

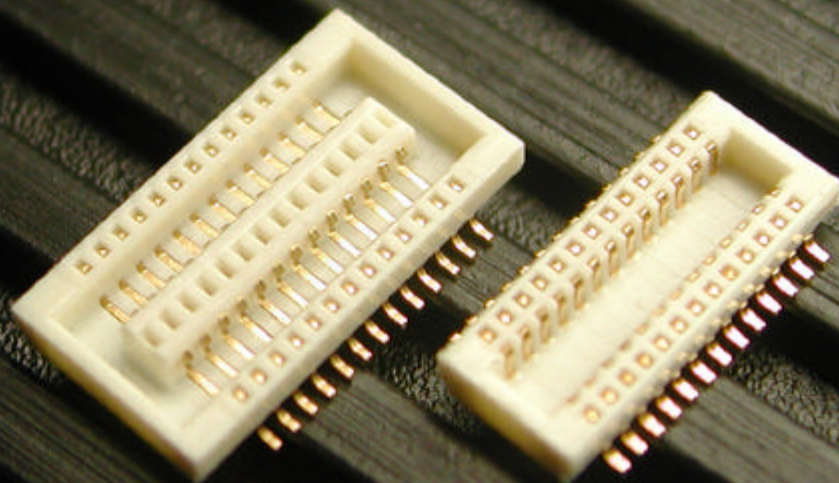
# BB515

series

0.5mm Pitch

Mated Height=1.5mm

P.C BOARD CONN. , SMT , Dual Row , Straight

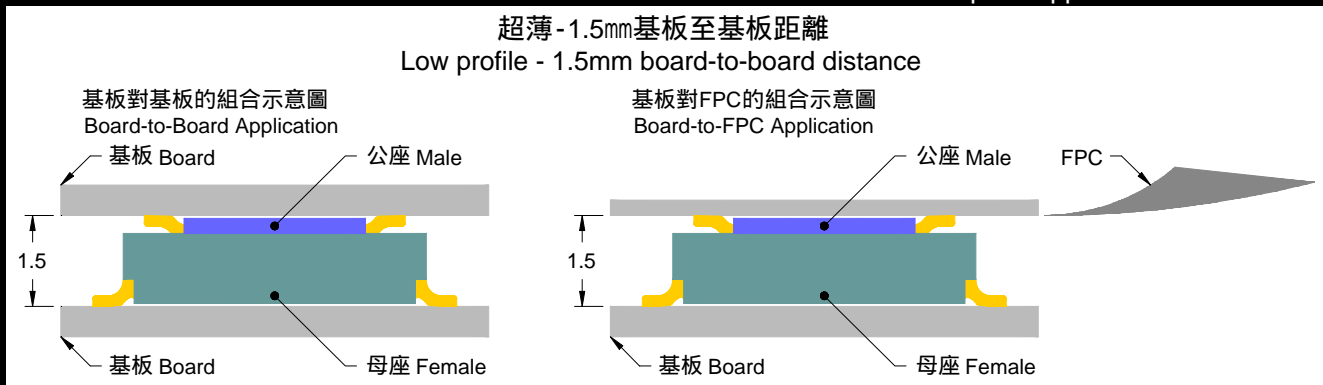


**TC-TEK**

## 特色 FEATURES

### 超薄 Low Profile

在基板對基板或基板對 FPC 結合後，板至板空間為 1.5mm，並在這狹窄空間做大量訊號的完美連接。  
The 1.5mm board-to-board distance makes these connectors ideal for limited space applications.



### 規格齊全的訊號接點 Large variety of Number of Contacts

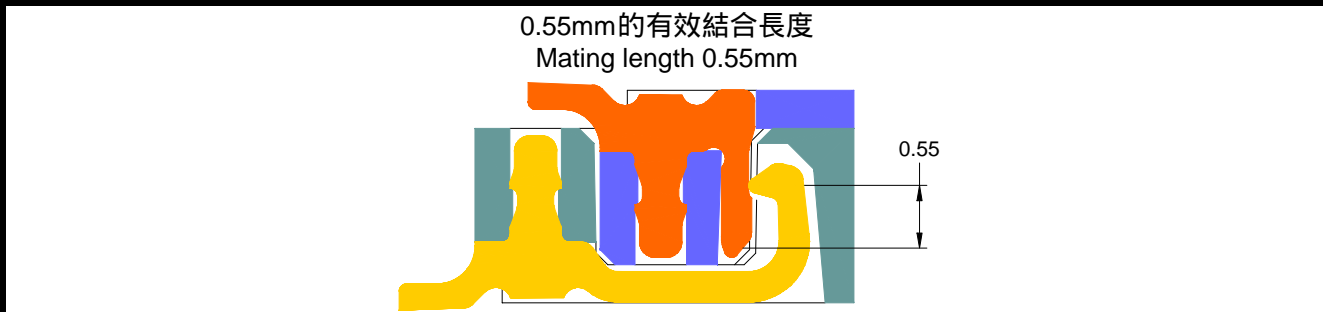
提供 10、12、14 - 100 個接點數供選擇，線路設計時可避免牽就零件規格造成板材的浪費。  
Available with 10、12、14 - 100 contacts.

### 絕佳的組合觸感 Click Sensation

當公座與母座結合時，會發出明顯的卡嗒感覺，即可判別公母座是否已緊密結合。  
Positive click sensation when completely mated confirms correct insertion and connection of all contacts.

### 0.55mm 的有效結合長度 Mating length 0.55mm

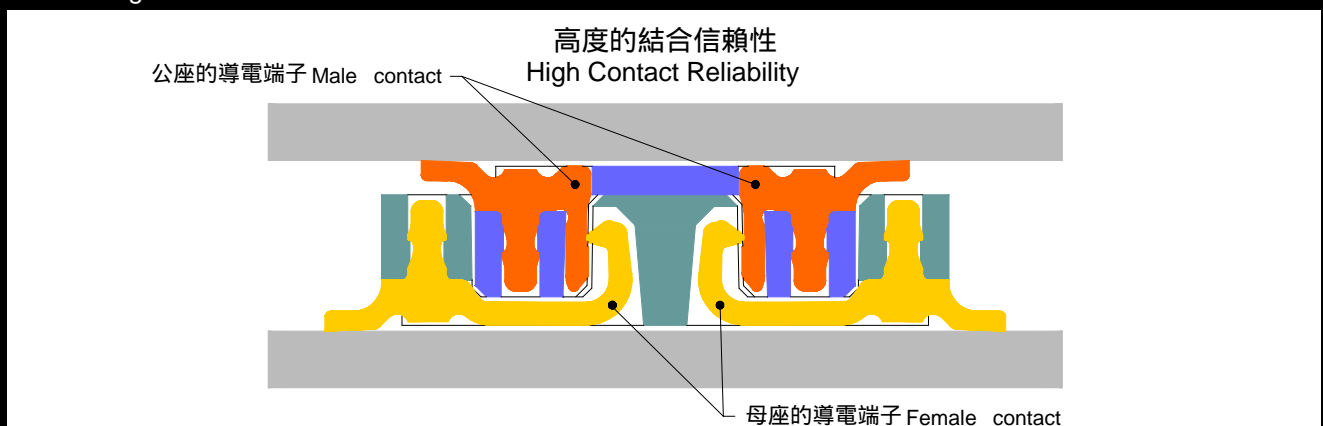
公母座結合後其導電端子維持 0.55mm 的對插距離。  
The effective mating length has been extended to ensure that there is some latitude in the mating.



### 高度的結合信賴性 High Contact Reliability

儘管是只有 1.5mm 的結合空間，當結合後母座的導電端子依然保持彈力有效的緊緊抓住公座的導電端子，維持完美的電氣連接。

While achieving a low profile of 1.5mm between PCBs, the female contacts maintain reliable spring force assuring secure electrical contact.



## 適用的產品 APPLICATIONS

手機、掌上型電腦、筆記型電腦、數位相機、或其它小型化電子產品的基板對基板連接機構。  
Mobile phones , PDA' s , Notebook PC' s , Digital cameras and other miniature devices.

## 產品編碼 ORDERING INFORMATION

BB	515	-	xxx	x	-	xx	xxx
1	2		3	4		5	6

<b>1</b> 系列名稱 Series name	BB
<b>2</b> 系列編號 Series number	515
<b>3</b> 接點數量 Number of contacts	010 - 100
<b>4</b> 組合樣式 Assembly style	M - 公座 Male F - 母座 Female
<b>5</b> 包裝方式 Packaging	TA - 帶狀捲式包裝 Embossed Tape TU - 管裝 Tube
<b>6</b> 電鍍方式 Plating	05G - 鎳底鍍 5 $\mu$ " 金 5 $\mu$ " Gold over Nickel 10G - 鎳底鍍 10 $\mu$ " 金 10 $\mu$ " Gold over Nickel

## 材質 MATERIAL

### 公座 Male

絕緣膠體 Housing : 尼龍 46 含玻璃纖維 Glass-Filled Nylon46  
顏色 Color : 白色 White  
耐燃等級(UL94V-0) Flammability Rating (UL94V-0)

導電端子 Contacts : 黃銅 Brass

電鍍 Plating : 視訂單需求 See Ordering Information

### 母座 Female

絕緣膠體 Housing : 尼龍 46 含玻璃纖維 Glass-Filled Nylon46  
顏色 Color : 白色 White  
耐燃等級(UL94V-0) Flammability Rating (UL94V-0)

導電端子 Contacts : 磷青銅 Phosphor Bronze

電鍍 Plating : 視訂單需求 See Ordering Information

## 等級 RATING

最大容許電壓 Operating Voltage 50V AC/DC  
最大容許電流 Current Rating 0.5A AC/DC  
使用溫度範圍 Operating Temperature -25°C ~ +85°C (包含電流通過所產生的上昇溫度)  
(Including terminal temperature rise)

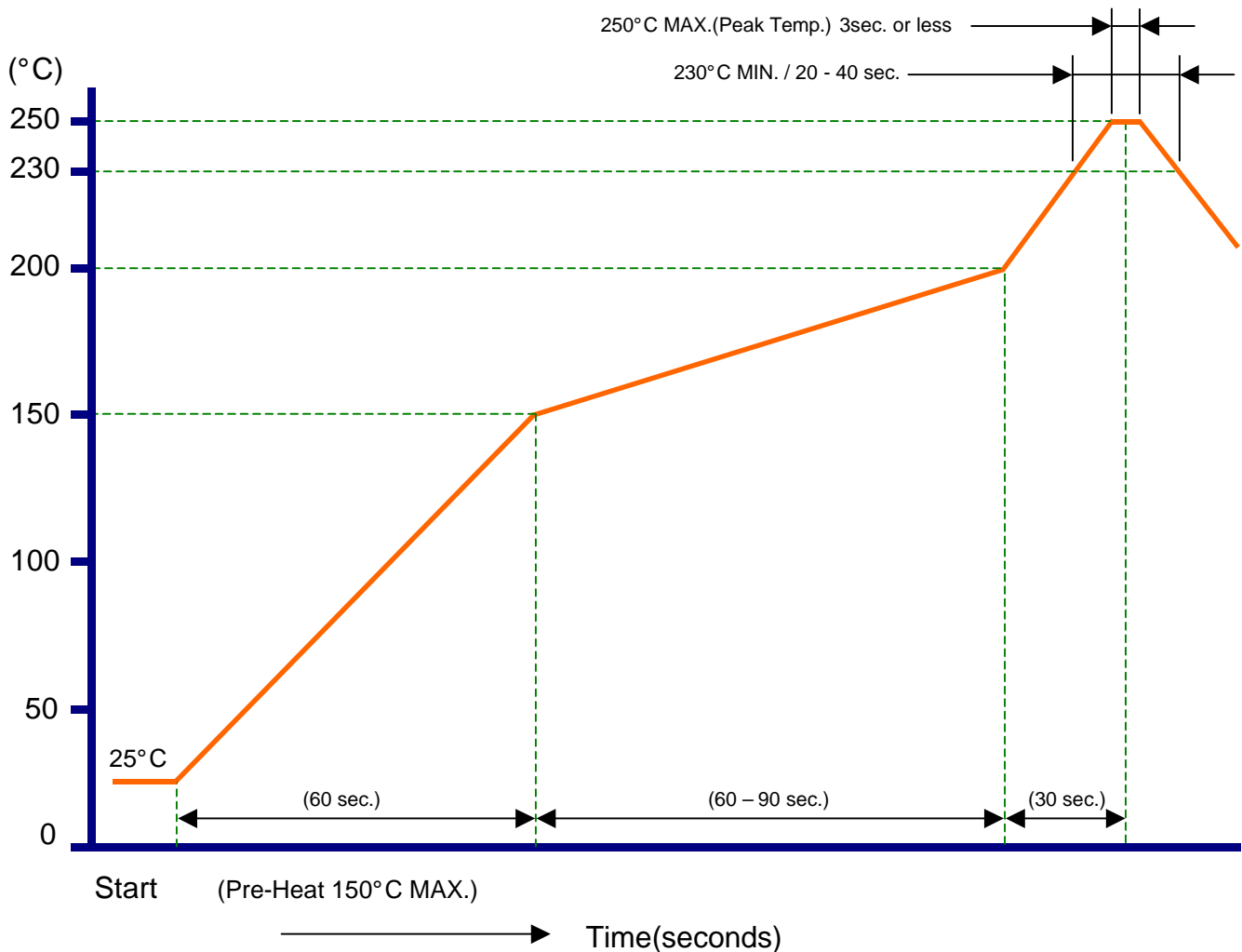


## 性能 PERFORMANCE

項目 ITEM	測試條件 TEST CONDITION	規格 REQUIREMENT	
<b>電氣特性 ELECTRICAL PERFORMANCE</b>			
Contact Resistance	Mate connectors, measure by dry circuit, 20mV Max., 10mA.	40 m	MAX.
Insulation Resistance	Mate connectors, apply 500V DC between adjacent terminal or ground. (MIL-STD-202 Method 302)	100 M	MIN.
Dielectric Strength	Mate connectors, apply 500V AC(rms) for 1 minute between adjacent terminal or ground. (MIL-STD-202 Method 301)	No Breakdown	
<b>機械特性 MECHANICAL PERFORMANCE</b>			
Insertion and Withdrawal Force	Insert and withdraw connectors at the speed rate of 25 ± 3 mm/minute.	Insertion Force	Pos.x 100gf (0.981N) MAX.
		Withdrawal Force	Pos.x 6gf (0.0588N) MIN.
Terminal / Housing Retention Force	Apply axial pull out force at the speed rate of 25 ± 3 mm/minute on the terminal assembled in the housing.	100gf (0.981N) MIN.	
<b>環境特性及其它性能 ENVIRONMENTAL PERFORMANCE AND OTHERS</b>			
Repeated Insertion/Withdrawal	When mated up to 30 cycles repeatedly by the rate of 10 cycles per minute.	Contact Resistance	80 m MAX.
Temperature Rise	Carrying rated current load. (UL 498)	Temperature rise	30 °C MAX.
Vibration	Amplitude : 1.5mm P-P Sweep time : 10-55-10 Hz in 1 minute Duration : 2 hours in each X.Y.Z. axes  (MIL-STD-202 Method 201)	Appearance	No Damage
		Contact Resistance	80 m MAX.
		Discontinuity	1 μ sec. MAX.
Shock	490m/s <sup>2</sup> (50G), 3 strokes in each X.Y.Z. axes. (MIL-STD-202 Method 213)	Appearance	No Damage
		Contact Resistance	80 m MAX.
		Discontinuity	1 μ sec. MAX.
Heat Resistance	85 ± 2°C, 96hours (MIL-STD-202 Method 108)	Appearance	No Damage
		Contact Resistance	80 m MAX.
Cold Resistance	-25 ± 3°C, 96hours	Appearance	No Damage
		Contact Resistance	80 m MAX.
Humidity	Temperature : 60 ± 2°C Relative Humidity : 90 95% Duration : 96 hours  (MIL-STD-202 Method 103)	Appearance	No Damage
		Contact Resistance	80 m MAX.
		Dielectric Strength	No Breakdown
		Insulation Resistance	100 M MIN.
Temperature Cycling	5 cycles of: a) -55°C 30minutes b) +85°C 30minutes	Appearance	No Damage
		Contact Resistance	80 m MAX.

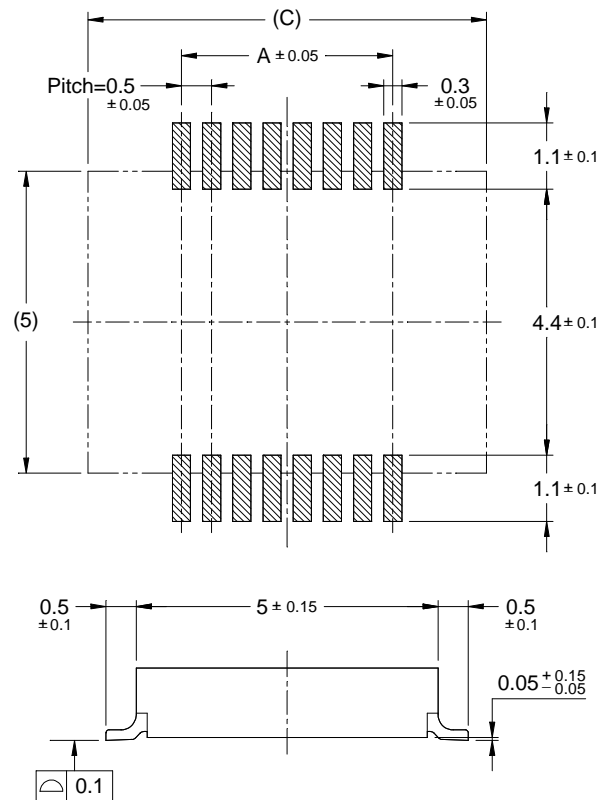
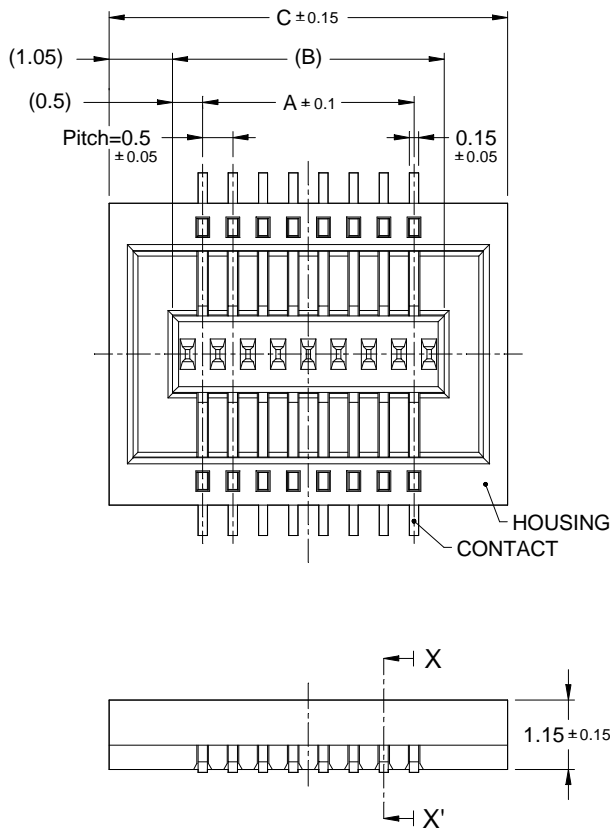
項目 ITEM	測試條件 TEST CONDITION	規格 REQUIREMENT	
Salt Spray	48 ± 4 hours exposure to a salt spray from the 5±1% solution at 35 ± 2 °C	Appearance	No Damage
		Contact Resistance	80 m MAX.
SO <sub>2</sub> Gas	24 hours exposure to 50 ± 5ppm. SO <sub>2</sub> gas at 40 ± 2 °C	Appearance	No Damage
		Contact Resistance	80 m MAX.
NH <sub>3</sub> Gas	40 minutes exposure to NH <sub>3</sub> gas evaporating from 28% Ammonia solution.	Appearance	No Damage
		Contact Resistance	80 m MAX.
Solderability	Soldering Time: 3 ± 0.5 sec. Solder Temperature : 230 ± 5 °C	Solder Wetting	95% of immersed area must show no voids, pin holes.
Resistance to Soldering Heat	Refer to <u>INFRARED REFLOW CONDITION</u>	Appearance	No Damage

### 紅外線迴焊溫度曲線 INFRARED REFLOW CONDITION



# 母座尺寸 DIMENSIONS / FEMALE

## PCB Layout

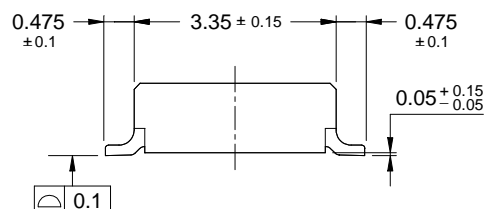
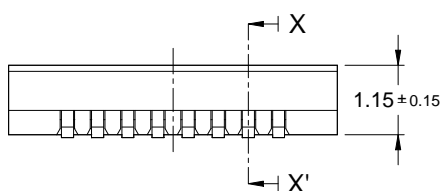
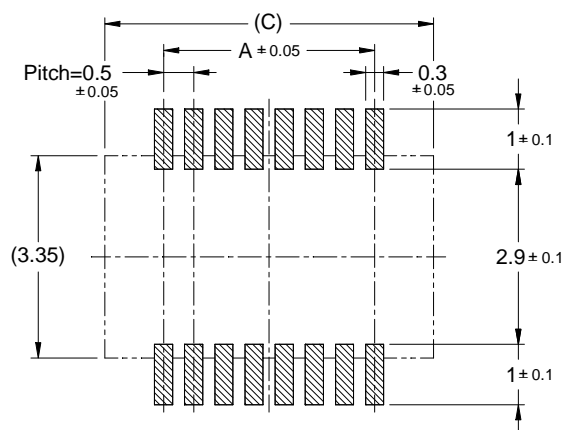
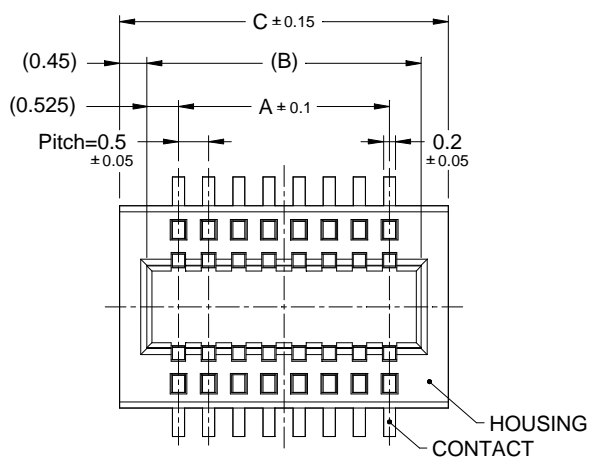


No. of Contacts	Part No.	DIM. A	DIM. B	DIM. C
10	BB515-010F-xxxxx	2.0	3.0	5.1
12	BB515-012F-xxxxx	2.5	3.5	5.6
14	BB515-014F-xxxxx	3.0	4.0	6.1
16	BB515-016F-xxxxx	3.5	4.5	6.6
18	BB515-018F-xxxxx	4.0	5.0	7.1
20	BB515-020F-xxxxx	4.5	5.5	7.6
22	BB515-022F-xxxxx	5.0	6.0	8.1
24	BB515-024F-xxxxx	5.5	6.5	8.6
26	BB515-026F-xxxxx	6.0	7.0	9.1
28	BB515-028F-xxxxx	6.5	7.5	9.6
30	BB515-030F-xxxxx	7.0	8.0	10.1
32	BB515-032F-xxxxx	7.5	8.5	10.6
34	BB515-034F-xxxxx	8.0	9.0	11.1
36	BB515-036F-xxxxx	8.5	9.5	11.6
38	BB515-038F-xxxxx	9.0	10.0	12.1
40	BB515-040F-xxxxx	9.5	10.5	12.6
42	BB515-042F-xxxxx	10.0	11.0	13.1
44	BB515-044F-xxxxx	10.5	11.5	13.6
46	BB515-046F-xxxxx	11.0	12.0	14.1
48	BB515-048F-xxxxx	11.5	12.5	14.6
50	BB515-050F-xxxxx	12.0	13.0	15.1
52	BB515-052F-xxxxx	12.5	13.5	15.6
54	BB515-054F-xxxxx	13.0	14.0	16.1

No. of Contacts	Part No.	DIM. A	DIM. B	DIM. C
56	BB515-056F-xxxxx	13.5	14.5	16.6
58	BB515-058F-xxxxx	14.0	15.0	17.1
60	BB515-060F-xxxxx	14.5	15.5	17.6
62	BB515-062F-xxxxx	15.0	16.0	18.1
64	BB515-064F-xxxxx	15.5	16.5	18.6
66	BB515-066F-xxxxx	16.0	17.0	19.1
68	BB515-068F-xxxxx	16.5	17.5	19.6
70	BB515-070F-xxxxx	17.0	18.0	20.1
72	BB515-072F-xxxxx	17.5	18.5	20.6
74	BB515-074F-xxxxx	18.0	19.0	21.1
76	BB515-076F-xxxxx	18.5	19.5	21.6
78	BB515-078F-xxxxx	19.0	20.0	22.1
80	BB515-080F-xxxxx	19.5	20.5	22.6
82	BB515-082F-xxxxx	20.0	21.0	23.1
84	BB515-084F-xxxxx	20.5	21.5	23.6
86	BB515-086F-xxxxx	21.0	22.0	24.1
88	BB515-088F-xxxxx	21.5	22.5	24.6
90	BB515-090F-xxxxx	22.0	23.0	25.1
92	BB515-092F-xxxxx	22.5	23.5	25.6
94	BB515-094F-xxxxx	23.0	24.0	26.1
96	BB515-096F-xxxxx	23.5	24.5	26.6
98	BB515-098F-xxxxx	24.0	25.0	27.1
100	BB515-100F-xxxxx	24.5	25.5	27.6

# 公座尺寸 DIMENSIONS / MALE

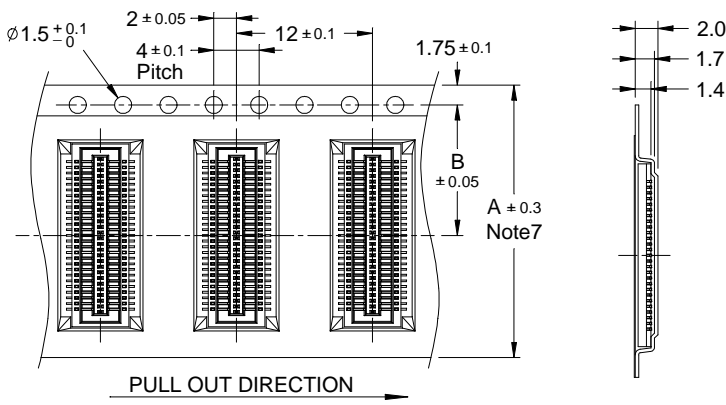
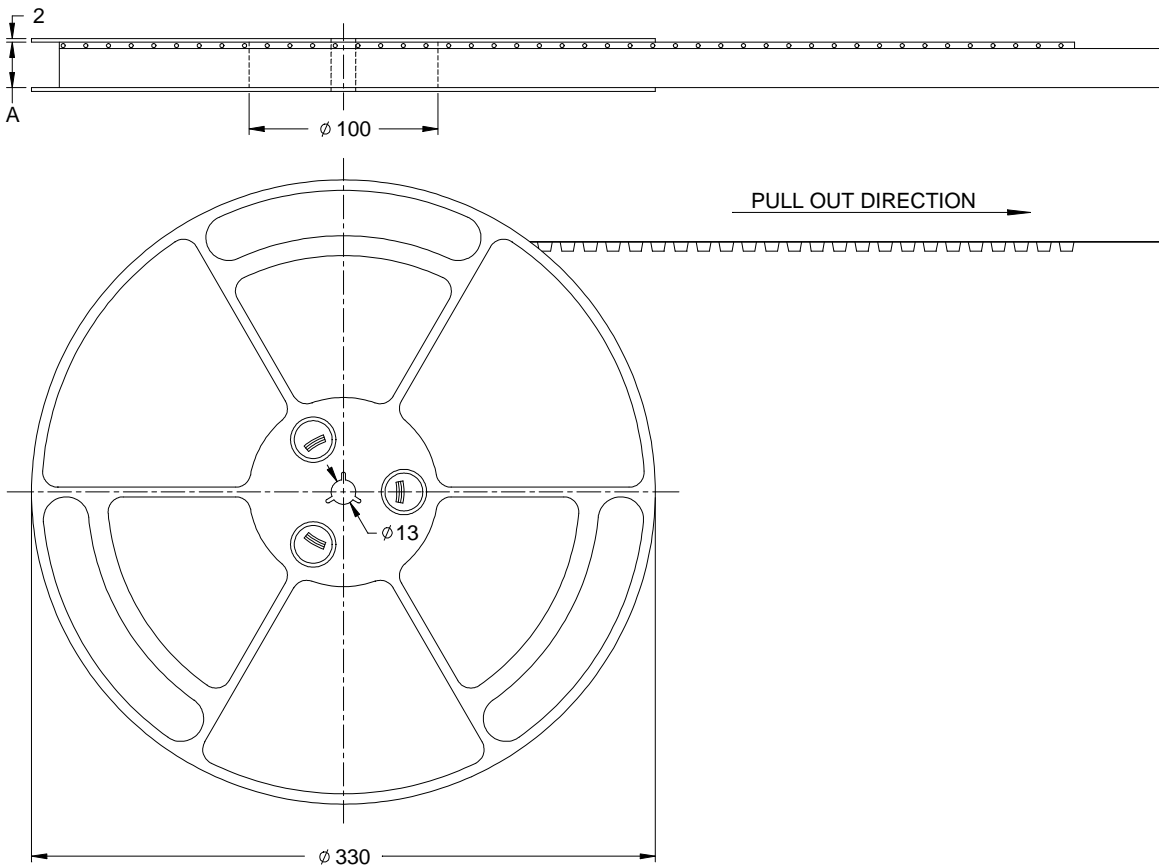
## PCB Layout



No. of Contacts	Part No.	DIM. A	DIM. B	DIM. C
10	BB515-010M-xxxxx	2.0	3.05	3.95
12	BB515-012M-xxxxx	2.5	3.55	4.45
14	BB515-014M-xxxxx	3.0	4.05	4.95
16	BB515-016M-xxxxx	3.5	4.55	5.45
18	BB515-018M-xxxxx	4.0	5.05	5.95
20	BB515-020M-xxxxx	4.5	5.55	6.45
22	BB515-022M-xxxxx	5.0	6.05	6.95
24	BB515-024M-xxxxx	5.5	6.55	7.45
26	BB515-026M-xxxxx	6.0	7.05	7.95
28	BB515-028M-xxxxx	6.5	7.55	8.45
30	BB515-030M-xxxxx	7.0	8.05	8.95
32	BB515-032M-xxxxx	7.5	8.55	9.45
34	BB515-034M-xxxxx	8.0	9.05	9.95
36	BB515-036M-xxxxx	8.5	9.55	10.45
38	BB515-038M-xxxxx	9.0	10.05	10.95
40	BB515-040M-xxxxx	9.5	10.55	11.45
42	BB515-042M-xxxxx	10.0	11.05	11.95
44	BB515-044M-xxxxx	10.5	11.55	12.45
46	BB515-046M-xxxxx	11.0	12.05	12.95
48	BB515-048M-xxxxx	11.5	12.55	13.45
50	BB515-050M-xxxxx	12.0	13.05	13.95
52	BB515-052M-xxxxx	12.5	13.55	14.45
54	BB515-054M-xxxxx	13.0	14.05	14.95

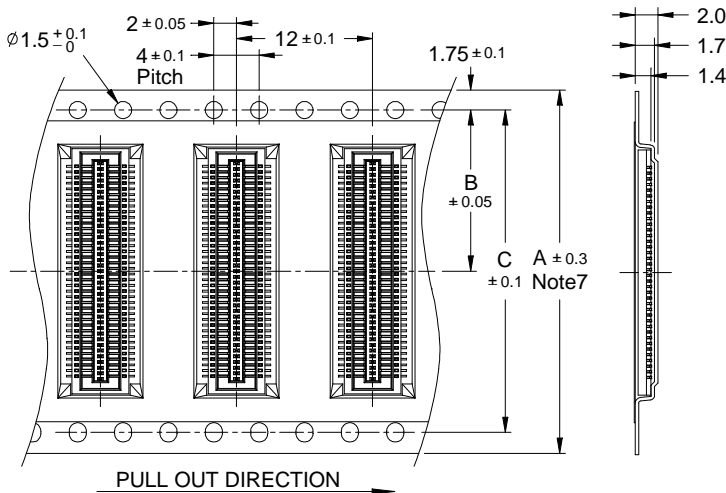
No. of Contacts	Part No.	DIM. A	DIM. B	DIM. C
56	BB515-056M-xxxxx	13.5	14.55	15.45
58	BB515-058M-xxxxx	14.0	15.05	15.95
60	BB515-060M-xxxxx	14.5	15.55	16.45
62	BB515-062M-xxxxx	15.0	16.05	16.95
64	BB515-064M-xxxxx	15.5	16.55	17.45
66	BB515-066M-xxxxx	16.0	17.05	17.95
68	BB515-068M-xxxxx	16.5	17.55	18.45
70	BB515-070M-xxxxx	17.0	18.05	18.95
72	BB515-072M-xxxxx	17.5	18.55	19.45
74	BB515-074M-xxxxx	18.0	19.05	19.95
76	BB515-076M-xxxxx	18.5	19.55	20.45
78	BB515-078M-xxxxx	19.0	20.05	20.95
80	BB515-080M-xxxxx	19.5	20.55	21.45
82	BB515-082M-xxxxx	20.0	21.05	21.95
84	BB515-084M-xxxxx	20.5	21.55	22.45
86	BB515-086M-xxxxx	21.0	22.05	22.95
88	BB515-088M-xxxxx	21.5	22.55	23.45
90	BB515-090M-xxxxx	22.0	23.05	23.95
92	BB515-092M-xxxxx	22.5	23.55	24.45
94	BB515-094M-xxxxx	23.0	24.05	24.95
96	BB515-096M-xxxxx	23.5	24.55	25.45
98	BB515-098M-xxxxx	24.0	25.05	25.95
100	BB515-100M-xxxxx	24.5	25.55	26.45

# 母座 TAPE&REEL 尺寸 TAPE&REEL DIMENSIONS / FEMALE



## Note:

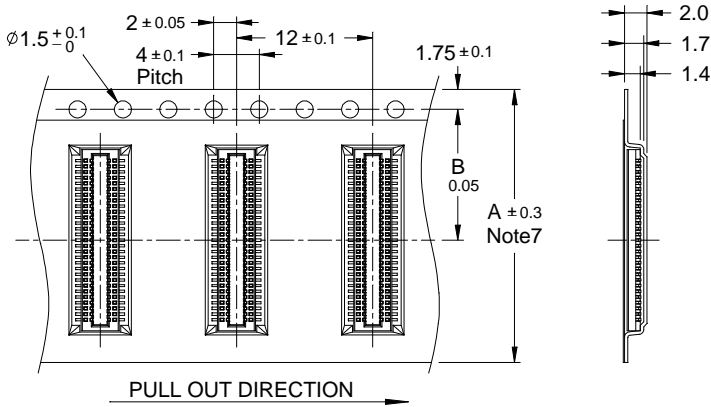
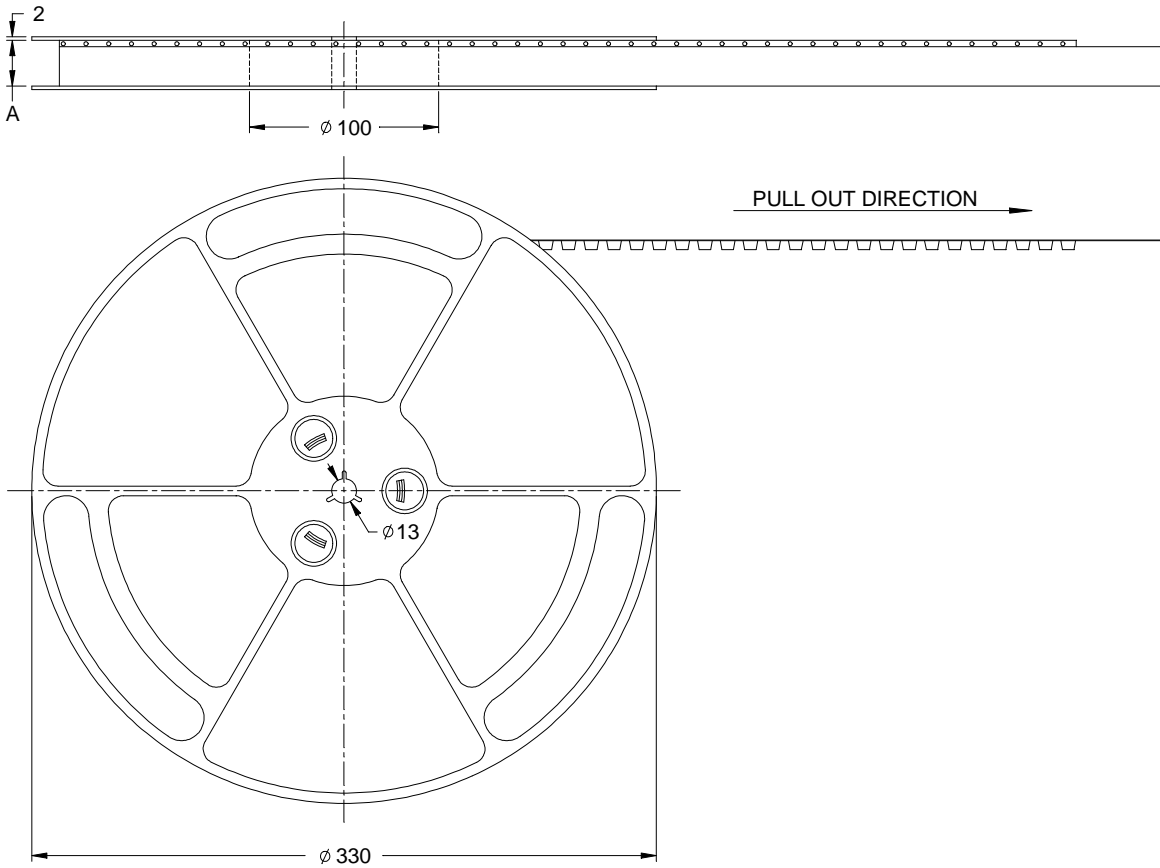
- 1.10 sprocket hole pitch cumulative tolerance  $\pm 0.2$ .
- 2.Carrier camber is within 1 mm in 250mm.
- 3.Material : Black Conductive Polystyrene Alloy  
100% recyclable.
- 4.All dimensions meet EIA-481-B requirements.
- 5.Thickness :  $0.3 \pm 0.05$ mm.
- 6.Component load per 13" reel : 2500pcs.
- 7.For tape width (dimension A) 12/16 and 24mm a pilot hole is provided on one side.  
For tape width (dimension A) 32 and 44mm pilot holes are provided on both sides.



## Note7

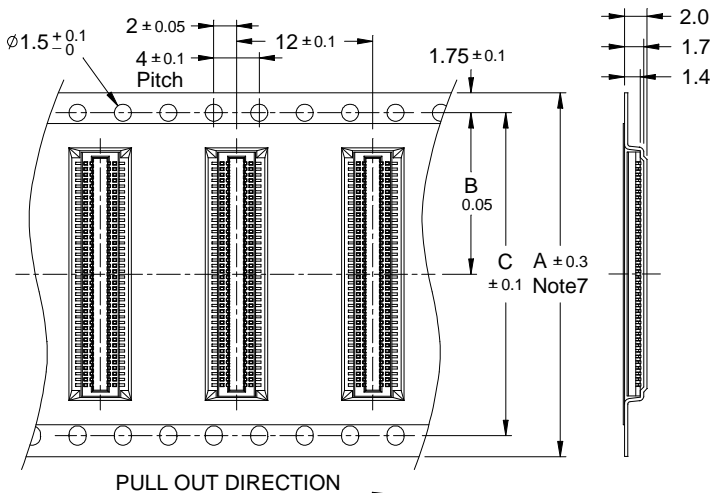
No.of Contacts	Part Number	DIM. A	DIM. B	DIM. C
10	BB515-006F-TAxxx	12	5.5	—
12	BB515-012F-TAxxx	16	7.5	—
22	BB515-022F-TAxxx			
24	BB515-024F-TAxxx	24	11.5	—
54	BB515-054F-TAxxx			
56	BB515-056F-TAxxx	32	14.2	28.4
76	BB515-076F-TAxxx			
78	BB515-078F-TAxxx	44	20.2	40.4
100	BB515-100F-TAxxx			

# 公座 TAPE&REEL 尺寸 TAPE&REEL DIMENSIONS / MALE



## Note:

- 1.10 sprocket hole pitch cumulative tolerance  $\pm 0.2$ .
2. Carrier camber is within 1 mm in 250mm.
3. Material : Black Conductive Polystyrene Alloy  
100% recyclable.
4. All dimensions meet EIA-481-B requirements.
5. Thickness :  $0.3 \pm 0.05$ mm.
6. Component load per 13" reel : 2500pcs.
7. For tape width (dimension A) 12/16 and 24mm a pilot hole is provided on one side.  
For tape width (dimension A) 32 and 44mm pilot holes are provided on both sides.



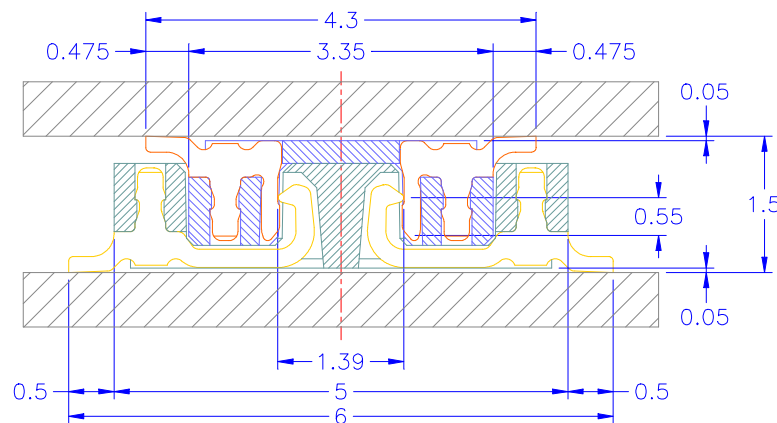
## Note 7

No. of Contacts	Part Number	DIM. A	DIM. B	DIM. C
10	BB515-010M-TAxxx	12	5.5	—
14	BB515-014M-TAxxx			
16	BB515-016M-TAxxx	16	7.5	—
26	BB515-026M-TAxxx			
28	BB515-028M-TAxxx	24	11.5	—
58	BB515-058M-TAxxx			
60	BB515-060M-TAxxx	32	14.2	28.4
80	BB515-080M-TAxxx			
82	BB515-082M-TAxxx	44	20.2	40.4
100	BB515-100M-TAxxx			

# 1.5mm 精確結合

# 不朽的工藝結晶

## 結合尺寸圖 MATED DRAWING



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