Hirose Korea FPC To Board Connector

TF13-Series

목 차

1. 제품 특징----------page 2

2. 제품 규격 및 구성----------page 3

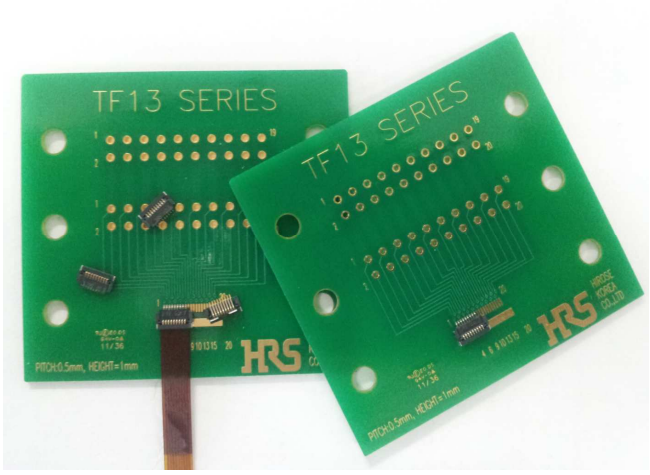
3. 제품 상세 내용----------page 4~5

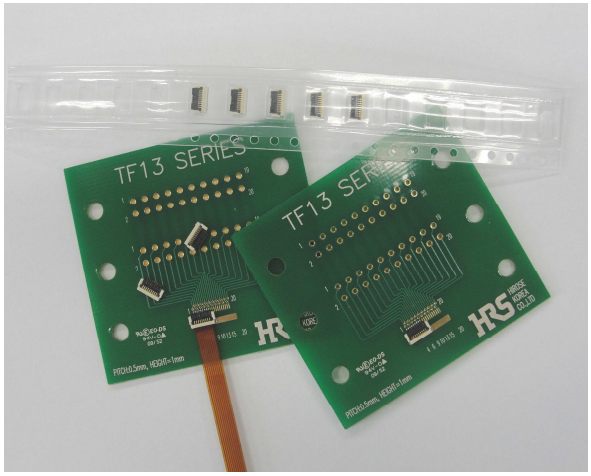
No.	제 품 명	Pin 수	사양	관련page
1	TF13-SERIES	4,6,9,10,13	0.4 Pitch , 0.9mm 높이	4~5

5.Reflow profile (Lead-free)----------page 6

TF13 - SERIES

0.4mm PITCH Back-Flip Type, 1 열 하(下) 접점방식 FPC To Board CONNECTOR





■ 특 징

1. LOW PROFILE 제품에서 높은 FPC발거력 / MISS ALIGN방지

1) 돌기형 FPC말단 형상과 ACTUATOR의 돌기형 HOOK가 체결시 결합하는 구조로 FPC발거력 향상 구현

2) 체결시 결합 구조로 FPC오삽입 등에 의한 CONTACT MISS ALIGN방지

2. BACK-FLIP 방식에 의한 우수한 작업성 / 접촉 신뢰성 향상

1) BACK-FLIP방식 채택으로 FRONT-FLIP방식 대비 실장후 FPC체결 작업시 우수한 작업성 실현

2) BACK-FLIP방식은 FPC 수직 발거방향과 ACTUATOR OPEN방향이 서로 역방향으로 장기적인 접촉 신뢰성을 향상시킴.

3. LOW PROFILE제품에서 우수한 FPC삽입 작업성

1) FPC삽입구 폭(두께 방향)은 MIN. 0.32로 0.2t FPC 사용시 60% 마진 확보

4. 개별 단자와 ACTUATOR의 결합구조로 ACTUATOR이탈 현상 방지

5. 단자와 금구의 전/후 PATTERN으로 납땜 BALANCE 및 PCB고정 강도 향상

6. 단자의 Ni BARRIER도금으로 LOW PROFILE제품에서의 FLUX오름 방지

1) CONTACT부 및 LEAD부(SOLDER부) Au도금, 중간부 Ni BARRIER도금 적용으로 납땜시 FLUX오름에 의한 접촉 불량현상 방지

7. CASE 상측, ACTUATOR 등면을 확용한 실장 흡착으로 PICK-UP ERROR 감소

■ 용 도

- NOTE PC LED BLU Interconnecting.
- Compact devices for interconnecting the main circuite board with the HHP, LCD, PDA, HDD or other device.

■ 제품 규격

Rating	Current 0.5A	Operating temperature range	Storage temperature range
	Voltage 50V	- 55 ℃ ~ + 85 ℃	- 10 ℃ ~ + 50 ℃

Item	**Specification**	**Conditions**
1.Insulation Resistance	500MΩ Min	Measureed at 100V DC
2.Withstand voltage	Neither shot or insulation beakdown	150V AC for 1 minute
3.Contact Resistance	100mΩ Max	Measured at 1mA(or 1,000㎐)
4.FPC Retention Force	Ver.:130gf MIN/Hor.:130gf MIN	Measure at 0.2±0.03mm FPC
5.Mechanical operation	Contact Resistance : 100mΩ Max	20 Time insertions and extractions.
6.Moisture Resistance	Temperature : 40±2℃	Contact Resistance : 100mΩ Max Insulation Resistance : 50MΩ Min
	Relative Humidity : 90～95%	
	Duration : 96Hr	
7.Resistance to Soldering heat	Reflow : 217℃ MIN. 90~120s, 245±5℃ 30±5s	No deformation of components affecting performance.

■ 부품별 적용 원재료

Part	Material	Finish	Remarks
CASE	LCP	NATURAL/BLACK	UL94V-0
ACTUATOR	LCP	BLACK	UL94V-0
Contact	Phosphor Bronze	Gold plating over Ni	Ni Barrier
Metal Fitting	Phosphor Bronze	Sn plating over Ni	-

※ Reflow최대 온도 260℃를 만족시킴으로 Lead-free Soldering의 요구조건에 적합한 제품임.

※ RoHS지침 및 유해 물질 관리 기준에 적합한 제품임.

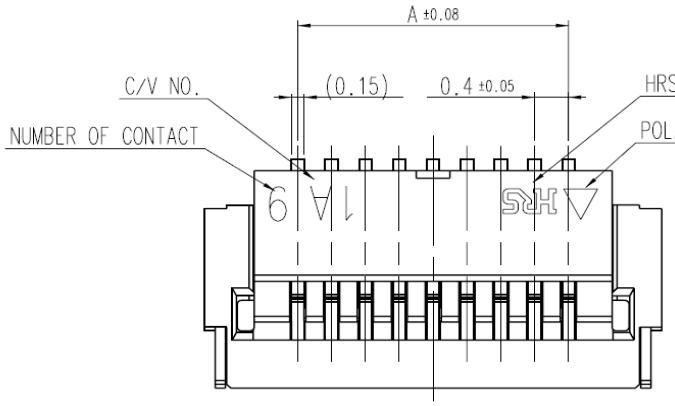
■ Part Number의 구성

TF 13 # - ** S - 0.4 SH

① ② ③ ④ ⑤ ⑥ ⑦

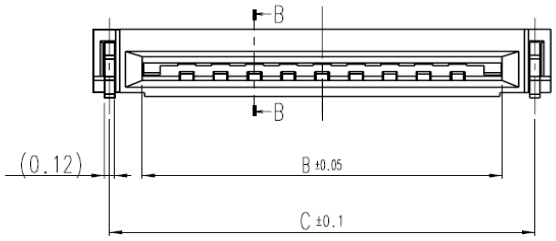
①	Serieal Name	TF
②	Serieal No.	13
③	Specifications	Blank : Standard type, B : CASE Black Color Type
④	Contact 수	4,6,9,10,13 Cotacts
⑤	Contact 분류	S : Socket
⑥	Contact Pitch	0.4mm
⑦	Contact type	SH(SMT horizontal mount type)

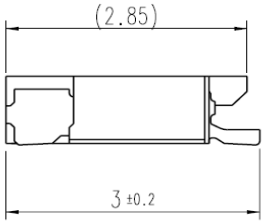
■ TF13-SERIES



Unit : mm

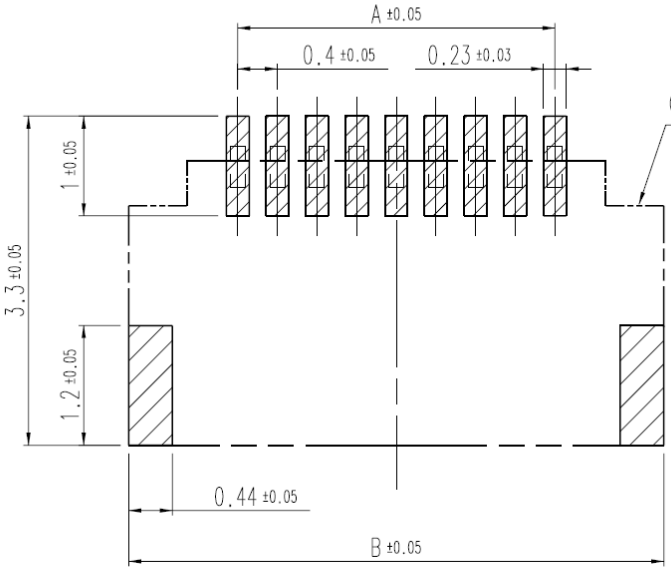
Dimensions / Number of Contact	A	B	C
4	1.2	2.25	3.03
6	2.0	3.05	3.83
9	4.0	4.25	5.03
10	3.6	4.65	5.43
13	4.8	5.85	6.63





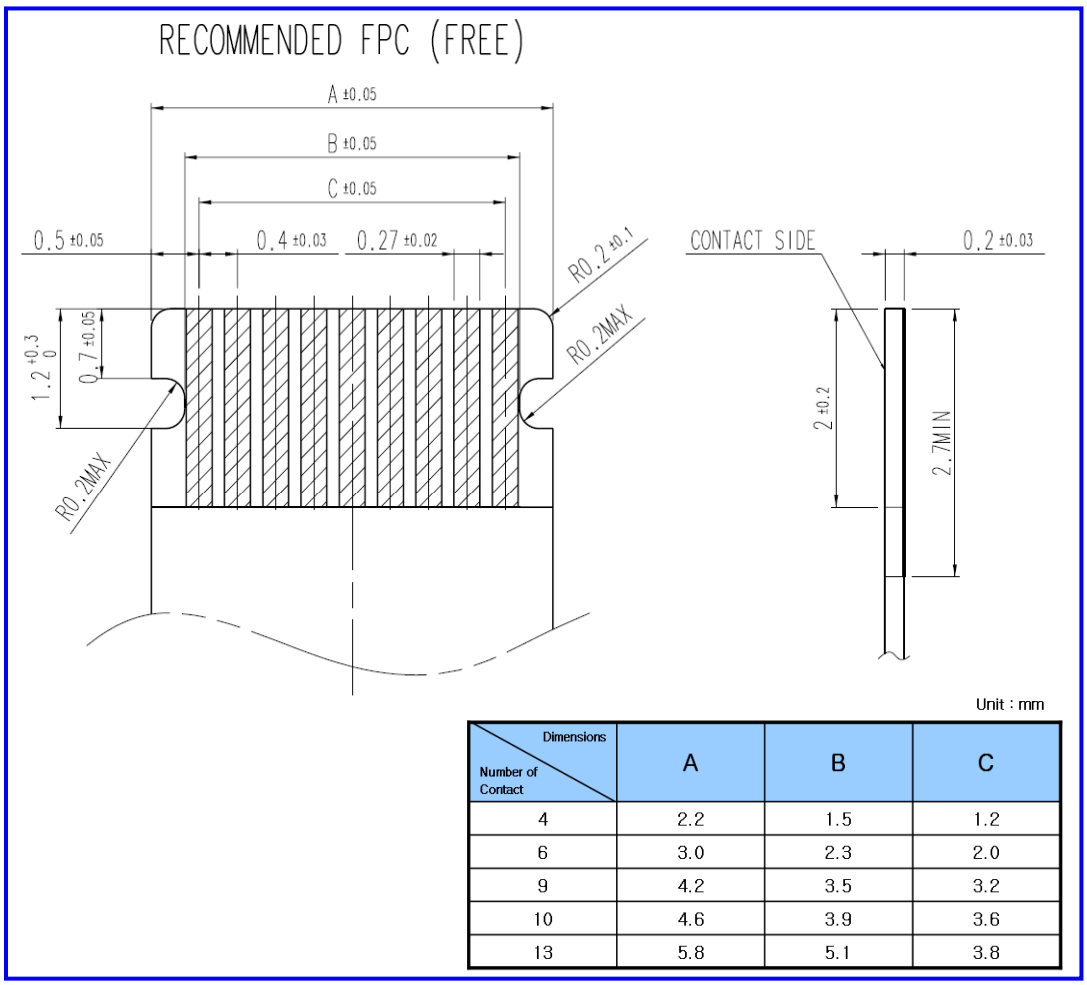
RECOMMENDED LAND PATTERN, METAL MASK (FREE)

RECOMMENDED METAL MASK THICKNESS: t=0.10



Unit : mm

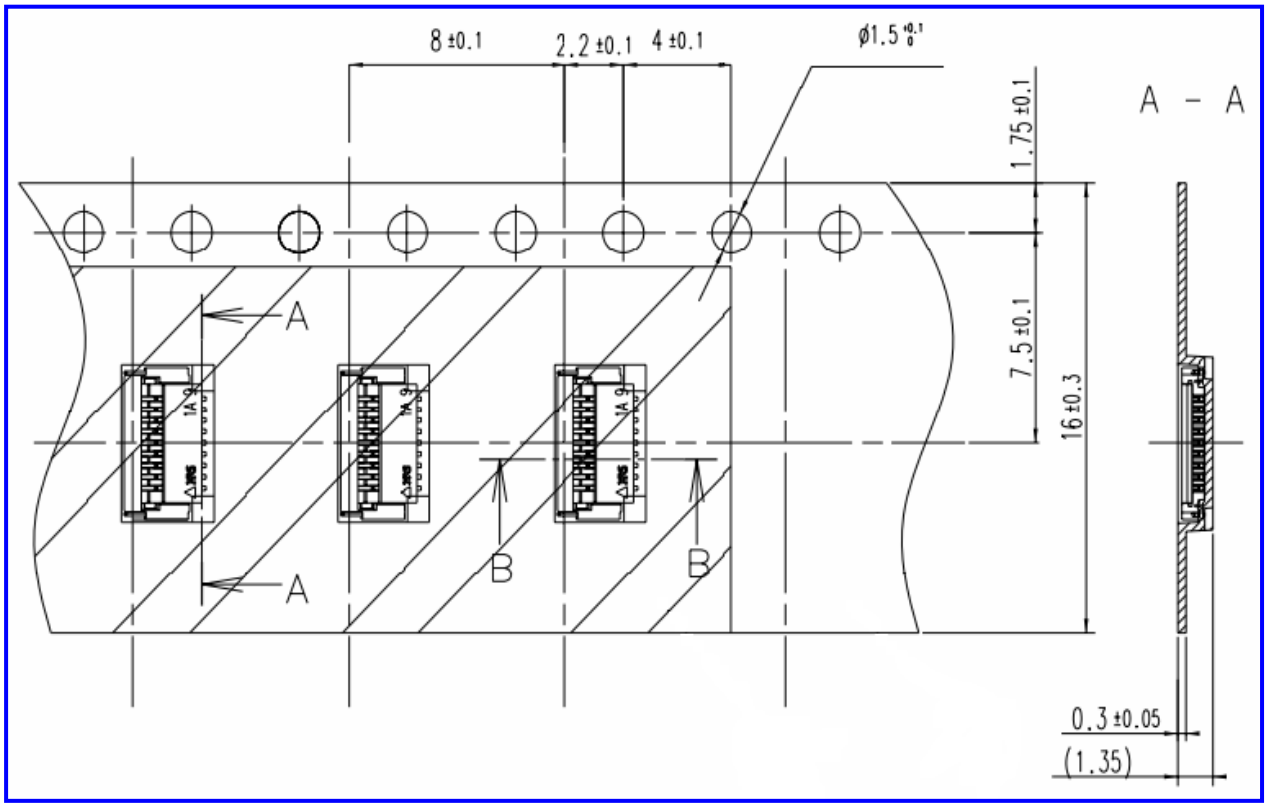
Dimensions / Number of Contact	A	B
4	1.2	3.4
6	2.0	4.2
9	4.0	5.4
10	3.6	5.8
13	4.8	7.0



Unit : mm

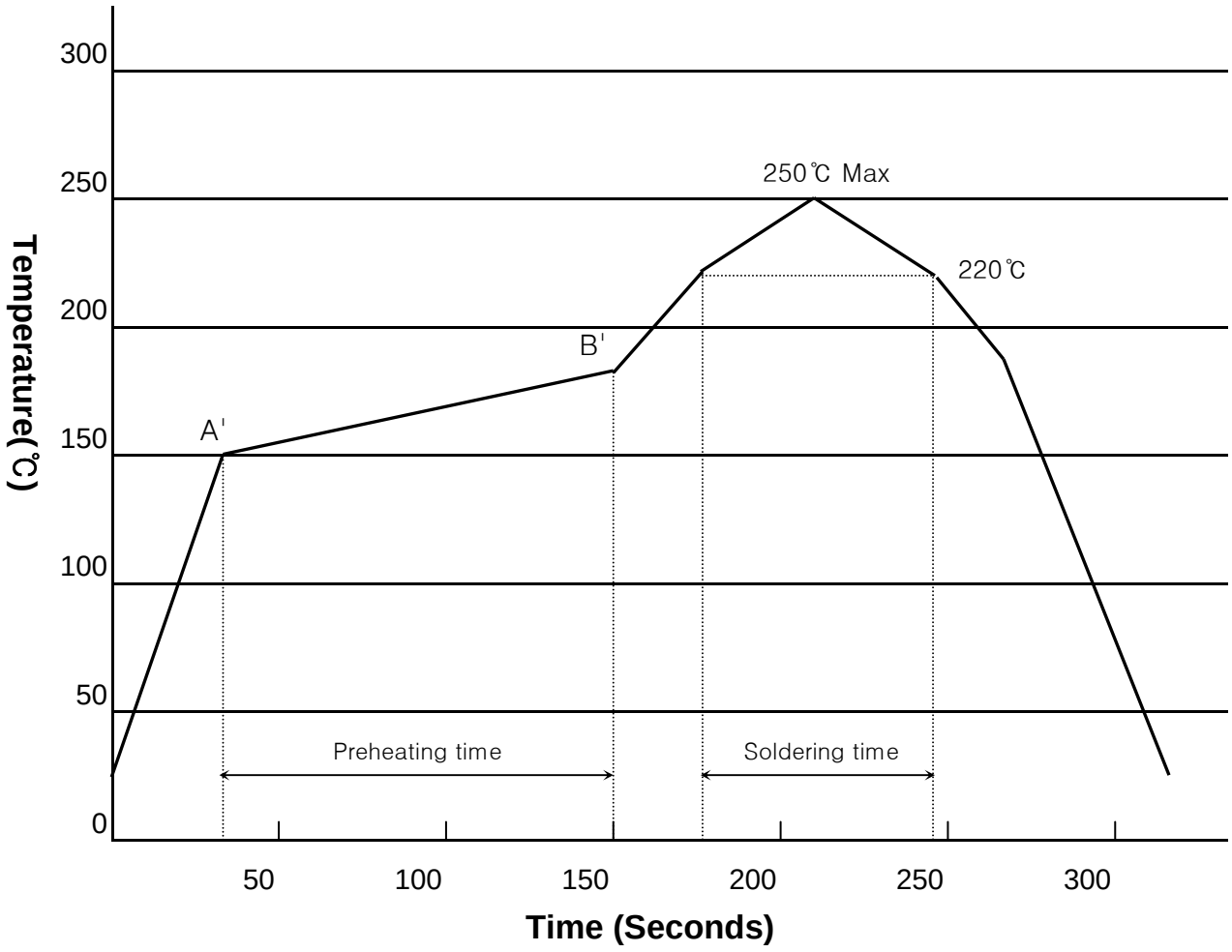
Dimensions / Number of Contact	A	B	C
4	2.2	1.5	1.2
6	3.0	2.3	2.0
9	4.2	3.5	3.2
10	4.6	3.9	3.6
13	5.8	5.1	3.8

PACKING DIMENSION



■ *Reflow Profile*

Using Lead-free Solder Paste



Recommended Application Conditions

Reflow System: IR reflow

Solder: Cream type Sn / 3 Ag / 0.5 Cu

Flux content 11%wt

Metal mask thickness: 0.15mm

Preheating time: 135℃~190℃, 90±30seconds

A'=135℃~170℃ , B'=170℃~190℃

Soldering time: 250℃ Max

220℃ Min, 20~55 seconds