Sn 4-8 MICRONS No Reflow Matt	E	40,000	5	DIL
TH	12.95mm	BL	10.50mm			F	50,000	6	DIL
TJ	2.30mm	BN	3.30mm			G	80,000	7	DIL
TL	1.25mm	BO	5.84mm			H	100,000	8	DIL
TM	15.86mm	BP	11.60mm			J	60,000		
TN	16.23mm	BR	12.78mm	4B	POST-PLATE ELECTROLYTIC Pure Sn 4-8 MICRONS Over Ni Flash No Reflow Matt	K	75,000		
TO	17.53mm	BS	7.24mm			L	15,000		
TP	17.77mm	BT	5.51mm			M	160,000		
TR	18.03mm								
TT	18.22mm			4C	POST-PLATE ELECTROLYTIC Pure Sn 4-8 MICRONS Over 0.25 Microns Min Ni No Reflow Matt				
TU	16.75mm								
TX	12.63mm								
TY	12.85mm								
UB	4.00mm								
UC	0.90mm			Other plating specifications on request					
UD	17.15mm								
UE	13.20mm								
UF	3.00mm								
UG	1.70mm								
UH	1.85mm								

Pre Plating Specification

Type of plating: Hot Tin Dip

Plating Code: 1A = 100% Sn

Thickness: 3 to 7 Microns

Shelf life: 1 Year from date of despatch: Depending on storage conditions

Finish: Bright

Melting Point: 232°C (Approx.)

Ageing Test: Test to be performed in accordance with BS 2011 Test "Ta"

1) Accelerated ageing for 16 hours at 155°C
2) Immersion in SM/NA flux for 5 seconds
3) Immersion in solder at 250°C ±5°C for 5 seconds, No Dewetting Permissible

Hot Plate Test: Place material on Hot Plate at 325°C minimum for a period of 20 seconds from melting point.
Both sides of material to be inspected, Top side to be considered as test side.
No Dewetting Permissible.
Pin holes acceptable (Areas less than 0.125mm)
Maximum of 20 per 50mm^2 area

Post Plating Specification

Type of plating: Electroplated

Plating Code: 4 to 8 Microns Pure Tin, Matt Finish (Non Reflow)
4A – Pure Tin
4B – Nickel flash under Pure Tin
4C – 0.25 Micron Min Nickel under Pure Tin

The Nickel Flash is believed to reduce the risk of Tin whiskers forming, but can cause the tin to discolour during the reflow process. The discolouration does not affect the solderability.

The advantage of post plating over pre plating is that there Are no bare edges and therefore a better solder joint Should be achieved.

Other plating specifications on request include 4 to 8 Microns 60/40 Tin/Lead for RoHS exempt products Designation “2A”

Shelf life: 1 Year from date of despatch: Depending on storage conditions

Melting Point: Pure Sn 231.9°C

Ageing Test: Test to be performed in accordance with BS 2011: Part 2.1T:1981 Method 1, ageing 3.
1) Accelerated ageing for 16 hours at 155°C
2) Immersion in non-activated flux for 5 seconds
3) Immersion in solder at 235°C ±5°C for 5 seconds,

The dipped surface shall be covered with a smooth bright solder coating with nor more than small amounts of scattered imperfections such as pin holes and dewetting. Within the significant surface these imperfections shall not exceed 5% of the area.

Base Material Specification

Material Designation	**Alloy:**	Copper Tin (Phosphor Bronze)	
	DIN		CuSn6
	Designation		2.1020
	UNS		C51900
	BS		PB103
	NF		CuSN6P
Composition (nominal)	**Weight Percentage**		Cu 94 Sn 6
Physical Properties (nominal)	**Electric**	$m/\Omega mm^2$	9.0
	Conductivity	% IACS	15
	Thermal Conductivity	W/m K	75
	Coefficient	$10^{-6}/K$	18.5
	Elastic Modulus	KN/mm^2	118
	Density	g/cm^3	8.8