

# CONTENTS

## **Introduction**

Quality Policy Statement  
Component Order Code Description  
Component Ordering Key  
Plating Specification  
Base Material Specification  
Winding Styles

## **SIL**

Single In Line Leadframes  
SIL Clip Design & Series Codes

## **DIL**

Dual In Line Leadframes  
DIL Clip Design & Series Codes

## **SML**

Surface Mount Leadframes  
SML Clip Design & Series Codes

## **SMC**

Surface Mount Contacts  
SMC Design & Series Codes



## **Quality Policy Statement**

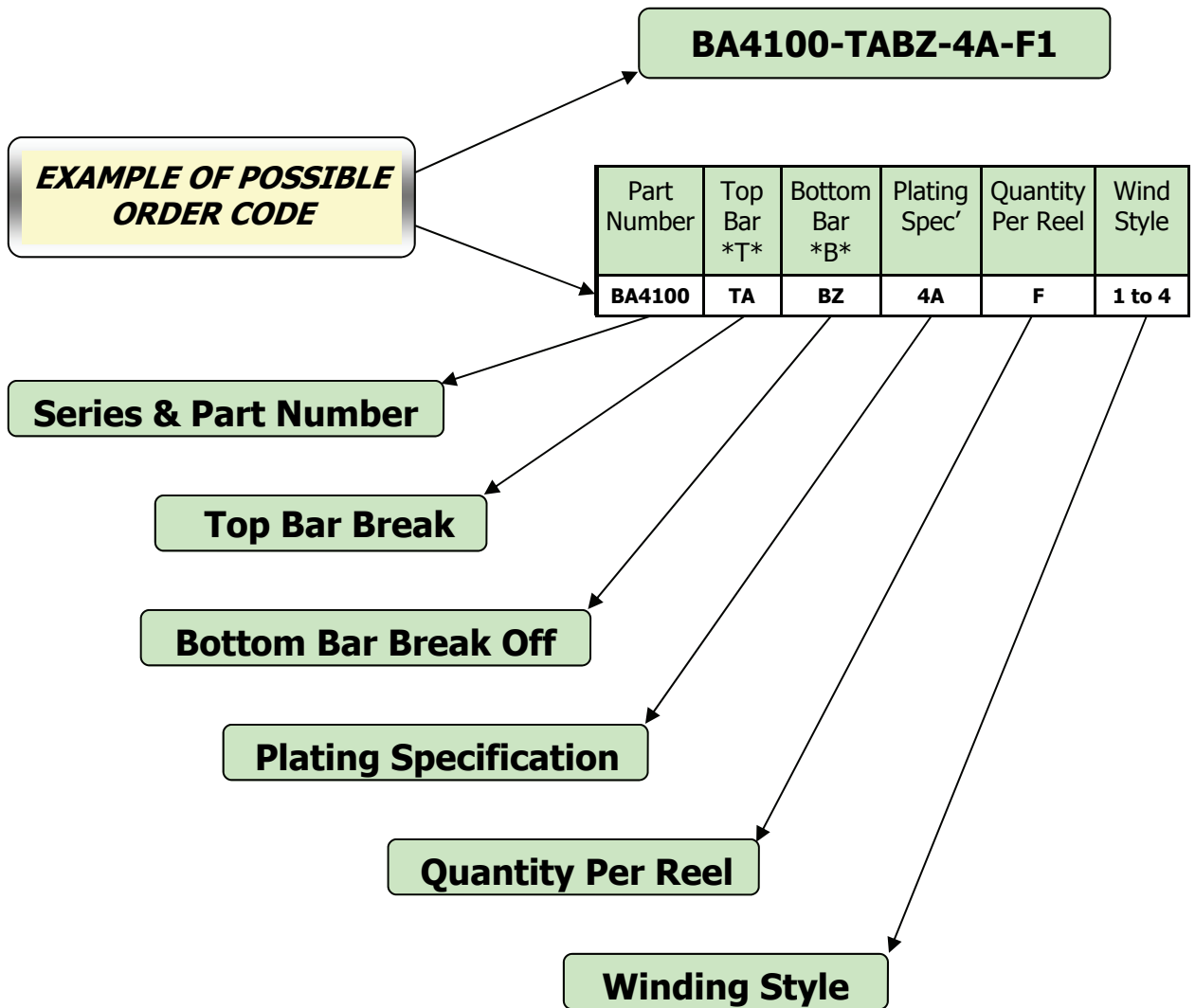
Batten and Allen Ltd is a designer / manufacturer and electroplater of precision stampings, with over forty years experience. We provide parts for electronics, medical, automotive, telecommunications and solar applications from our base in Cirencester UK. We supply hundreds of millions of components worldwide each month.

It is our policy to improve the performance of our Management System through a continuous programme of data collection, analysis and action. The purpose of our Management System is to satisfy or exceed customer expectations; helping us to maintain or improve the high standard of products and services that we provide. In addition to improving our performance we will reduce our environmental impact by complying with relevant environmental legislation and through progress towards our targets and objectives.

We are also committed to continual improvement, prevention of pollution and reducing risks associated with emergency situations (such as fire, flood and chemical release). To this end we will appraise our performance during management review, and also review our targets and objectives to ensure that they remain appropriate.

This policy will be communicated to all company employees and subcontractors and is available to all interested parties, including the public, on request, or by visiting our company web site ([www.batten-allen.com](http://www.batten-allen.com)).

**Alan Batten**  
Chairman



THE PATTERNS ILLUSTRATED IN THIS CATALOGUE ARE OPEN TOOLED AND MANY ARE AVAILABLE FROM STOCK, UNLESS NOTED AT THE BOTTOM OF EACH PAGE, THEN A MINIMUM ORDER QUANTITY APPLIES. PLEASE EMAIL, FAX OR TELEPHONE TO CONFIRM PRICE AND AVAILABILITY. IF YOUR REQUIREMENT IS NON-STANDARD, PLEASE DO NOT HESITATE TO CONTACT OUR SALES TEAM .

**Keith Hanning**  
Sales Manager

**Steve Mitchell**  
Sales Engineer



# Component Ordering Key

Break Off				Plating Specifications		Quantity Per Reel		Winding Style	
Top Bar T.B.B.O.		Bottom Bar B.B.B.O.		Code	Type of Plating	Code	Quantity	See Winding Style Page For more	
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	2.0mm					B	25,000	2	SIL
						C	30,000	3	SIL
		BC	0.73mm	4A	POST-PLATE ELECTROLYTIC Pure Sn 4-8 MICRONS No Reflow Matt	D	35,000	4	SIL
						E	40,000	5	DIL
TE	12.31mm					F	50,000	6	DIL
TF	12.49mm	BF	4.00mm	4B	POST-PLATE ELECTROLYTIC Pure Sn 4-8 MICRONS Over Ni Flash No Reflow Matt	G	80,000	7	DIL
TG	12.70mm	BG	6.10mm			H	100,000	8	DIL
TH	12.95mm					J	60,000		
				4C	POST-PLATE ELECTROLYTIC Pure Sn 4-8 MICRONS Over 0.25 Microns Min Ni No Reflow Matt	K	75,000		
TJ	2.30mm	BJ	0.55mm			L	15,000		
						M	160,000		
TL	1.25mm	BL	10.50mm						
TM	15.86mm			Other plating specifications on request					
TN	16.23mm	BN	3.30mm	Z	No plating				
TO	17.53mm	BO	5.84mm						
TP	17.77mm	BP	11.60mm						
TR	18.03mm	BR	12.78mm						
		BS	7.24mm						
TT	18.22mm								
TU	16.75mm								
TX	12.63mm								
TY	12.85mm								
UB	4.00mm								
UC	0.90mm								
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"

Method 1 (Solder Bath Method)

- 1) Accelerated ageing for 16 hours @ 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

### Additional test on request:-

**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<sup>2</sup> 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 @ 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 no 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.



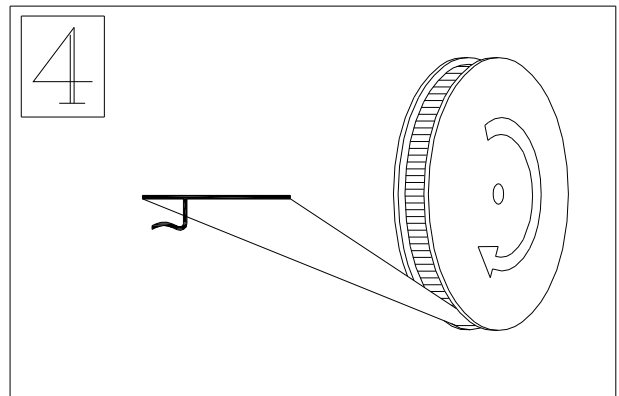
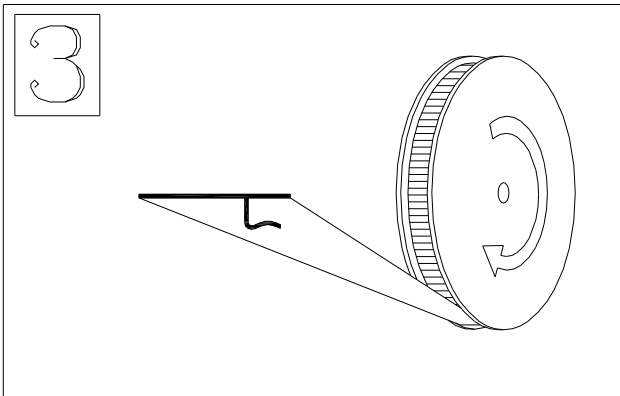
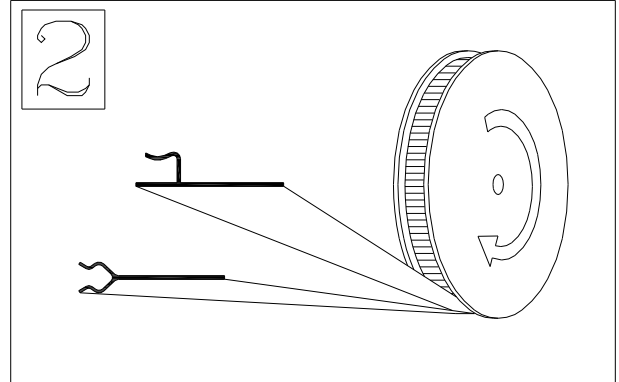
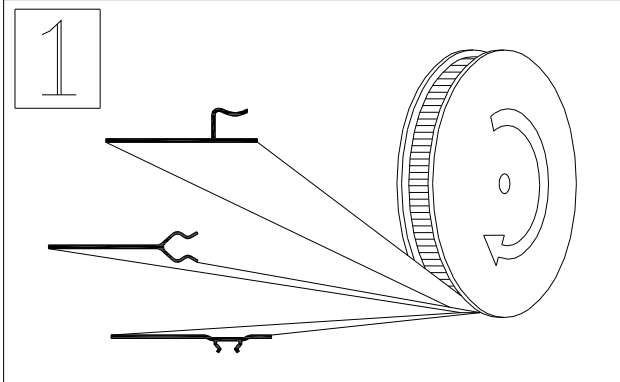
## Base Material Specification

Material Designation	<b>Alloy:</b> Copper Tin (Phosphor Bronze)	
	<b>DIN</b>	CuSn6
	<b>Designation</b>	2.1020
	<b>UNS</b>	C51900
	<b>BS</b>	PB103
	<b>NF</b>	CuSn6P
Composition (nominal)	<b>Weight Percentage</b>	Cu 94 Sn 6
Physical Properties (nominal)	<b>Electric</b>	m/Ωmm <sup>2</sup>
	<b>Conductivity</b>	% IACS
	<b>Thermal</b>	W/m K
	<b>Conductivity</b>	75
	<b>Coefficient of</b>	10 <sup>-6</sup> /K
	<b>Thermo Expansion</b>	18.5
<b>Elastic</b>	KN/mm <sup>2</sup>	
<b>Modulus</b>	118	
<b>Density</b>	g/cm <sup>3</sup>	8.8

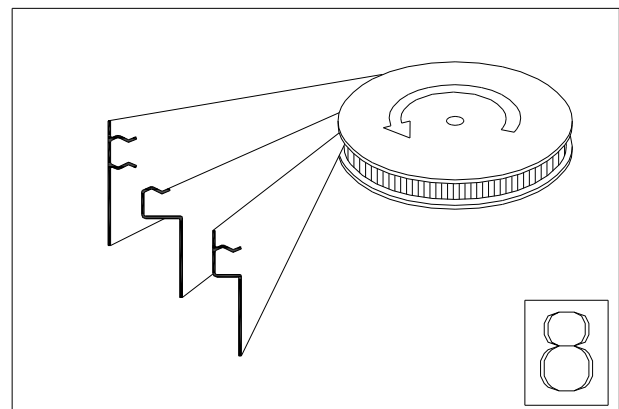
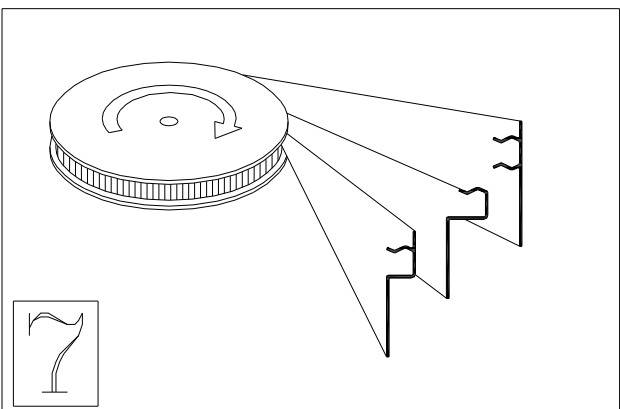
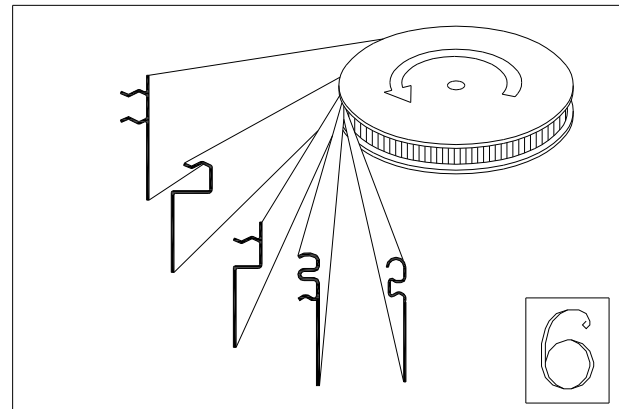
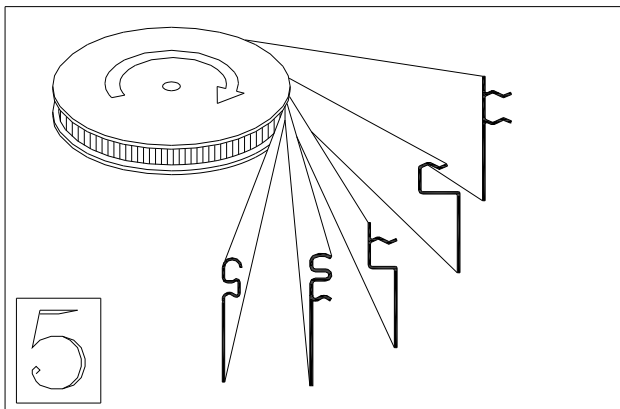


## Winding Styles

### Single In Line Winding Styles



### Dual In Line Winding Styles

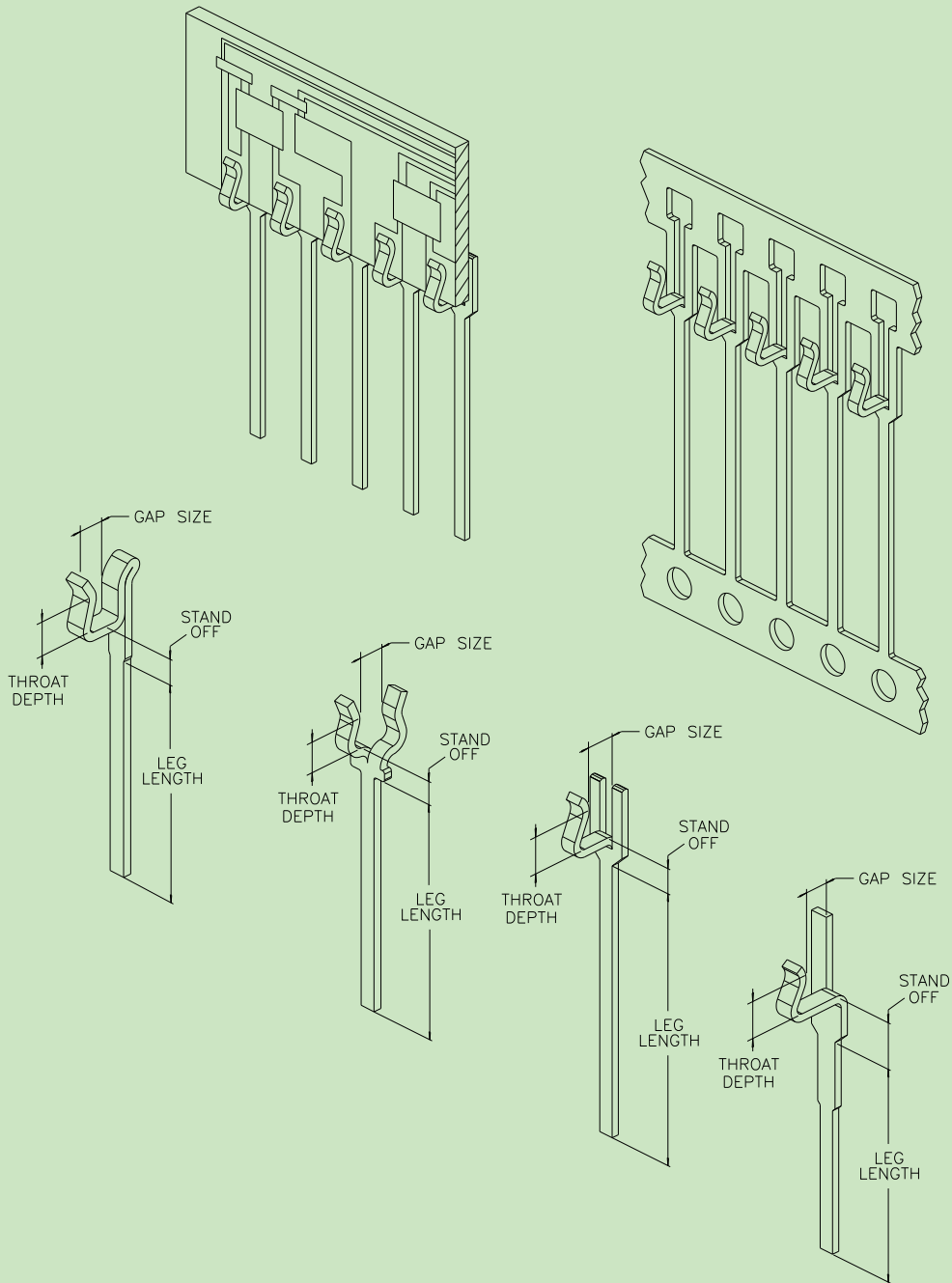






BATTEN & ALLEN LIMITED

## Single In Line Leadframes

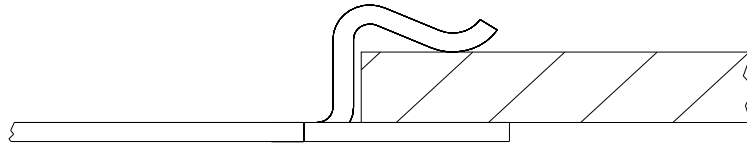


## Clip Design & Series Numbers

**SINGLE IN LINE**



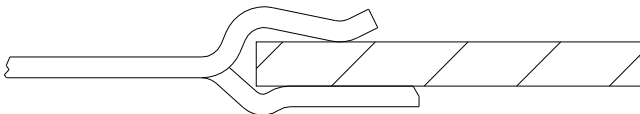
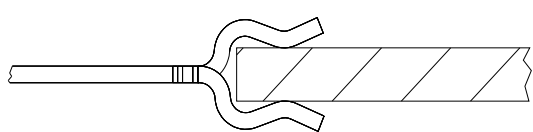
## SIL Clip Design And Series Numbers



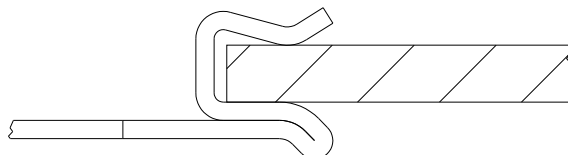
Series	Pitch	Strip Width	Stand off	Substrate Size	Material Thickness	Feature	Page
SIL Clip							
BA1500	3.81mm	14.10-17.27mm	1.4mm	1.50 to 1.65mm	0.50mm		12
BA4100	2.54mm	18.10mm	1.0mm	0.58 to 1.65mm	0.25mm		13
BA4106	2.54mm	18.10mm	0.8mm	0.58 to 1.40mm	0.25mm		14
BA4120	2.54mm	18.10mm	1.1mm	0.58 to 1.15mm	0.35mm		15
BA4126	2.54mm	18.10mm	0.8mm	0.58 to 1.15mm	0.35mm		16
BA4130	2.54mm	18.10mm	N/A	N/A	0.25mm	No Clip	17
BA4150	2.54mm	18.10mm	1.0mm	0.58 to 1.40mm	0.25mm	Wide pin	18
BA4160	2.54mm	18.10mm	1.0mm	0.58 to 1.40mm	0.25mm	Wide pin	19
BA4180	2.54mm	18.10mm	1.0mm	0.61 to 0.69mm	0.25mm	Short clip	20
BA4190	2.54mm	18.10mm	0.8mm	0.61 to 1.15mm	0.25mm	Short clip	21
BA4300	2.54mm	18.10mm	1.7mm	0.58 to 1.65mm	0.25mm		22
BA4400	2.54mm	18.10mm	1.5mm	0.58 to 1.15mm	0.25mm		23
BA4500	2.54mm	18.10mm	1.0mm	0.58 to 1.40mm	0.25mm	Retainer	24
BA4600	2.54mm	18.10mm	0.8mm	0.58 to 1.40mm	0.25mm	Retainer	25
BA4610	2.54mm	18.10mm	0.8mm	0.58 to 1.15mm	0.25mm	Retainer	26&27
BA4615	2.54mm	18.10mm	0.8mm	0.75 to 0.90mm	0.25mm	Retainer	28
BA4900	2.54mm	18.10mm	0.9mm	1.00 to 2.59mm	0.35mm	Retainer	29
BA5020	2.54mm	23.70mm	N/A	N/A	0.25mm	Pin Only	30
BA5200	2.54mm	15.30mm	1.7mm	0.62 to 1.55mm	0.25mm	2 leg clip	31
BA6200	1.27mm	18.10mm	1.0mm	0.58 to 1.15mm	0.25mm	2 leg clip	37
BA7000	2.54mm	13.86mm	1.0mm	0.62 to 0.70mm	0.25mm	Short Pin	40
BA7200	1.90mm	18.10mm	1.0mm	0.62 to 1.08mm	0.25mm		41
BA7210	1.90mm	15.4mm	1.0mm	0.62 to 1.08mm	0.25mm	No Top Bar	42
BA7300	2.54mm	9.91mm	N/A	Pin Only	0.25mm		43
BA9000	2.54mm	18.10mm	Nil	0.62 to 1.08mm	0.25mm	Long Clip	44
BA9010	2.54mm	18.10mm	Nil	1.00 to 1.08mm	0.25mm	Med Clip	45
BA9200	2.54mm	18.10mm	Nil	0.62 to 0.70mm	0.25mm	Short Clip	46



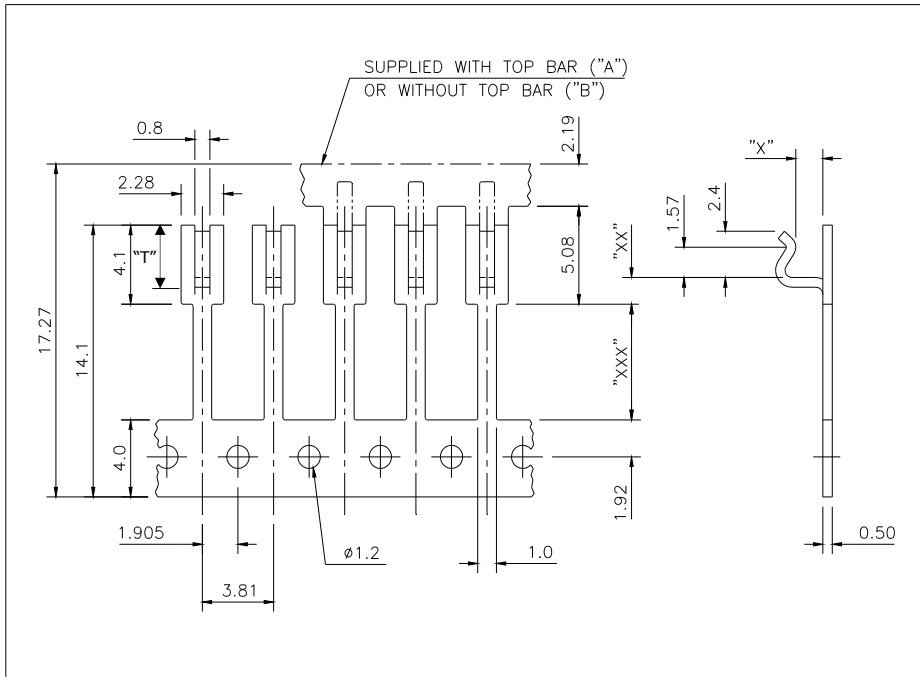
## SIL Clip Design And Series Numbers



Series	Pitch	Strip Width	Stand Off	Substrate Size	Material Thickness	Feature	Page
Centre Clip							
BA5600	2.54mm	11.20mm	0.95mm	0.63 to 0.97mm	0.25mm	No Top Bar	32
BA5700	2.54mm	11.10mm	0.95mm	0.89 to 0.97mm	0.25mm	No Top Bar	33
Off Set Clip							
BA5800	2.54mm	13.80mm	0.7mm	0.62 to 0.70mm	0.25mm		34
BA5810	2.54mm	13.80mm	1.1mm	0.62 to 0.70mm	0.25mm	Short Pin	35
BA5820	2.54mm	13.80mm	2.5mm	0.62 to 0.70mm	0.25mm	Short Pin	36



Series	Pitch	Strip Width	Stand Off	Substrate Size	Material Thickness		Page
Wrapped Back							
BA6440	2.54mm	12.1mm	1.27mm	0.89-1.00mm	0.25mm	Narrow Clip	38
BA6460	1.27mm	12.1mm	1.27mm	0.89-1.00mm	0.25mm	Narrow Clip	39



**SIL**  
**BA1500**  
SERIES  
SHEET 1 OF 1

**Pitch**  
3.81 mm  
0.150 inch

**Strip Width**  
14.1 or 17.27mm  
0.555 or 0.680 inch

**Material Thickness**  
0.50mm  
0.020 inch

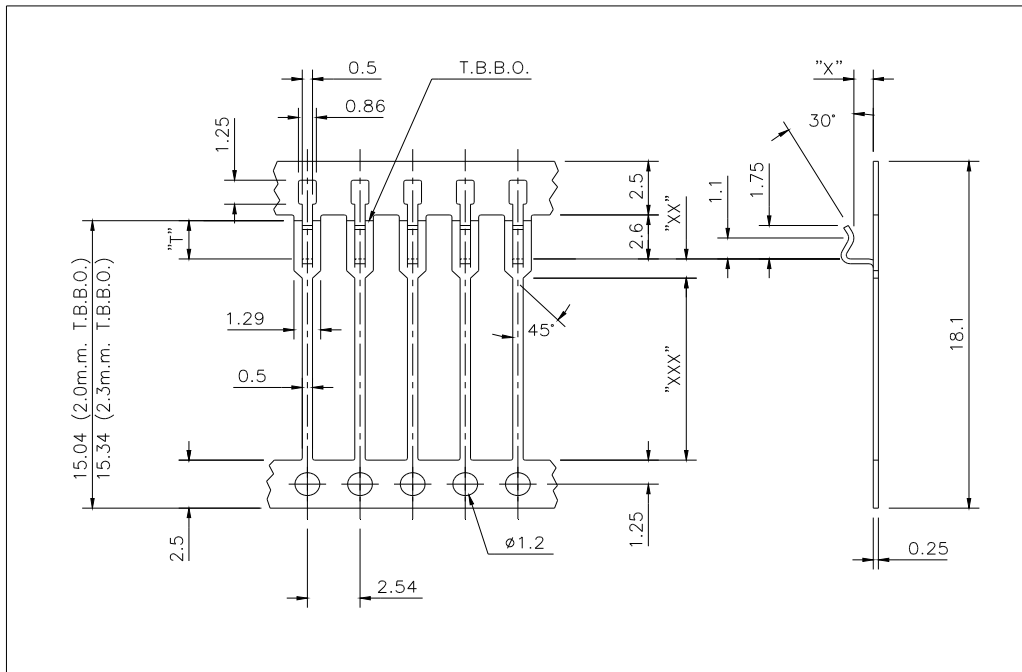
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>1.50-1.65mm</b> 0.059-0.065"	<b>1.45mm</b> 0.057"	<b>1.4mm</b> 0.055"	<b>6.0mm</b> 0.236"	<b>2.4mm</b> 0.095"	<b>BA1500</b>	<b>A</b> <b>B</b>	<b>BZ</b>	<b>4A</b>	<b>A</b> <b>(20K)</b>	<b>1 to 4</b>

\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Other plating styles on request

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA1500</b>	<b>A</b>	<b>BZ</b>	<b>4A</b>	<b>A</b>	<b>1 to 4</b>



**SIL**  
**BA4100**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
18.1mm  
0.712 inch

**Material Thickness**  
0.25mm  
0.010 inch

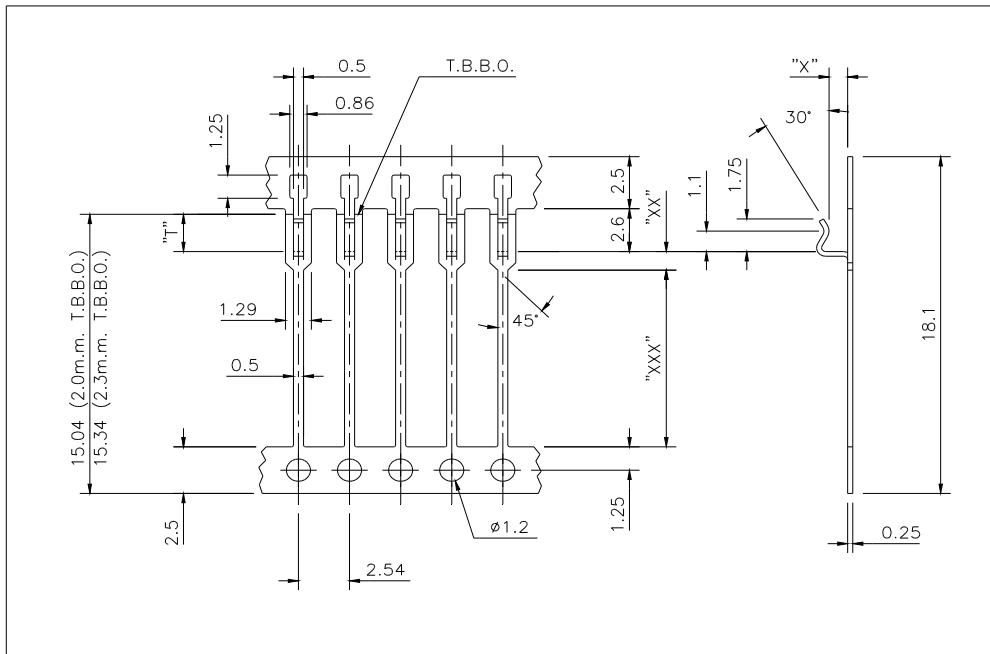
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.58-0.74mm</b> 0.023-0.029"	<b>0.53mm</b> 0.021"	<b>1.0mm</b> 0.039"	<b>9.5mm</b> 0.374"	<b>1.75mm</b> 0.069"	<b>BA4100</b>	<b>TA</b> <b>TJ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>F</b> <b>(50K)</b>	<b>1 to 4</b>
<b>0.75-0.90mm</b> 0.029-0.035"	<b>0.70mm</b> 0.028"	<b>1.0mm</b> 0.039"	<b>9.5mm</b> 0.374"	<b>1.75mm</b> 0.069"	<b>BA4101</b>	<b>TA</b> <b>TJ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>E</b> <b>(40K)</b>	<b>1 to 4</b>
<b>1.00-1.15mm</b> 0.039-0.045"	<b>0.93mm</b> 0.037"	<b>1.0mm</b> 0.039"	<b>9.5mm</b> 0.374"	<b>1.75mm</b> 0.069"	<b>BA4102</b>	<b>TA</b> <b>TJ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>E</b> <b>(40K)</b>	<b>1 to 4</b>
<b>1.24-1.40mm</b> 0.049-0.055"	<b>1.18mm</b> 0.047"	<b>1.0mm</b> 0.039"	<b>9.5mm</b> 0.374"	<b>1.75mm</b> 0.069"	<b>BA4103</b>	<b>TA</b> <b>TJ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>E</b> <b>(40K)</b>	<b>1 to 4</b>
<b>1.50-1.65mm</b> 0.059-0.065"	<b>1.42mm</b> 0.056"	<b>1.0mm</b> 0.039"	<b>9.5mm</b> 0.374"	<b>1.75mm</b> 0.069"	<b>BA4104</b>	<b>TA</b>	<b>BZ</b>	<b>4A</b>	<b>D</b> <b>(35K)</b>	<b>1 to 4</b>

\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Other plating styles on request

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA4100</b>	<b>TA</b>	<b>BZ</b>	<b>4A</b>	<b>F</b>	<b>1 to 4</b>



**SIL**  
**BA4106**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
18.1mm  
0.712 inch

**Material Thickness**  
0.25mm  
0.010 inch

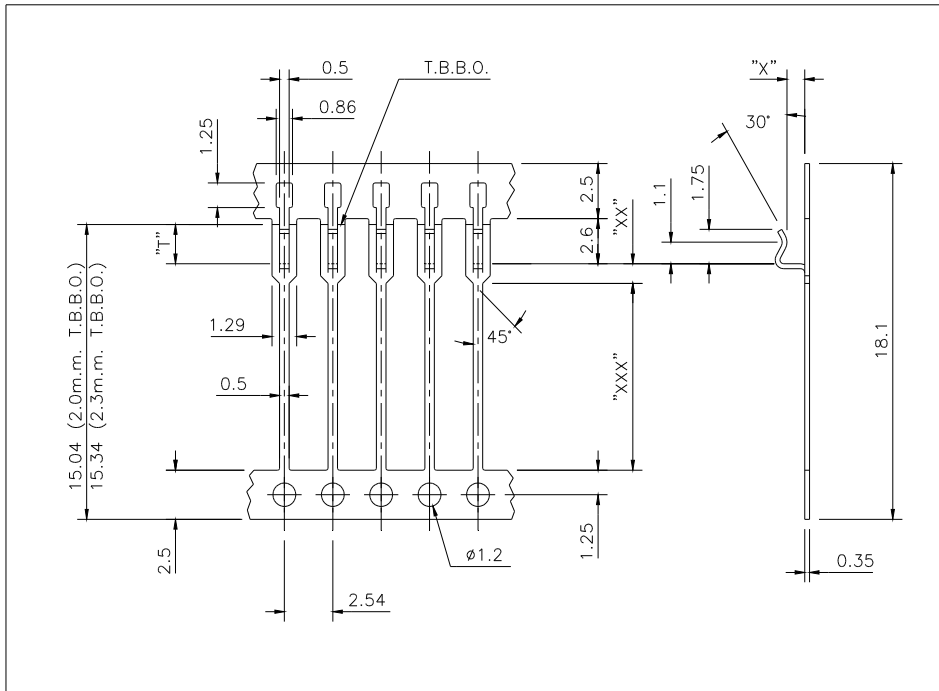
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.58-0.74mm</b> 0.023-0.029"	<b>0.53mm</b> 0.021"	<b>0.8mm</b> 0.032"	<b>9.7mm</b> 0.382"	<b>1.75mm</b> 0.069"	<b>BA4106</b>	<b>TA</b> <b>TJ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>F</b> <b>(50K)</b>	<b>1 to 4</b>
<b>0.75-0.90mm</b> 0.029-0.035"	<b>0.70mm</b> 0.028"	<b>0.8mm</b> 0.032"	<b>9.7mm</b> 0.382"	<b>1.75mm</b> 0.069"	<b>BA4107</b>	<b>TA</b> <b>TJ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>E</b> <b>(40K)</b>	<b>1 to 4</b>
<b>1.00-1.15mm</b> 0.039-0.045"	<b>0.93mm</b> 0.037"	<b>0.8mm</b> 0.032"	<b>9.7mm</b> 0.382"	<b>1.75mm</b> 0.069"	<b>BA4108</b>	<b>TA</b> <b>TJ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>E</b> <b>(40K)</b>	<b>1 to 4</b>
<b>1.24-1.40mm</b> 0.049-0.055"	<b>1.18mm</b> 0.047"	<b>0.8mm</b> 0.032"	<b>9.7mm</b> 0.382"	<b>1.75mm</b> 0.069"	<b>BA4109</b>	<b>TA</b> <b>TJ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>E</b> <b>(40K)</b>	<b>1 to 4</b>

\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Other plating styles on request

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA4106</b>	<b>TA</b>	<b>BZ</b>	<b>4A</b>	<b>F</b>	<b>1 to 4</b>



**SIL**  
**BA4120**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
18.1mm  
0.712 inch

**Material Thickness**  
0.35mm  
0.014 inch

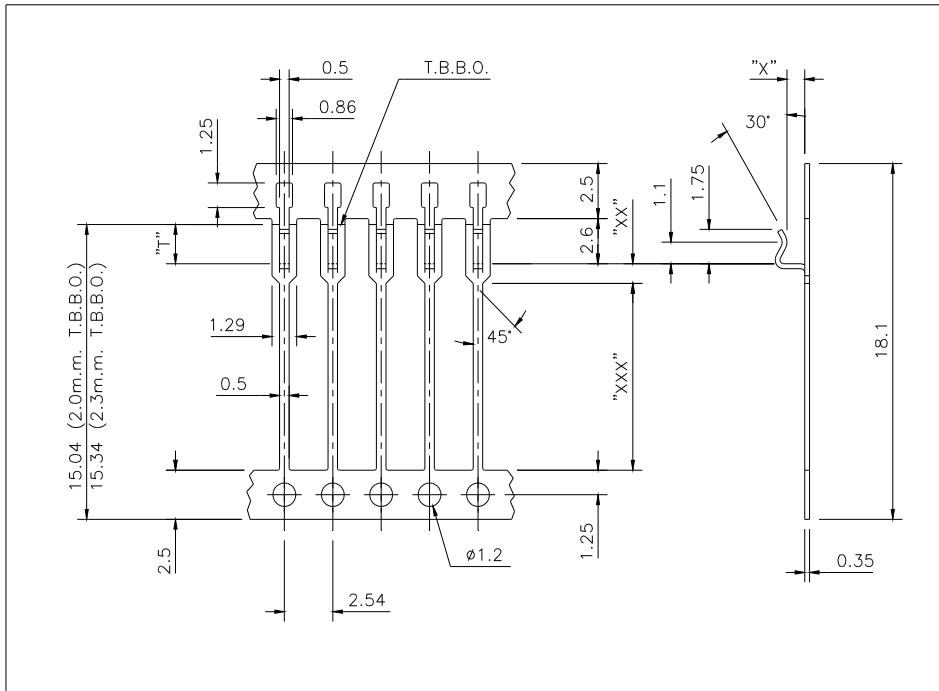
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.58-0.74mm</b> 0.023-0.029"	<b>0.53mm</b> 0.021"	<b>1.10mm</b> 0.0433"	<b>9.5mm</b> 0.374"	<b>1.75mm</b> 0.069"	<b>BA4120</b>	<b>TA</b> <b>TJ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>F</b> <b>(50K)</b>	<b>1 to 4</b>
<b>0.75-0.90mm</b> 0.029-0.035"	<b>0.70mm</b> 0.028"	<b>1.10mm</b> 0.0433"	<b>9.5mm</b> 0.374"	<b>1.75mm</b> 0.069"	<b>BA4121</b>	<b>TA</b> <b>TJ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>E</b> <b>(40K)</b>	<b>1 to 4</b>
<b>1.00-1.15mm</b> 0.039-0.045"	<b>0.93mm</b> 0.037"	<b>1.10mm</b> 0.0433"	<b>9.5mm</b> 0.374"	<b>1.75mm</b> 0.069"	<b>BA4122</b>	<b>TA</b> <b>TJ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>E</b> <b>(40K)</b>	<b>1 to 4</b>

\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA4120</b>	<b>TA</b>	<b>BZ</b>	<b>4A</b>	<b>F</b>	<b>1 to 4</b>

Other plating styles on request



**SIL**  
**BA4126**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
18.1mm  
0.712 inch

**Material Thickness**  
0.35mm  
0.014 inch

Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.58-0.74mm</b> 0.023-0.029"	<b>0.53mm</b> 0.021"	<b>0.80mm</b> 0.032"	<b>9.7mm</b> 0.382"	<b>1.75mm</b> 0.069"	<b>BA4126</b>	<b>TA</b> <b>TJ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>F</b> <b>(50K)</b>	<b>1 to 4</b>
<b>0.75-0.90mm</b> 0.029-0.035"	<b>0.70mm</b> 0.028"	<b>0.80mm</b> 0.032"	<b>9.7mm</b> 0.382"	<b>1.75mm</b> 0.069"	<b>BA4127</b>	<b>TA</b> <b>TJ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>E</b> <b>(40K)</b>	<b>1 to 4</b>
<b>1.00-1.15mm</b> 0.039-0.045"	<b>0.93mm</b> 0.037"	<b>0.80mm</b> 0.032"	<b>9.7mm</b> 0.382"	<b>1.75mm</b> 0.069"	<b>BA4128</b>	<b>TA</b> <b>TJ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>E</b> <b>(40K)</b>	<b>1 to 4</b>

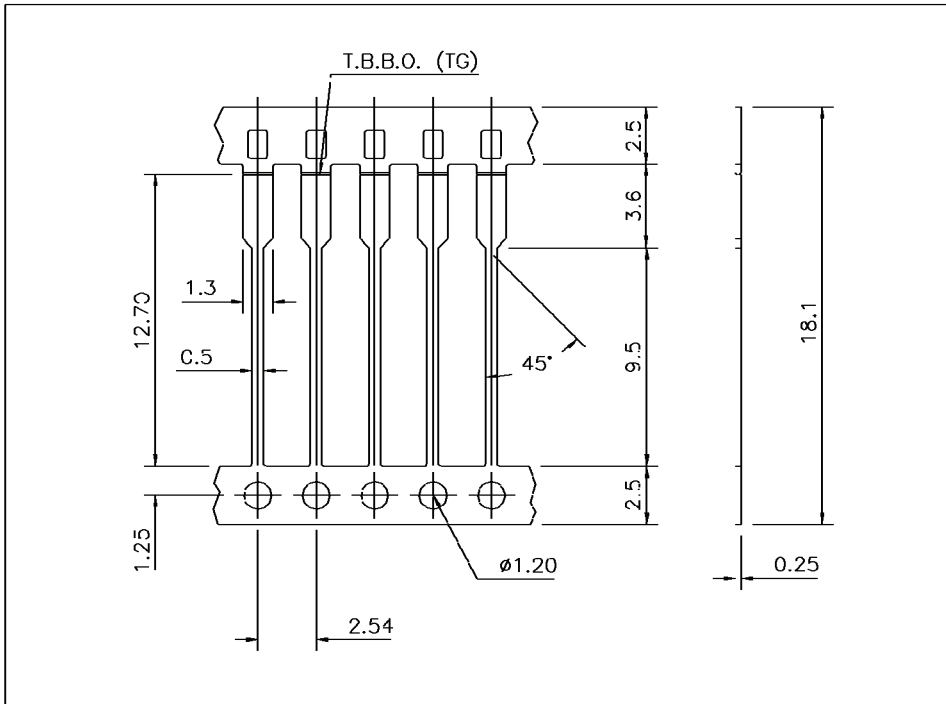
\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA4126</b>	<b>TA</b>	<b>BZ</b>	<b>4A</b>	<b>F</b>	<b>1 to 4</b>

Other plating styles on request





**SIL**  
**BA4130**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
18.1mm  
0.712 inch

**Material Thickness**  
0.25mm  
0.010 inch

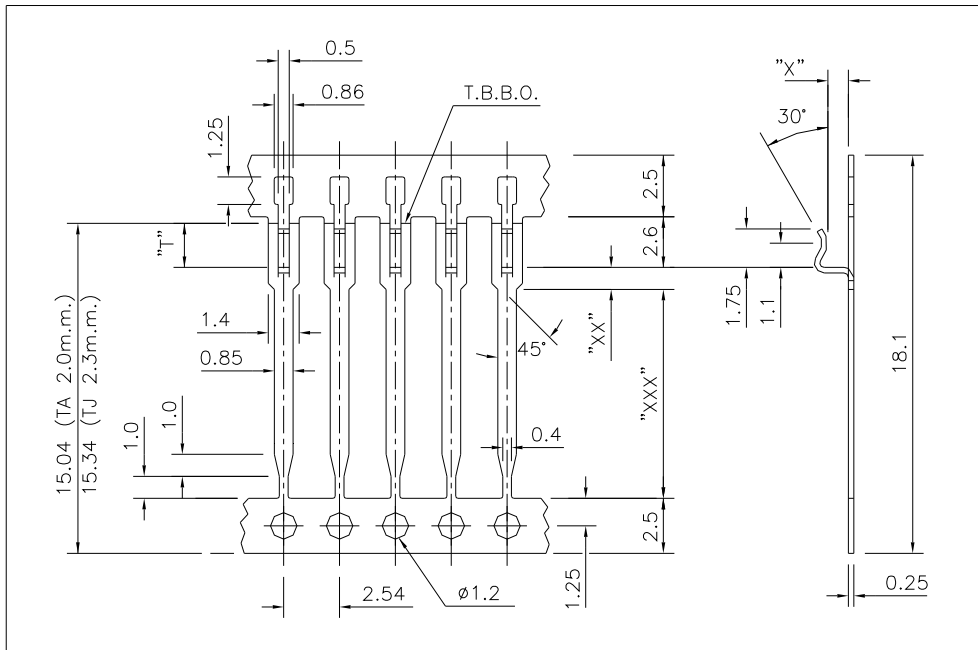
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Paddle Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
N/A	N/A	N/A	9.5mm 0.374"	2.8mm 0.110"	<b>BA4130</b>	TG	BZ	4A	H (100K)	1 or 2

\*Shaded Part Numbers are subject to Minimum Order Quantities of 500,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA4130</b>	TG	BZ	4A	H	1 or 2

Other plating styles on request



**SIL**  
**BA4150**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
18.1mm  
0.712 inch

**Material Thickness**  
0.25mm  
0.010 inch

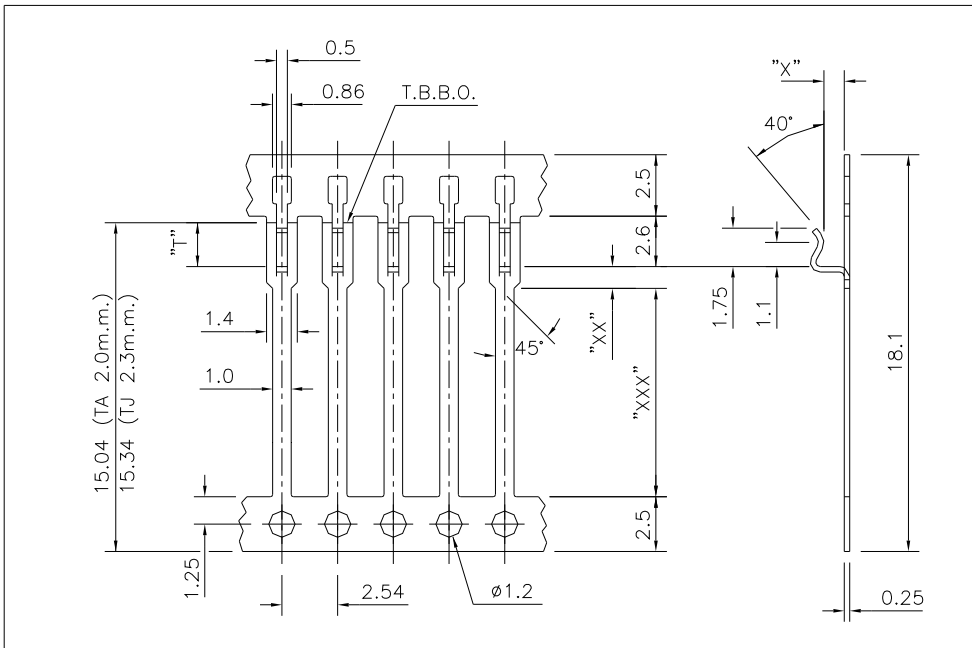
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.58-0.74mm</b> 0.023-0.029"	<b>0.53mm</b> 0.021"	<b>1.0mm</b> 0.039"	<b>9.5mm</b> 0.374"	<b>1.75mm</b> 0.069"	<b>BA4150</b>	TA TJ	BZ	1A 4A	F (50K)	1 to 4
<b>0.75-0.90mm</b> 0.029-0.035"	<b>0.70mm</b> 0.028"	<b>1.0mm</b> 0.039"	<b>9.5mm</b> 0.374"	<b>1.75mm</b> 0.069"	<b>BA4151</b>	TA TJ	BZ	1A 4A	E (40K)	1 to 4
<b>1.00-1.15mm</b> 0.039-0.045"	<b>0.93mm</b> 0.037"	<b>1.0mm</b> 0.039"	<b>9.5mm</b> 0.374"	<b>1.75mm</b> 0.069"	<b>BA4152</b>	TA TJ	BZ	1A 4A	E (40K)	1 to 4
<b>1.24-1.40mm</b> 0.049-0.055"	<b>1.18mm</b> 0.047"	<b>1.0mm</b> 0.039"	<b>9.5mm</b> 0.374"	<b>1.75mm</b> 0.069"	<b>BA4153</b>	TA TJ	BZ	1A 4A	E (40K)	1 to 4

\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA4150</b>	TJ	BZ	1A	F	1 to 4

Other plating styles on request



**SIL**  
**BA4160**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
18.1mm  
0.712 inch

**Material Thickness**  
0.25mm  
0.010 inch

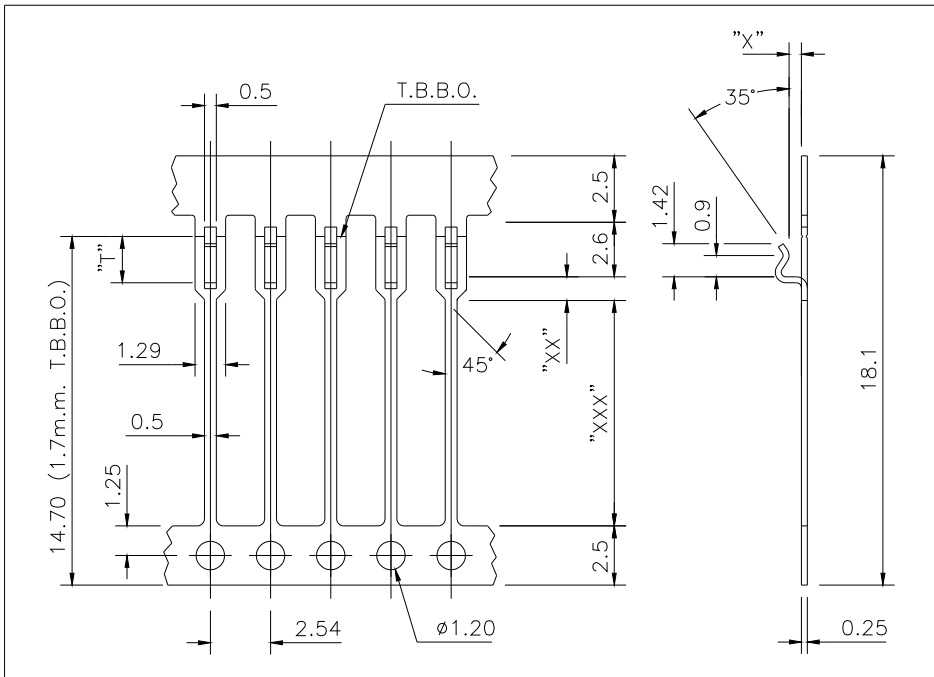
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.58-0.74mm</b> 0.023-0.029"	<b>0.53mm</b> 0.021"	<b>1.0mm</b> 0.039"	<b>9.5mm</b> 0.374"	<b>1.75mm</b> 0.069"	<b>BA4160</b>	TA TJ	BZ	1A 4A	F (50K)	1 to 4
<b>0.75-0.90mm</b> 0.029-0.035"	<b>0.70mm</b> 0.028"	<b>1.0mm</b> 0.039"	<b>9.5mm</b> 0.374"	<b>1.75mm</b> 0.069"	<b>BA4161</b>	TA TJ	BZ	1A 4A	E (40K)	1 to 4
<b>1.00-1.15mm</b> 0.039-0.045"	<b>0.93mm</b> 0.037"	<b>1.0mm</b> 0.039"	<b>9.5mm</b> 0.374"	<b>1.75mm</b> 0.069"	<b>BA4162</b>	TA TJ	BZ	1A 4A	E (40K)	1 to 4
<b>1.24-1.40mm</b> 0.049-0.055"	<b>1.18mm</b> 0.047"	<b>1.0mm</b> 0.039"	<b>9.5mm</b> 0.374"	<b>1.75mm</b> 0.069"	<b>BA4163</b>	TA TJ	BZ	1A 4A	E (40K)	1 to 4

\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA4160</b>	TA	BZ	4A	F	1 to 4

Other plating styles on request



**SIL**  
**BA4180**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
18.1mm  
0.712 inch

**Material Thickness**  
0.25mm  
0.010 inch

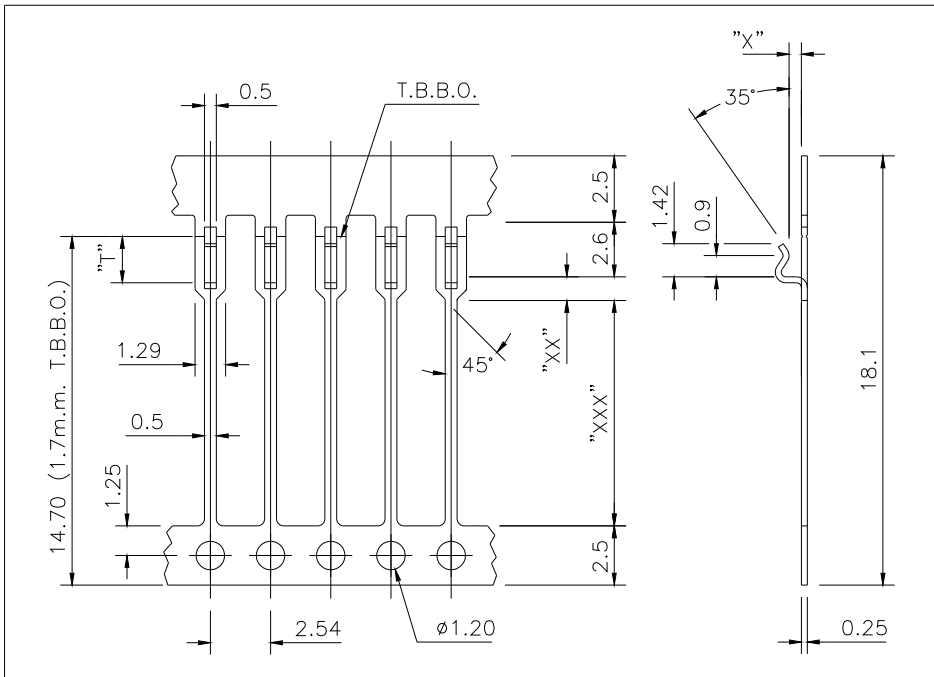
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.61-0.69mm</b> 0.024-0.027"	<b>0.52mm</b> 0.021"	<b>1.00mm</b> 0.039"	<b>9.5mm</b> 0.374"	<b>1.42mm</b> 0.056"	<b>BA4180</b>	<b>UG</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>F</b> <b>(50K)</b>	<b>1 to 4</b>

\*Shaded Part Numbers are subject to Minimum Order Quantities of 500,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Other plating styles on request

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA4180</b>	<b>UG</b>	<b>BZ</b>	<b>4A</b>	<b>F</b>	<b>1 to 4</b>



**SIL**  
**BA4190**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
18.1mm  
0.712 inch

**Material Thickness**  
0.25mm  
0.010 inch

Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.61-0.69mm</b> 0.024-0.027"	<b>0.52mm</b> 0.021"	<b>0.80mm</b> 0.031"	<b>9.7mm</b> 0.382"	<b>1.42mm</b> 0.056"	<b>BA4190</b>	<b>UG</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>F</b> <b>(50K)</b>	<b>1 to 4</b>
<b>1.00-1.15mm</b> 0.039-0.045"	<b>0.93mm</b> 0.037"	<b>0.80mm</b> 0.031"	<b>9.7mm</b> 0.382"	<b>1.42mm</b> 0.056"	<b>BA4192</b>	<b>UG</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>E</b> <b>(40K)</b>	<b>1 to 4</b>

\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Other plating styles on request

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA4190</b>	<b>UG</b>	<b>BZ</b>	<b>4A</b>	<b>F</b>	<b>1 to 4</b>

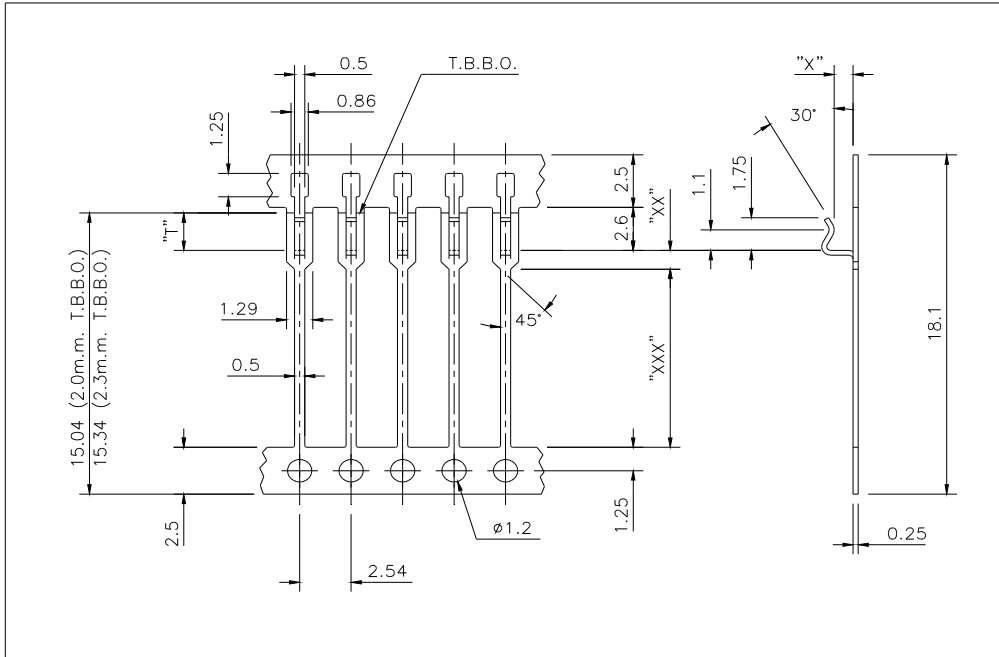


**SIL**  
**BA4300**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
18.1mm  
0.712 inch

**Material Thickness**  
0.25mm  
0.010 inch



Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.58-0.74mm</b> 0.023-0.029"	<b>0.53mm</b> 0.021"	<b>1.7mm</b> 0.067"	<b>8.8mm</b> 0.346"	<b>1.75mm</b> 0.069"	<b>BA4300</b>	TA TJ	BZ	1A 4A	F (50K)	1 to 4
<b>0.75-0.90mm</b> 0.029-0.035"	<b>0.70mm</b> 0.028"	<b>1.7mm</b> 0.067"	<b>8.8mm</b> 0.346"	<b>1.75mm</b> 0.069"	<b>BA4301</b>	TA TJ	BZ	1A 4A	E (40K)	1 to 4
<b>1.00-1.15mm</b> 0.039-0.045"	<b>0.93mm</b> 0.037"	<b>1.7mm</b> 0.067"	<b>8.8mm</b> 0.346"	<b>1.75mm</b> 0.069"	<b>BA4302</b>	TA TJ	BZ	1A 4A	E (40K)	1 to 4
<b>1.24-1.40mm</b> 0.049-0.055"	<b>1.18mm</b> 0.047"	<b>1.7mm</b> 0.067"	<b>8.8mm</b> 0.346"	<b>1.75mm</b> 0.069"	<b>BA4303</b>	TA TJ	BZ	1A 4A	E (40K)	1 to 4
<b>1.50-1.65mm</b> 0.059-0.065"	<b>1.42mm</b> 0.056"	<b>1.7mm</b> 0.067"	<b>8.8mm</b> 0.346"	<b>1.75mm</b> 0.069"	<b>BA4304</b>	TA TJ	BZ	1A 4A	D (35K)	1 to 4

\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Other plating styles on request

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA4300</b>	TA	BZ	4A	F	1 to 4

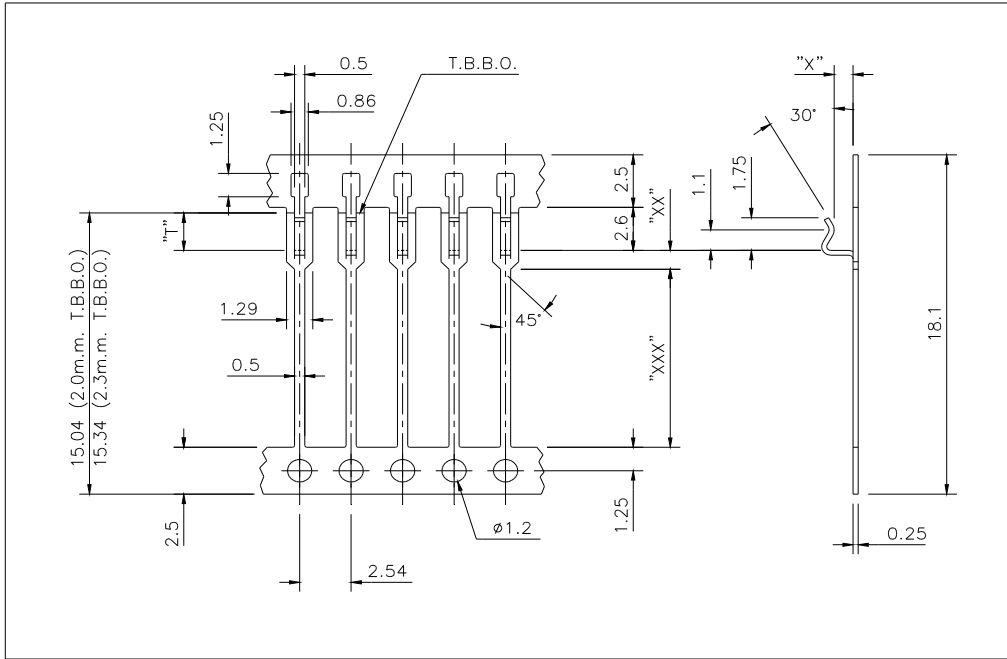


**SIL**  
**BA4400**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
18.1mm  
0.712 inch

**Material Thickness**  
0.25mm  
0.010 inch



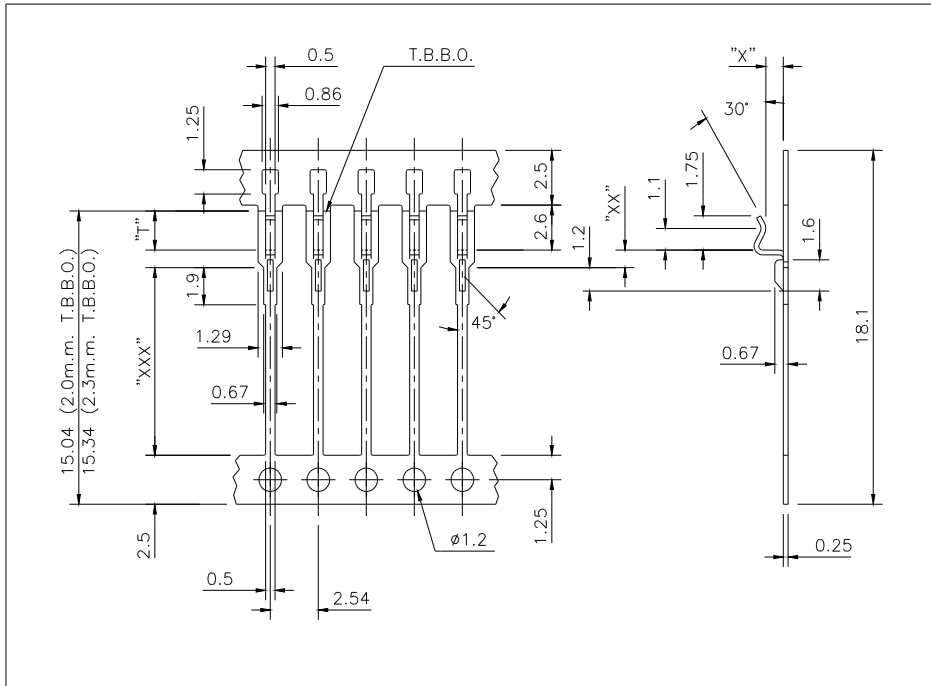
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.75-0.90mm</b> 0.029-0.035"	<b>0.70mm</b> 0.028"	<b>1.5mm</b> 0.059"	<b>9.0mm</b> 0.354"	<b>1.75mm</b> 0.069"	<b>BA4401</b>	<b>TA</b> <b>TJ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>E</b> <b>(40K)</b>	<b>1 to 4</b>
<b>1.00-1.15mm</b> 0.039-0.045"	<b>0.93mm</b> 0.037"	<b>1.5mm</b> 0.059"	<b>9.0mm</b> 0.354"	<b>1.75mm</b> 0.069"	<b>BA4402</b>	<b>TA</b> <b>TJ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>E</b> <b>(40K)</b>	<b>1 to 4</b>

\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA4401</b>	<b>TA</b>	<b>BZ</b>	<b>4A</b>	<b>E</b>	<b>1 to 4</b>

Other plating styles on request



**SIL**  
**BA4500**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
18.1mm  
0.712 inch

**Material Thickness**  
0.25mm  
0.010 inch

Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.58-0.74mm</b> 0.023-0.029"	<b>0.53mm</b> 0.021"	<b>1.0mm</b> 0.0394"	<b>9.5mm</b> 0.374"	<b>1.75mm</b> 0.069"	<b>BA4500</b>	<b>TA</b> <b>TJ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>F</b> <b>(50K)</b>	<b>1 to 4</b>
<b>0.75-0.90mm</b> 0.029-0.035"	<b>0.70mm</b> 0.028"	<b>1.0mm</b> 0.0394"	<b>9.5mm</b> 0.374"	<b>1.75mm</b> 0.069"	<b>BA4501</b>	<b>TA</b> <b>TJ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>E</b> <b>(40K)</b>	<b>1 to 4</b>
<b>1.00-1.15mm</b> 0.039-0.045"	<b>0.93mm</b> 0.037"	<b>1.0mm</b> 0.0394"	<b>9.5mm</b> 0.374"	<b>1.75mm</b> 0.069"	<b>BA4502</b>	<b>TA</b> <b>TJ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>E</b> <b>(40K)</b>	<b>1 to 4</b>
<b>1.24-1.40mm</b> 0.049-0.055"	<b>1.18mm</b> 0.047"	<b>1.0mm</b> 0.0394"	<b>9.5mm</b> 0.374"	<b>1.75mm</b> 0.069"	<b>BA4503</b>	<b>TA</b> <b>TJ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>E</b> <b>(40K)</b>	<b>1 to 4</b>

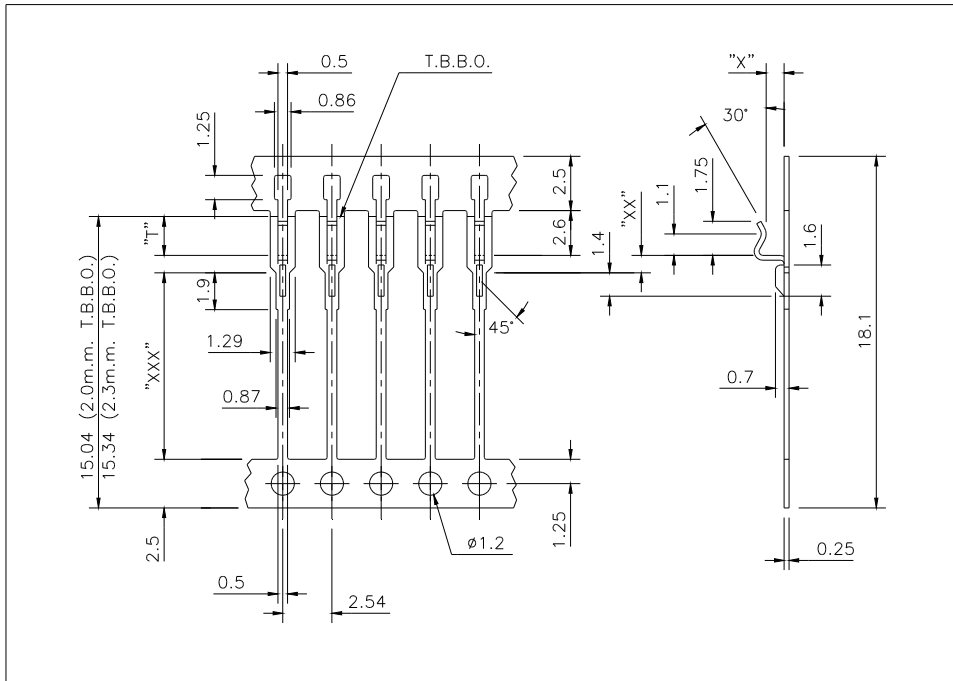
\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Other plating styles on request

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA4500</b>	<b>TA</b>	<b>BZ</b>	<b>4A</b>	<b>F</b>	<b>1 to 4</b>





**SIL**  
**BA4600**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
18.1mm  
0.712 inch

**Material Thickness**  
0.25mm  
0.010 inch

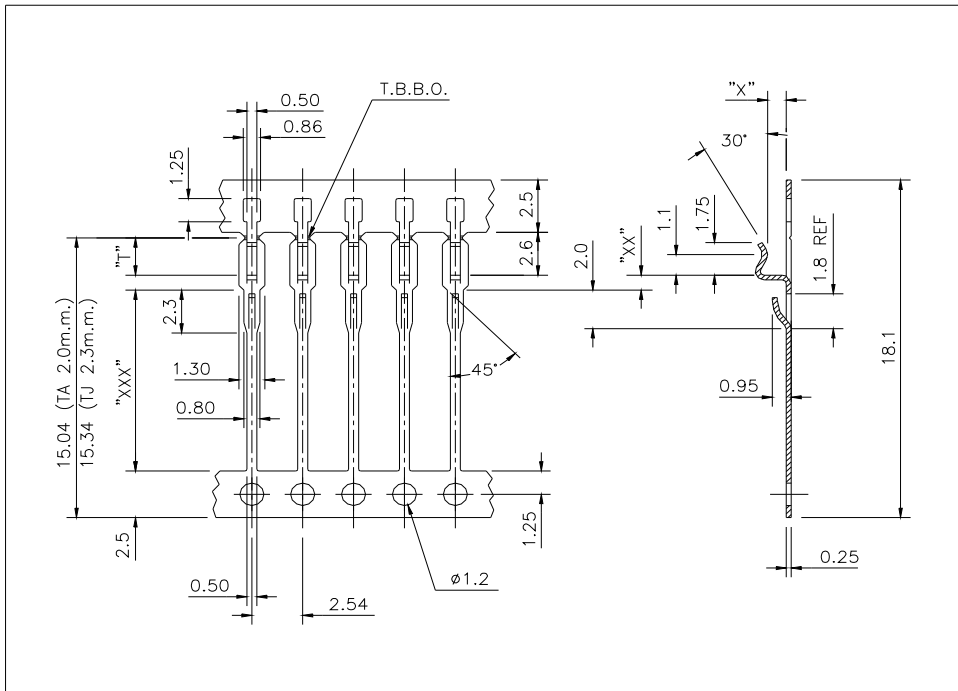
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.58-0.74mm</b> 0.023-0.029"	<b>0.53mm</b> 0.021"	<b>0.8mm</b> 0.0315"	<b>9.7mm</b> 0.382"	<b>1.75mm</b> 0.069"	<b>BA4600</b>	TA TJ TZ	BZ	1A 4A	F (50K)	1 to 4
<b>0.75-0.90mm</b> 0.029-0.035"	<b>0.70mm</b> 0.028"	<b>0.8mm</b> 0.0315"	<b>9.7mm</b> 0.382"	<b>1.75mm</b> 0.069"	<b>BA4601</b>	TA TJ TZ	BZ	1A 4A	E (40K)	1 to 4
<b>1.00-1.15mm</b> 0.039-0.045"	<b>0.93mm</b> 0.037"	<b>0.8mm</b> 0.0315"	<b>9.7mm</b> 0.382"	<b>1.75mm</b> 0.069"	<b>BA4602</b>	TA TJ TZ	BZ	1A 4A	E (40K)	1 to 4
<b>1.24-1.40mm</b> 0.049-0.055"	<b>1.18mm</b> 0.047"	<b>0.8mm</b> 0.0315"	<b>9.7mm</b> 0.382"	<b>1.75mm</b> 0.069"	<b>BA4603</b>	TA TJ TZ	BZ	1A 4A	E (40K)	1 to 4

\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Other plating styles on request

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA4600</b>	TA	BZ	4A	F	1 to 4



**SIL**  
**BA4610**  
SERIES  
SHEET 1 OF 2

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
18.1mm  
0.712 inch

**Material Thickness**  
0.25mm  
0.010 inch

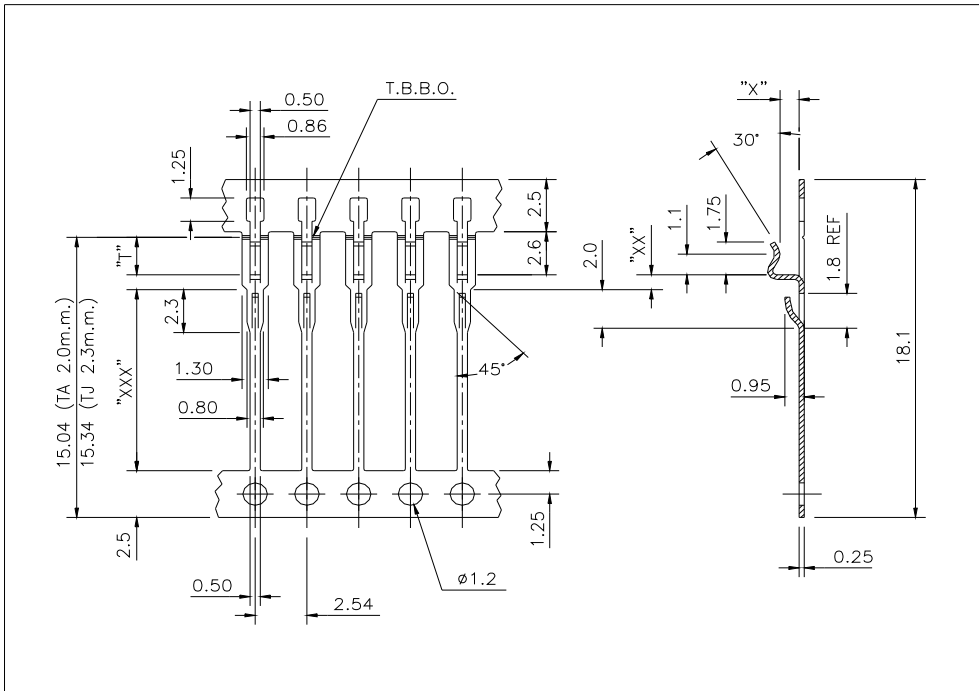
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.58-0.74mm</b> 0.023-0.029"	<b>0.53mm</b> 0.021"	<b>0.8mm</b> 0.0315"	<b>9.7mm</b> 0.382"	<b>1.75mm</b> 0.069"	<b>BA4610</b>	<b>TJ</b> <b>TZ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>F</b> <b>(50K)</b>	<b>1 to 4</b>
<b>0.63-0.80mm</b> 0.025-0.0321"	<b>0.62mm</b> 0.024"	<b>0.8mm</b> 0.0315"	<b>9.7mm</b> 0.382"	<b>1.75mm</b> 0.069"	<b>BA4612</b>	<b>TJ</b> <b>TZ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>E</b> <b>(40K)</b>	<b>1 to 4</b>
<b>For Gap 0.93mm BA4613 Please see next page</b>										

\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA4610</b>	<b>TJ</b>	<b>BZ</b>	<b>4A</b>	<b>F</b>	<b>1 to 4</b>

Other plating styles on request



**SIL**  
**BA4610**  
SERIES  
SHEET 2 OF 2

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
18.1mm  
0.712 inch

**Material Thickness**  
0.25mm  
0.010 inch

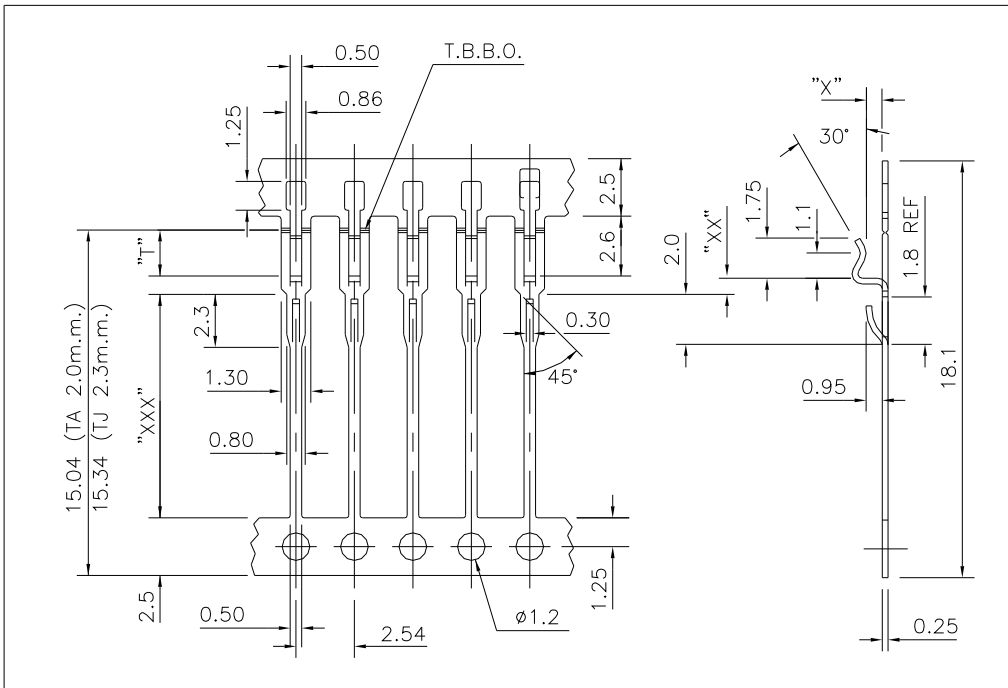
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>1.00-1.15mm</b> 0.039-0.045"	<b>0.93mm</b> 0.037"	<b>0.8mm</b> 0.0315"	<b>9.7mm</b> 0.382"	<b>1.75mm</b> 0.069"	<b>BA4613</b>	<b>TJ</b> <b>TZ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>E</b> <b>(40K)</b>	<b>1 to 4</b>
<b>For Gap 0.53mm BA4610 and Gap 0.62mm BA4612 Please see previous page</b>										

\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Other plating styles on request

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA4613</b>	<b>TJ</b>	<b>BZ</b>	<b>4A</b>	<b>E</b>	<b>1 to 4</b>



**SIL**  
**BA4615**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
18.1mm  
0.712 inch

**Material Thickness**  
0.25mm  
0.010 inch

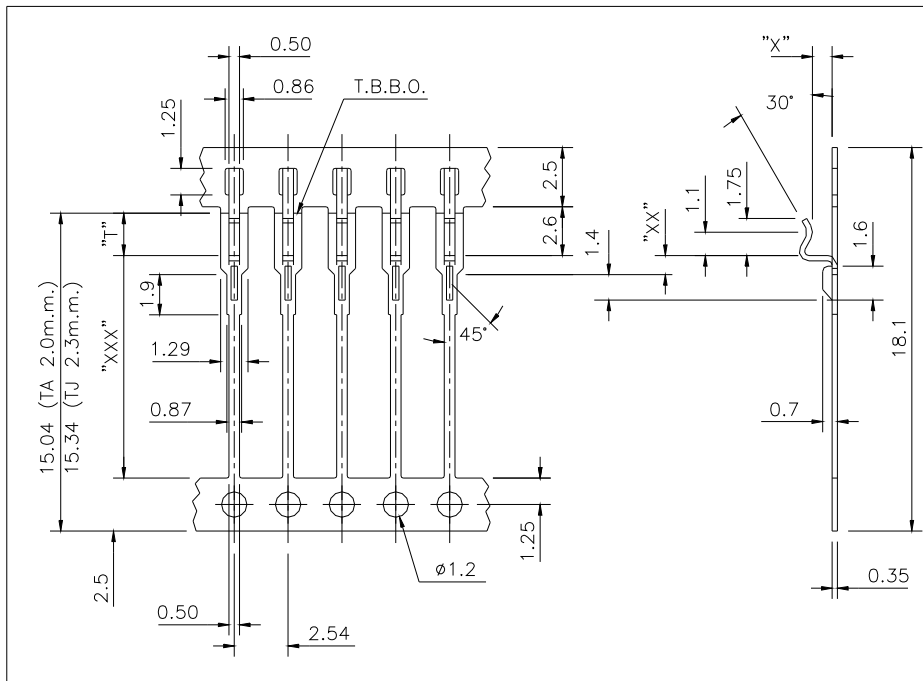
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.75-0.90mm</b> 0.029-0.035"	<b>0.70mm</b> 0.028"	<b>0.8mm</b> 0.0315"	<b>9.7mm</b> 0.382"	<b>1.75mm</b> 0.069"	<b>BA4615</b>	<b>TA</b> <b>TJ</b> <b>TZ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>E</b> <b>(40K)</b>	<b>1 to 4</b>

\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA4615</b>	<b>TA</b>	<b>BZ</b>	<b>4A</b>	<b>E</b>	<b>1 to 4</b>

Other plating styles on request



**SIL**  
**BA4900**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
18.1mm  
0.712 inch

**Material Thickness**  
0.35mm  
0.014 inch

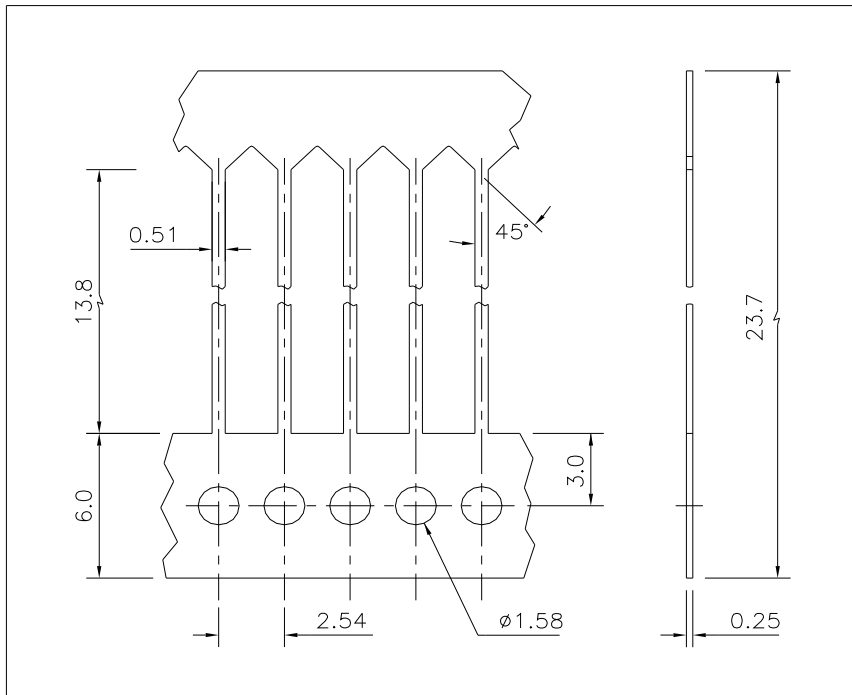
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>2.46-2.59mm</b> 0.097-0.102"	<b>2.39mm</b> 0.094"	<b>0.9mm</b> 0.0354"	<b>9.7mm</b> 0.382"	<b>1.75mm</b> 0.069"	<b>BA4900</b>	<b>TA</b> <b>TJ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>A</b> <b>(20K)</b>	<b>1 to 4</b>
<b>1.00-1.15mm</b> 0.039-0.045"	<b>0.93mm</b> 0.037"	<b>0.9mm</b> 0.0354"	<b>9.7mm</b> 0.382"	<b>1.75mm</b> 0.069"	<b>BA4901</b>	<b>TA</b> <b>TJ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>E</b> <b>(40K)</b>	<b>1 to 4</b>
<b>1.50-1.65mm</b> 0.059-0.065"	<b>1.42mm</b> 0.056"	<b>0.9mm</b> 0.0354"	<b>9.7mm</b> 0.382"	<b>1.75mm</b> 0.069"	<b>BA4902</b>	<b>TA</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>D</b> <b>(35K)</b>	<b>1 to 4</b>

\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Other plating styles on request

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA4900</b>	<b>TA</b>	<b>BZ</b>	<b>4A</b>	<b>A</b>	<b>1 to 4</b>



**SIL**  
**BA5020**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
23.7mm  
0.933 inch

**Material Thickness**  
0.25mm  
0.010 inch

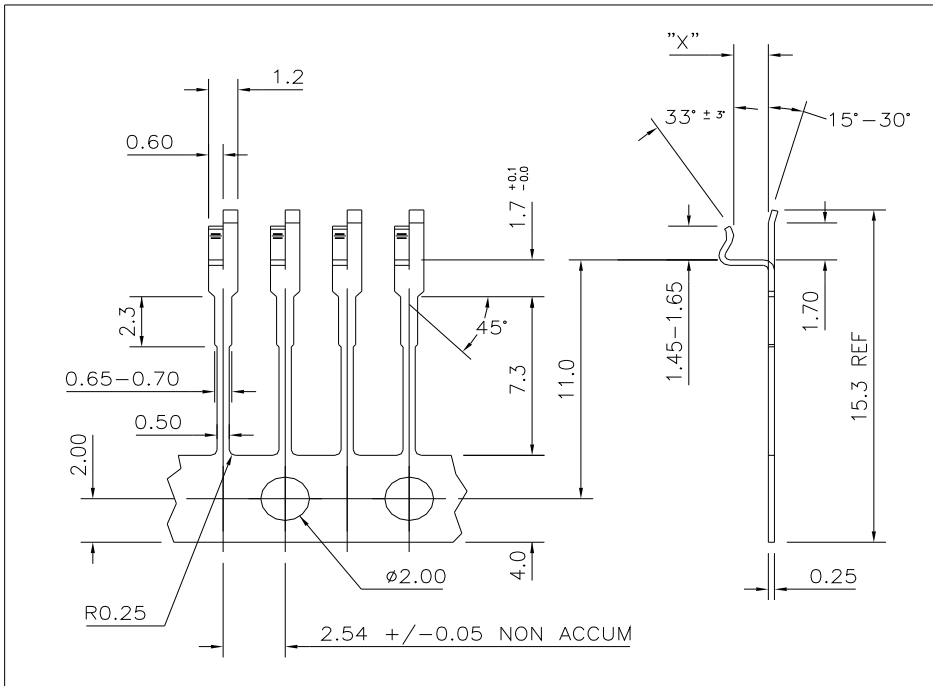
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
N/A N/A	N/A N/A	N/A N/A	13.8mm 0.543"	N/A N/A	<b>BA5020</b>	<b>TZ</b>	<b>BZ</b>	<b>4A</b>	<b>H</b> <b>(100K)</b>	<b>1 to 4</b>

\*Shaded Part Numbers are subject to Minimum Order Quantities of 500,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Other plating styles on request

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA5020</b>	<b>TZ</b>	<b>BZ</b>	<b>4A</b>	<b>H</b>	<b>1 to 4</b>



**SIL**  
**BA5200**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
15.3mm  
0.602 inch

**Material Thickness**  
0.25mm  
0.010 inch

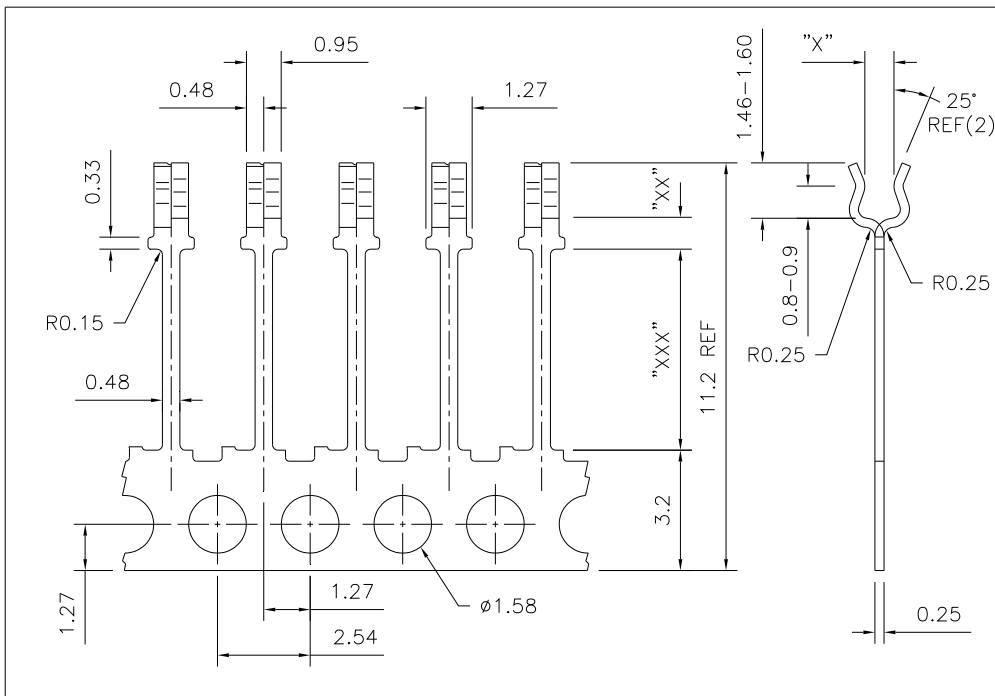
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.62-0.70mm</b> 0.024-0.027"	<b>0.54mm</b> 0.021"	<b>1.7mm</b> 0.067"	<b>7.3mm</b> 0.287"	<b>1.55mm</b> 0.061"	<b>BA5200</b>	<b>TZ</b>	<b>BZ</b>	<b>4A</b>	<b>F</b> <b>(50K)</b>	<b>1 to 4</b>
<b>1.47-1.55mm</b> 0.058-0.061"	<b>1.42mm</b> 0.056"	<b>1.7mm</b> 0.067"	<b>7.3mm</b> 0.287"	<b>1.55mm</b> 0.061"	<b>BA5201</b>	<b>TZ</b>	<b>BZ</b>	<b>4A</b>	<b>C</b> <b>(30K)</b>	<b>1 to 4</b>

\*Shaded Part Numbers are subject to Minimum Order Quantities of 500,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA5200</b>	<b>TZ</b>	<b>BZ</b>	<b>4A</b>	<b>F</b>	<b>1 to 4</b>

Other plating styles on request



**SIL**  
**BA5600**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
11.2mm  
0.441 inch

**Material Thickness**  
0.25mm  
0.010 inch

Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.62-0.71mm</b> 0.024-0.028"	<b>0.56mm</b> 0.022"	<b>0.95mm</b> 0.0374"	<b>5.61mm</b> 0.221"	<b>1.52mm</b> 0.060"	<b>BA5600</b>	<b>TZ</b>	<b>BZ</b>	<b>4A</b>	<b>F</b> <b>(50K)</b>	<b>1 to 4</b>
<b>0.89-0.97mm</b> 0.035-0.038"	<b>0.80mm</b> 0.032"	<b>0.95mm</b> 0.0374"	<b>5.61mm</b> 0.221"	<b>1.52mm</b> 0.060"	<b>BA5601</b>	<b>TZ</b>	<b>BZ</b>	<b>4A</b>	<b>F</b> <b>(50K)</b>	<b>1 to 4</b>

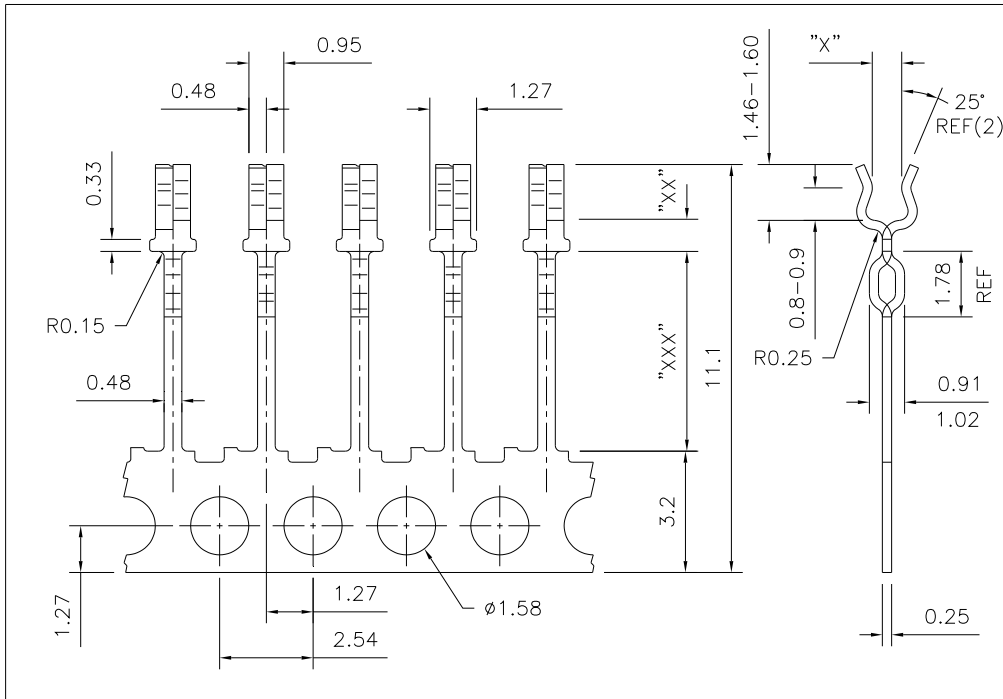
\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA5601</b>	<b>TZ</b>	<b>BZ</b>	<b>4A</b>	<b>F</b>	<b>1 to 4</b>

Other plating styles on request





**SIL**  
**BA5700**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
11.1mm  
0.441 inch

**Material Thickness**  
0.25mm  
0.010 inch

Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.89-0.97mm</b> 0.035-0.038"	<b>0.80mm</b> 0.032"	<b>0.95mm</b> 0.0374"	<b>5.4mm</b> 0.213"	<b>1.52mm</b> 0.060"	<b>BA5701</b>	<b>TZ</b>	<b>BZ</b>	<b>4A</b>	<b>F</b> <b>(50K)</b>	<b>1 to 4</b>

\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA5701</b>	<b>TZ</b>	<b>BZ</b>	<b>4A</b>	<b>F</b>	<b>1 to 4</b>

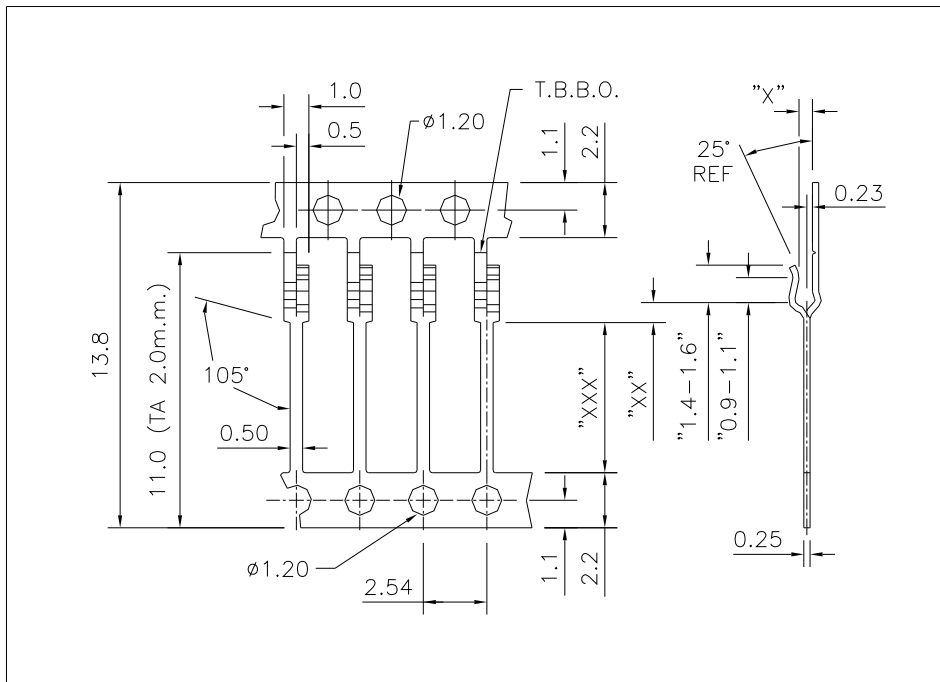
Other plating styles on request



# BATTEN & ALLEN

PROGRESSION IN STAMPING

Tel: +44(0)1285 655220  
 Fax: +44(0)1285 652650  
 sales@batten-allen.co.uk  
[www.batten-allen.com](http://www.batten-allen.com)



**SIL**  
**BA5800**  
 SERIES  
 SHEET 1 OF 1

**Pitch**  
 2.54 mm  
 0.100 inch

**Strip Width**  
 13.8mm  
 0.543 inch

**Material Thickness**  
 0.25mm  
 0.010 inch

Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.62-0.70mm</b> 0.024-0.027"	<b>0.53mm</b> 0.021"	<b>0.70mm</b> 0.028"	<b>6.00mm</b> 0.236"	<b>1.50mm</b> 0.059"	<b>BA5800</b>	<b>TA</b> <b>TZ</b> <b>UH</b>	<b>BZ</b>	<b>4A</b>	<b>F</b> <b>(50K)</b>	<b>1 to 4</b>

\*Shaded Part Numbers are subject to Minimum Order Quantities of 500,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA5800</b>	<b>TA</b>	<b>BZ</b>	<b>4A</b>	<b>F</b>	<b>1 to 4</b>

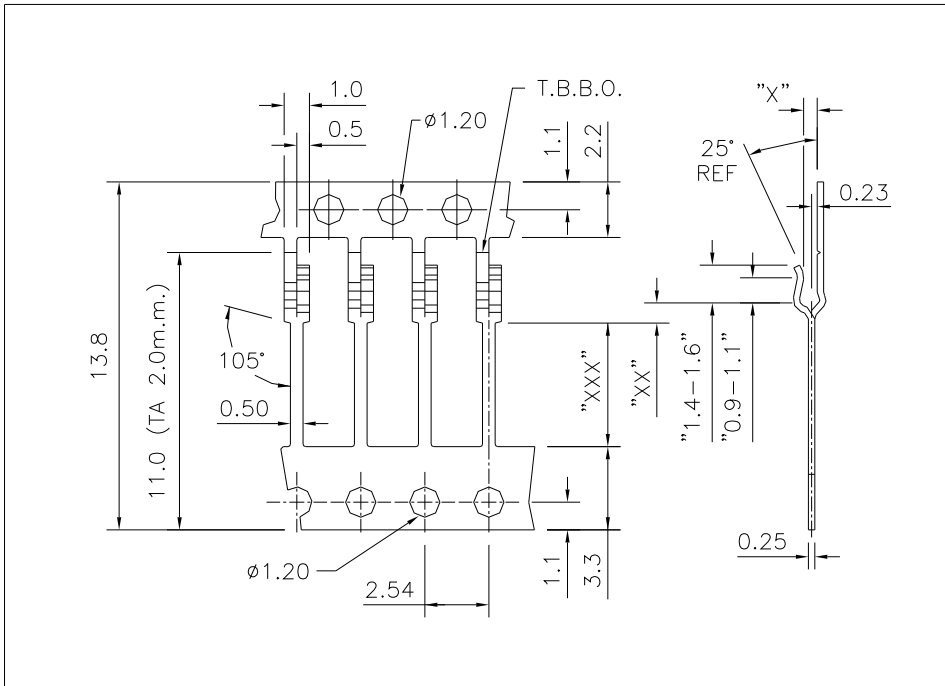
Other plating styles on request



# BATTEN & ALLEN

PROGRESSION IN STAMPING

Tel: +44(0)1285 655220  
 Fax: +44(0)1285 652650  
 sales@batten-allen.co.uk  
[www.batten-allen.com](http://www.batten-allen.com)



**SIL**  
**BA5810**  
 SERIES  
 SHEET 1 OF 1

**Pitch**  
 2.54 mm  
 0.100 inch

**Strip Width**  
 13.8mm  
 0.543 inch

**Material Thickness**  
 0.25mm  
 0.010 inch

Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.62-0.70mm</b> 0.024-0.027"	<b>0.53mm</b> 0.021"	<b>1.10mm</b> 0.043"	<b>4.50mm</b> 0.177"	<b>1.50mm</b> 0.059"	<b>BA5810</b>	<b>TA</b> <b>TZ</b> <b>UH</b>	<b>BZ</b>	<b>4A</b>	<b>F</b> <b>(50K)</b>	<b>1 to 4</b>

\*Shaded Part Numbers are subject to Minimum Order Quantities of 500,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA5810</b>	<b>TA</b>	<b>BZ</b>	<b>4A</b>	<b>F</b>	<b>1 to 4</b>

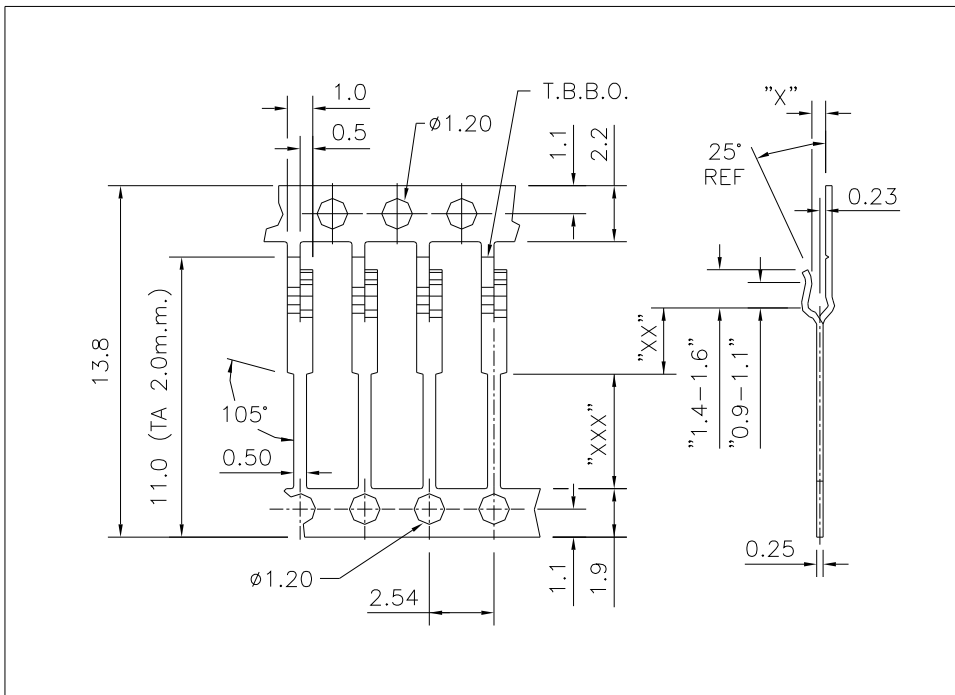
Other plating styles on request



# BATTEN & ALLEN

PROGRESSION IN STAMPING

Tel: +44(0)1285 655220  
 Fax: +44(0)1285 652650  
 sales@batten-allen.co.uk  
[www.batten-allen.com](http://www.batten-allen.com)



**SIL**  
**BA5820**  
 SERIES  
 SHEET 1 OF 1

**Pitch**  
 2.54 mm  
 0.100 inch

**Strip Width**  
 13.8mm  
 0.543 inch

**Material Thickness**  
 0.25mm  
 0.010 inch

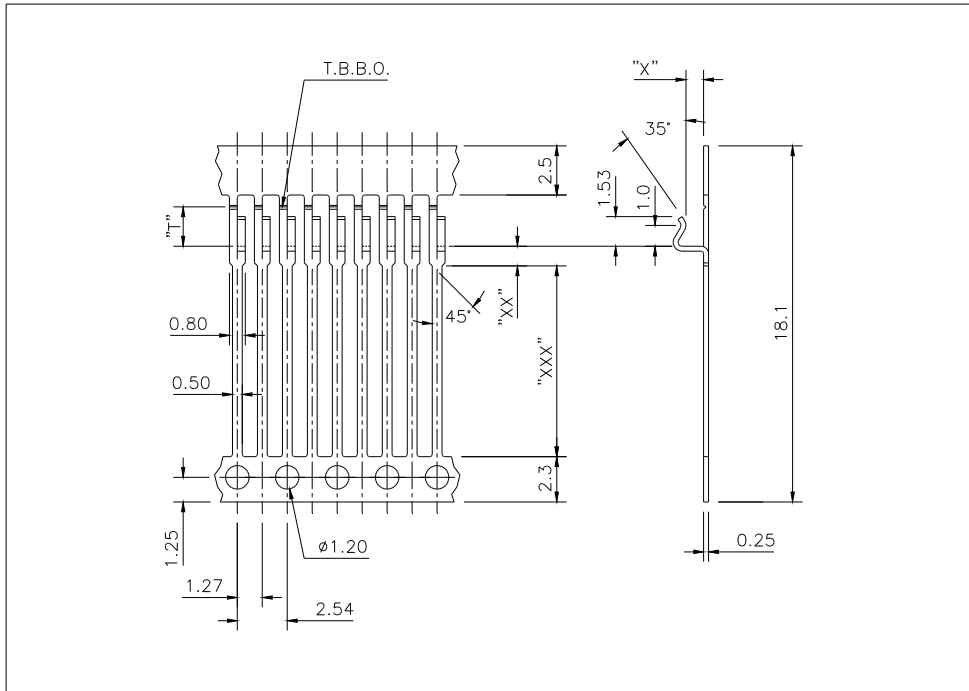
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.62-0.70mm</b> 0.024-0.027"	<b>0.53mm</b> 0.021"	<b>2.50mm</b> 0.980"	<b>4.50mm</b> 0.177"	<b>1.50mm</b> 0.059"	<b>BA5820</b>	<b>TA</b> <b>TZ</b> <b>UH</b>	<b>BZ</b>	<b>4A</b>	<b>F</b> <b>(50K)</b>	<b>1 to 4</b>

\*Shaded Part Numbers are subject to Minimum Order Quantities of 500,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA5820</b>	<b>TZ</b>	<b>BZ</b>	<b>4A</b>	<b>F</b>	<b>1 to 4</b>

Other plating styles on request



**SIL**  
**BA6200**  
SERIES  
SHEET 1 OF 1

**Pitch**  
1.27 mm  
0.050 inch

**Strip Width**  
18.1mm  
0.712 inch

**Material Thickness**  
0.25mm  
0.010 inch

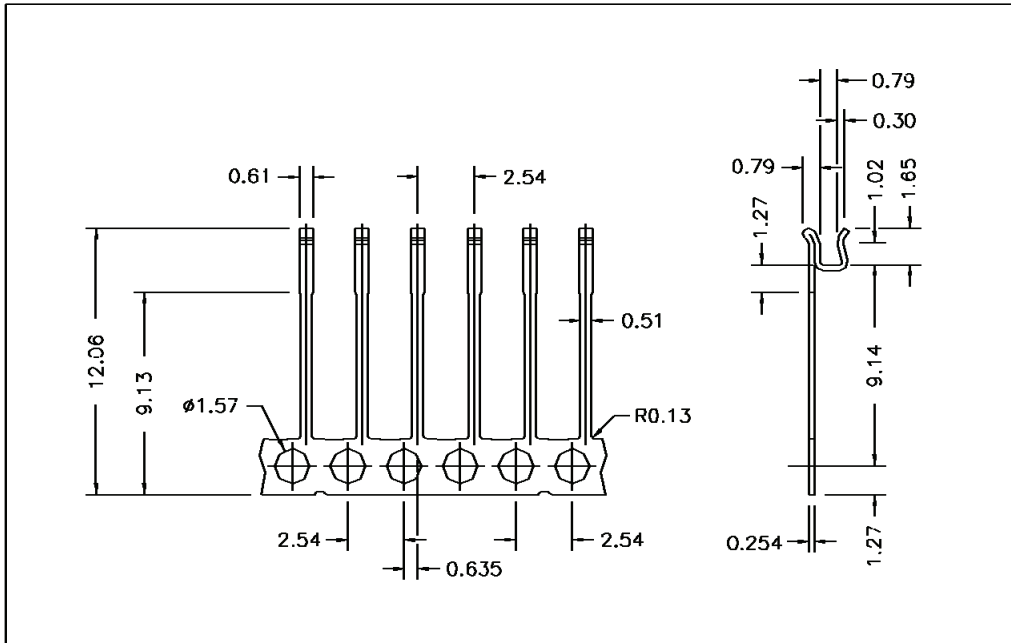
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.58-0.74mm</b> 0.023-0.029"	<b>0.53mm</b> 0.021"	<b>1.0mm</b> 0.0394"	<b>9.7mm</b> 0.382"	<b>1.53mm</b> 0.060"	<b>BA6200</b>	<b>TA</b>	<b>BZ</b>	<b>4A</b>	<b>H</b> <b>(100K)</b>	<b>1 to 4</b>
<b>1.00-1.15mm</b> 0.039-0.045"	<b>0.88mm</b> 0.0346"	<b>1.0mm</b> 0.0394"	<b>9.7mm</b> 0.382"	<b>1.53mm</b> 0.060"	<b>BA6201</b>	<b>TA</b>	<b>BZ</b>	<b>4A</b>	<b>G</b> <b>(80K)</b>	<b>1 to 4</b>

\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Other plating styles on request

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA6200</b>	<b>TA</b>	<b>BZ</b>	<b>4A</b>	<b>H</b>	<b>1 to 4</b>



**SIL**  
**BA6440**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
12.06mm  
0.475 inch

**Material Thickness**  
0.25mm  
0.010 inch

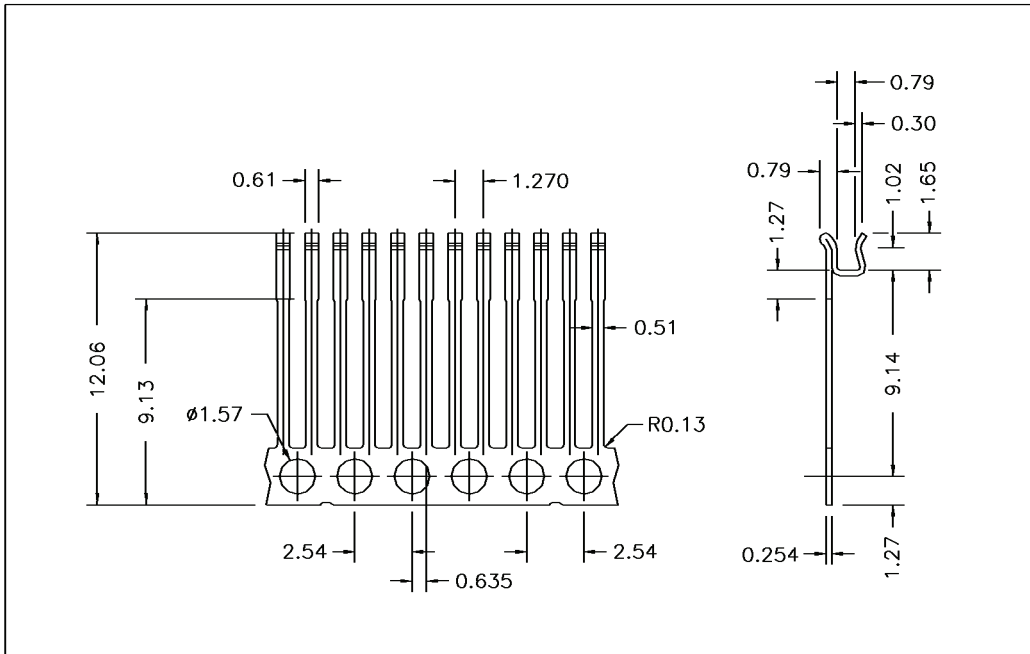
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
0.89-1.05mm 0.035-0.041"	0.79mm 0.031"	1.27mm 0.050"	5.8mm 0.228"	1.65mm 0.065"	BA6442	TZ	BZ	4A Z	E (40K)	1 to 4

\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Other plating styles on request

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
BA6442	TZ	BZ	4A	E	1 to 4



**SIL**  
**BA6460**  
SERIES  
SHEET 1 OF 1

**Pitch**  
1.27 mm  
0.050 inch

**Strip Width**  
12.06mm  
0.475 inch

**Material Thickness**  
0.25mm  
0.010 inch

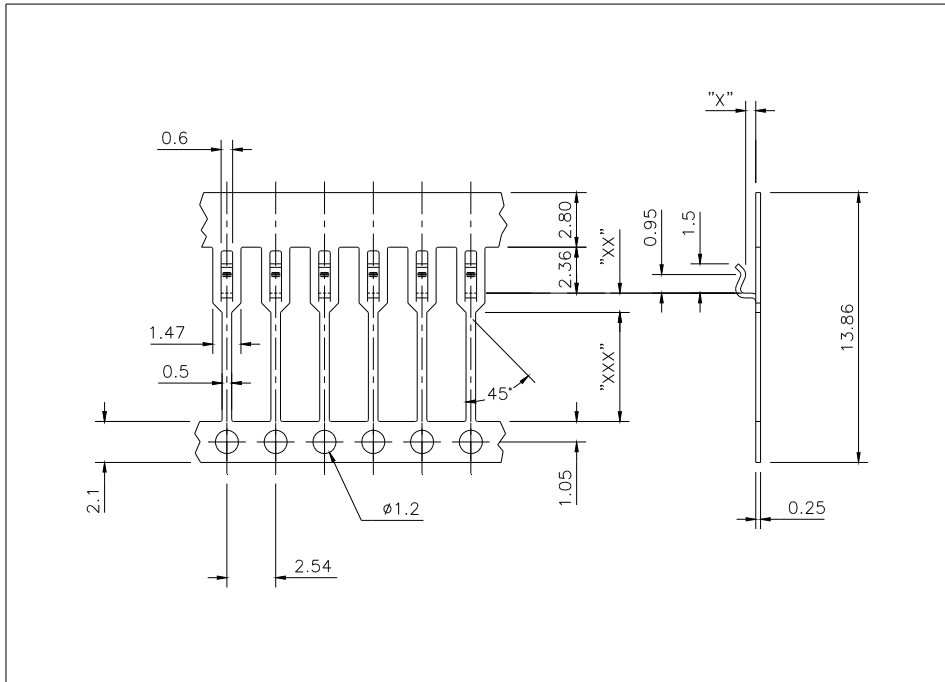
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.89-1.05mm</b> 0.035-0.041"	<b>0.79mm</b> 0.031"	<b>1.27mm</b> 0.050"	<b>5.8mm</b> 0.228"	<b>1.65mm</b> 0.065"	<b>BA6462</b>	<b>TZ</b>	<b>BZ</b>	<b>4A</b> <b>Z</b>	<b>G</b> <b>(80K)</b>	<b>1 to 4</b>

\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Other plating styles on request

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA6462</b>	<b>TZ</b>	<b>BZ</b>	<b>4A</b>	<b>G</b>	<b>1 to 4</b>



**SIL**  
**BA7000**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
13.86mm  
0.545 inch

**Material Thickness**  
0.25mm  
0.010inch

Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.62-0.70mm</b> 0.024-0.027"	<b>0.53mm</b> 0.021"	<b>1.0mm</b> 0.039"	<b>5.6mm</b> 0.220"	<b>1.5mm</b> 0.059"	<b>BA7000</b>	<b>TZ</b>	<b>BZ</b>	<b>1A</b>	<b>F</b> <b>(50K)</b>	<b>1 to 4</b>

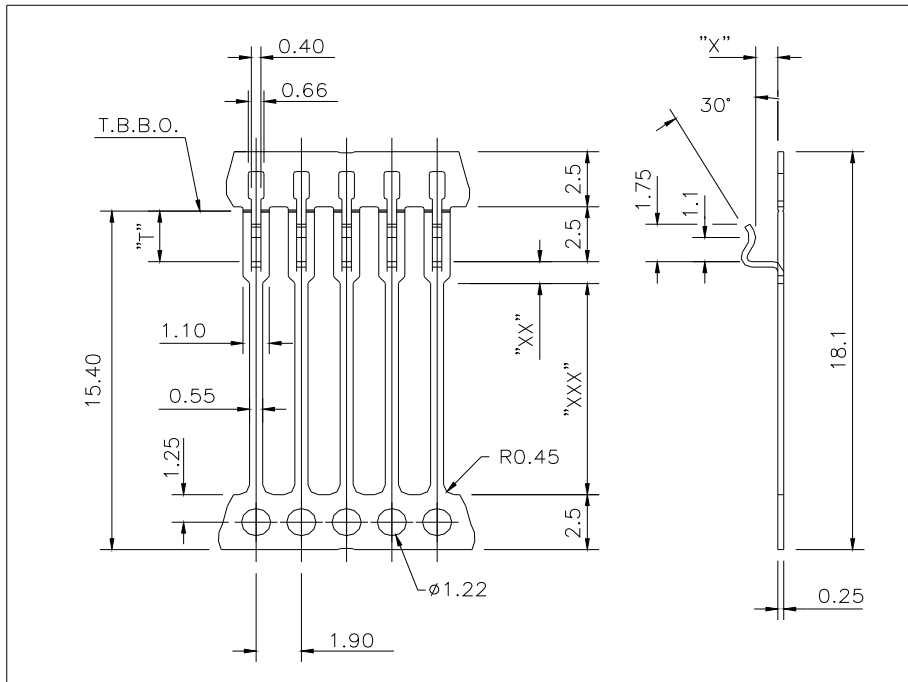
\*Shaded Part Numbers are subject to Minimum Order Quantities of 500,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Other plating styles on request

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA7000</b>	<b>TZ</b>	<b>BZ</b>	<b>1A</b>	<b>F</b>	<b>1 to 4</b>





**SIL**  
**BA7200**  
SERIES  
SHEET 1 OF 1

**Pitch**  
1.905 mm  
0.075 inch

**Strip Width**  
18.1mm  
0.712 inch

**Material Thickness**  
0.25mm  
0.010 inch

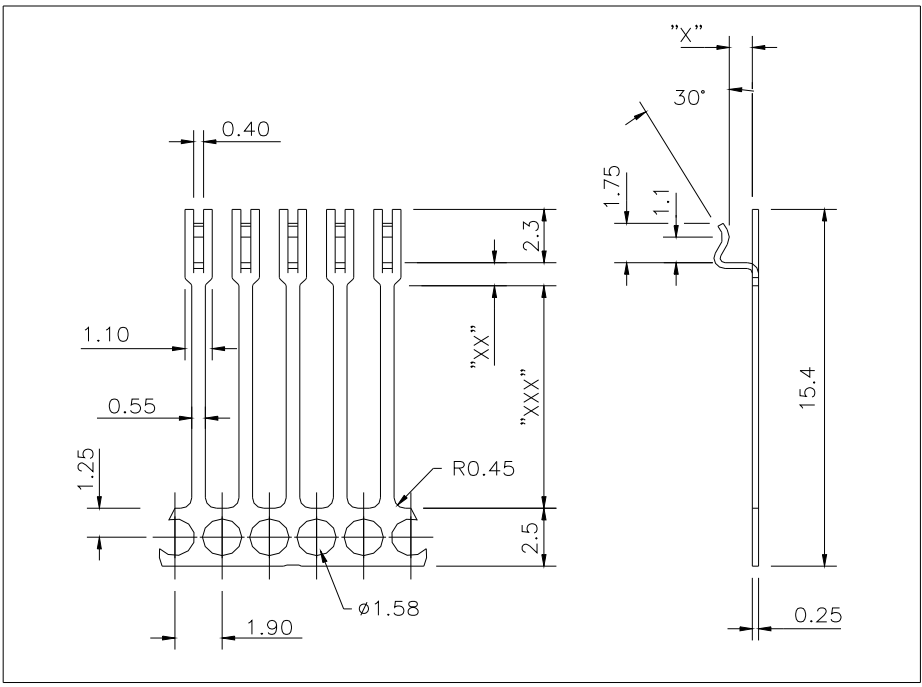
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.62-0.70mm</b> 0.024-0.027"	<b>0.53mm</b> 0.021"	<b>1.0mm</b> 0.039"	<b>9.6mm</b> 0.378"	<b>1.75mm</b> 0.069"	<b>BA7200</b>	<b>TJ</b>	<b>BZ</b>	<b>4A</b>	<b>K</b> <b>(75K)</b>	<b>1 to 4</b>
<b>1.00-1.08mm</b> 0.039-0.042"	<b>0.93mm</b> 0.037"	<b>1.0mm</b> 0.039"	<b>9.6mm</b> 0.378"	<b>1.75mm</b> 0.069"	<b>BA7202</b>	<b>TJ</b>	<b>BZ</b>	<b>4A</b>	<b>J</b> <b>(60K)</b>	<b>1 to 4</b>

\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Other plating styles on request

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA7200</b>	<b>TJ</b>	<b>BZ</b>	<b>4A</b>	<b>K</b>	<b>1 to 4</b>



**SIL**  
**BA7210**  
SERIES  
SHEET 1 OF 1

**Pitch**  
1.905 mm  
0.075 inch

**Strip Width**  
15.4mm  
0.606 inch

**Material Thickness**  
0.25mm  
0.010 inch

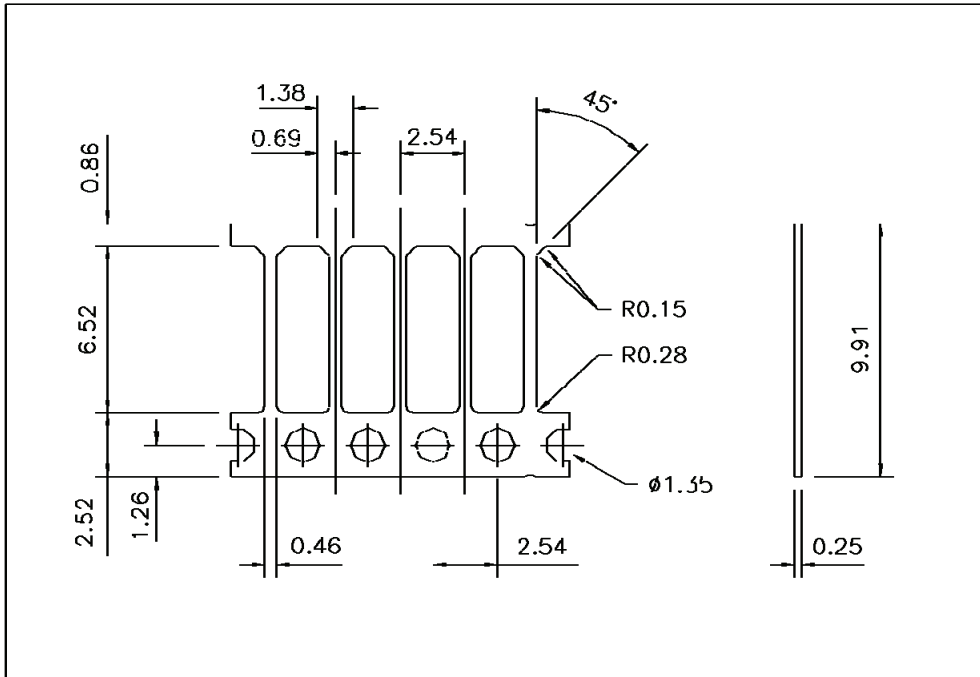
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.62-0.70mm</b> 0.024-0.027"	<b>0.53mm</b> 0.021"	<b>1.0mm</b> 0.039"	<b>9.6mm</b> 0.378"	<b>1.75mm</b> 0.069"	<b>BA7210</b>	<b>TZ</b>	<b>BZ</b>	<b>4A</b>	<b>K</b> <b>(75K)</b>	<b>1 to 4</b>
<b>1.00-1.08mm</b> 0.039-0.042"	<b>0.93mm</b> 0.037"	<b>1.0mm</b> 0.039"	<b>9.6mm</b> 0.378"	<b>1.75mm</b> 0.069"	<b>BA7212</b>	<b>TZ</b>	<b>BZ</b>	<b>4A</b>	<b>J</b> <b>(60K)</b>	<b>1 to 4</b>

\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA7210</b>	<b>TZ</b>	<b>BZ</b>	<b>4A</b>	<b>K</b>	<b>1 to 4</b>

Other plating styles on request



**SIL**  
**BA7300**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
9.91mm  
0.390 inch

**Material Thickness**  
0.25mm  
0.010 inch

Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
N/A	N/A	N/A	5.8mm 0.228"	N/A	<b>BA7300</b>	TZ	BZ	4A Z	M (160K)	1 or 2

\*Shaded Part Numbers are subject to Minimum Order Quantities of 800,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Other plating styles on request

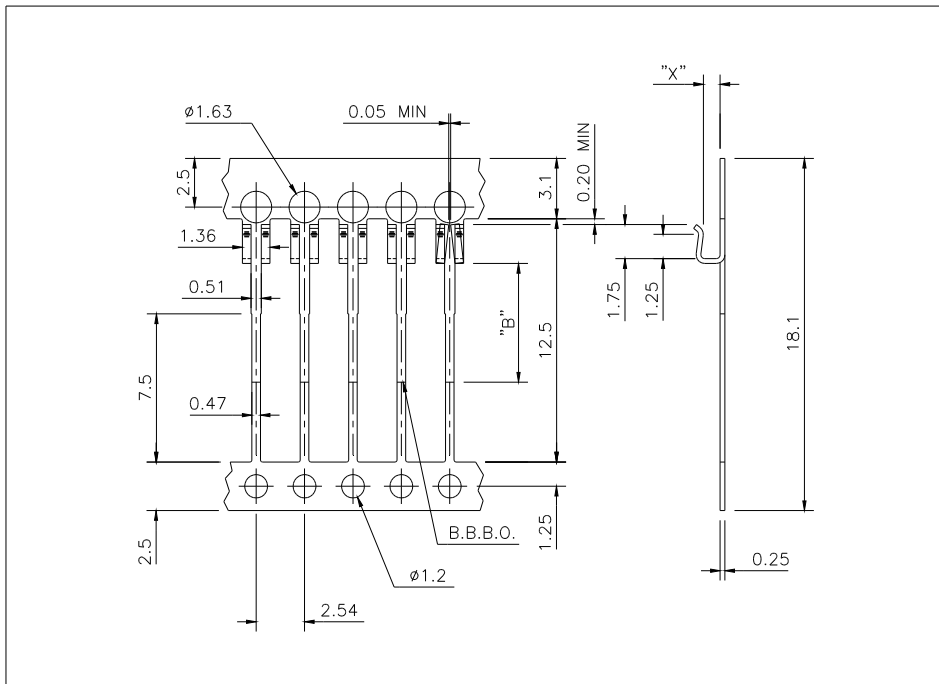
Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA7300</b>	TZ	BZ	4A	M	1 or 2



# BATTEN & ALLEN

PROGRESSION IN STAMPING

Tel: +44(0)1285 655220  
 Fax: +44(0)1285 652650  
 sales@batten-allen.co.uk  
[www.batten-allen.com](http://www.batten-allen.com)



**SIL**  
**BA9000**  
 SERIES  
 SHEET 1 OF 1

**Pitch**  
 2.54 mm  
 0.100 inch

**Strip Width**  
 18.1mm  
 0.712 inch

**Material Thickness**  
 0.25mm  
 0.010 inch

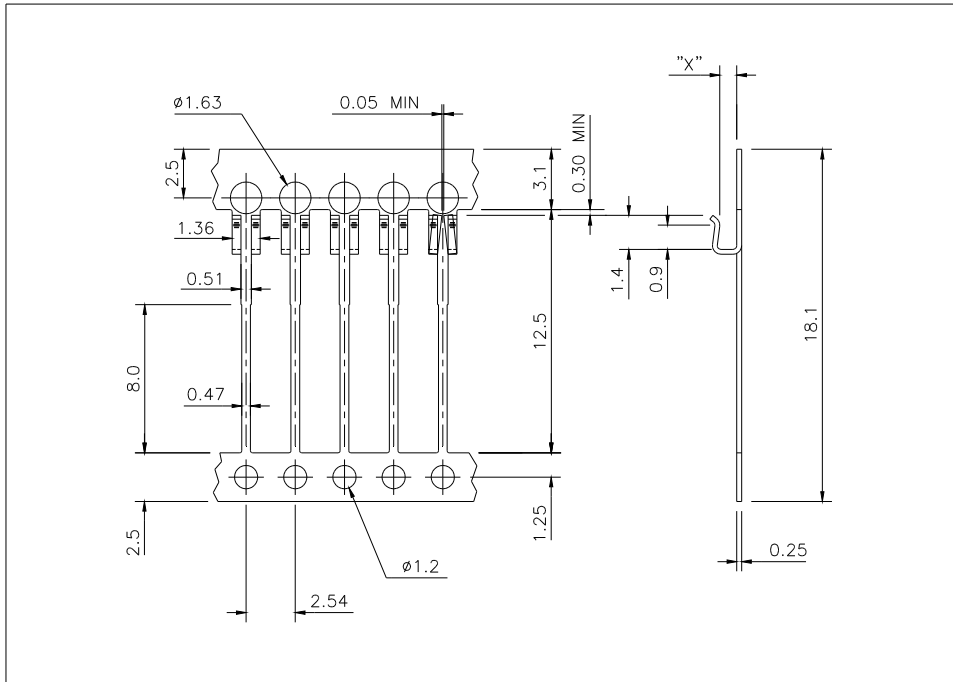
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.62-0.70mm</b> 0.024-0.027"	<b>0.55mm</b> 0.022"	—	—	<b>1.75mm</b> 0.069"	<b>BA9000</b>	<b>TZ</b>	<b>BZ</b> <b>BF</b> <b>BG</b>	<b>1A</b> <b>4A</b>	<b>F</b> <b>(50K)</b>	<b>1 to 4</b>
<b>1.00-1.08mm</b> 0.039-0.043"	<b>0.88mm</b> 0.035"	—	—	<b>1.75mm</b> 0.069"	<b>BA9001</b>	<b>TZ</b>	<b>BF</b> <b>BG</b>	<b>1A</b> <b>4A</b>	<b>F</b> <b>(50K)</b>	<b>1 to 4</b>

\*Shaded Part Numbers are subject to Minimum Order Quantities of 500,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Other plating styles on request

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA9000</b>	<b>TZ</b>	<b>BZ</b>	<b>4A</b>	<b>F</b>	<b>1 to 4</b>



**SIL**  
**BA9010**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
18.1mm  
0.712 inch

**Material Thickness**  
0.25mm  
0.010 inch

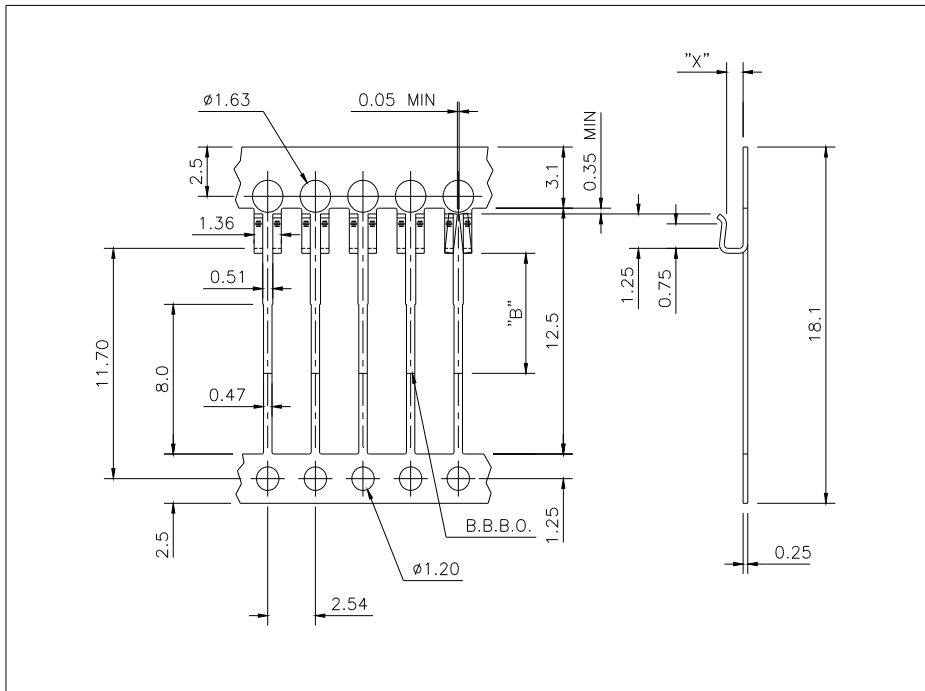
Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>1.00-1.08mm</b> 0.039-0.043"	<b>0.93mm</b> 0.037"	—	—	<b>1.40mm</b> 0.055"	<b>BA9010</b>	<b>TZ</b>	<b>BZ</b>	<b>1A</b> <b>4A</b>	<b>E</b> <b>(40K)</b>	<b>1 to 4</b>

\*Shaded Part Numbers are subject to Minimum Order Quantities of 480,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Other plating styles on request

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA9010</b>	<b>TZ</b>	<b>BZ</b>	<b>4A</b>	<b>E</b>	<b>1 to 4</b>



**SIL**  
**BA9200**  
SERIES  
SHEET 1 OF 1

**Pitch**  
2.54 mm  
0.100 inch

**Strip Width**  
18.1mm  
0.712 inch

**Material Thickness**  
0.25mm  
0.010 inch

Technical Information					Ordering Information					
Substrate Size	Gap Size *X*	Stand Off *XX*	Pin Length *XXX*	Clip Length	Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>0.62-0.70mm</b> 0.024-0.027"	<b>0.55mm</b> 0.022"	—	—	<b>1.25mm</b> 0.049"	<b>BA9200</b>	<b>TZ</b>	<b>BZ</b> <b>BF</b> <b>BG</b>	<b>1A</b> <b>4A</b>	<b>F</b> <b>(50K)</b>	<b>1 to 4</b>

\*Shaded Part Numbers are subject to Minimum Order Quantities of 500,000

**EXAMPLE OF POSSIBLE ORDER CODE**

Part Number	Top Bar *T*	Bottom Bar *B*	Plating Code	Quantity Per Reel	Wind Style
<b>BA9200</b>	<b>TZ</b>	<b>BZ</b>	<b>4A</b>	<b>F</b>	<b>1 to 4</b>

Other plating styles on request



BATTEN & ALLEN LIMITED

## **Assembly Systems**

Single in Line  
&  
Dual in Line

Please Contact  
**Batten & Allen Ltd**  
For details of a range of  
Assembly Systems from Hand  
Operated to Fully Automatic.