

深圳市台华达科技有限公司

DESCRIPTION :
產品描述

FPC Conn. P=0.5mm H=1.2mm
Right Angle / Double Contact Type
腳距 0.5mm 結合高度 1.2mm 直插式双面接触板端連結器

PART No. :
料號

THD1012-XXR-SN

DATE :
日期

2012/12/11

PRODUCT SPEC NO. :
產品規格書編號

THD001210

ECO NO. :
工程變更號碼

ECR1212001

REV. :
版本

A

APPROVED 核准	CHECKED 審核	WRITTEN 製作
2010/12/12	黃德進 2010/12/12	HUANGDEJIN 2010/12/11

PRODUCT SPECIFICATION

FPC Conn. P=0.5mm H=1.2mm Right Angle/Double Contact Type

1. SCOPE 使用範圍

THIS PRODUCT SPECIFICATION COVERS THE REQUIREMENTS FOR PRODUCT PERFORMANCE OF FULLCONN'S. FPC Conn. P=1.0mm H=1.2mm Right Angle/Double Contact Type

此產品規格書涵蓋深圳市台華達科技有限公司，腳距 0.5mm 結合高度 1.2mm 直插式雙面接觸板端連結器之產品性能需求說明。

2. PRODUCT NAME AND PART NUMBER

PRODUCT NAME 品名	PART NUMBER 料號
FPC Conn. P=1.0mm H=1.2mm Right Angle/Double Contact Type 腳距 1.0mm 結合高度 1.2mm 直插式雙面接觸板端連結器	THD1012-XXR-SN

3. PERFORMANCE CHARACTERISTICS

ITEM 項目	STANDARD 標準
RATED VOLTAGE (max.) 額定電壓最大值	50V AC(rms)/DC
CURRENT CONTINUITY 額定電流	0.4A AC(rms)/DC
OPERATING TEMPERATURE RANGE 操作溫度範圍	-55°C ~ +85°C
STORAGE TEMPERATURE RANGE 儲存溫度範圍	-55°C ~ +85°C
CONTACT RESISTANCE(Low Level) 接觸電阻	30 mΩ max
WITHSTANDING VOLTAGE 耐電壓	250 V AC RMS FOR 1 MINUTE
INSULATION RESISTANCE 絕緣電阻	50 MΩ Min.

4. MATERIALS 材質

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4-1 HOUSING : Heat Resistance Plastic, UL94-V0 ; Color : White

主体 : 耐高溫塑膠, UL94-V0, 顏色:白色

LEG : Brass

接地片:黃銅

TERMINAL : Brass

端子:黃銅

5.FINISH 表面處理

5-1.Please see the "ORDER INFORMATION" in customer drawings.

請參照客戶圖

6. REQUIREMENT, TESR METHODS & TEST RESULTS 測試方法及需求

6.1 Examination of product 產品外觀檢驗:

TEST DESCRIPTION		TEST PROCEDURE	REQUIREMENT
6.1.1	Visual and Dimensional Inspections 外觀檢查	Visual, dimensional and functional per applicable quality inspection plan. 使用目測及測量工具對物件作測量	Meets product drawing 符合產品客戶圖規範

6.2 Mechanical performance 機械性質

Item	Description	Procedure	Requirements
6.2.1	Contact retention force 保持力	The end of terminal shall be pulled in a perpendicular to base housing at a maximum rate of 25±3 mm per minute. 實驗最終端子應始終置於塑膠內, 最大實驗速率為 25±3mm/min	3.0 N(0.3kg) Min. 最小 3.0N
6.2.2	Durability 耐插拔	Mating and unmating the connectors for 20 cycles. 結合及分離公母端 20 次	Low level contact resistance:40mΩ Max. 最大接觸電阻為 40mΩ
6.2.3	Mating force 插入力	Insertion is conducted between applicable connectors.(without locking lever) The end of terminal shall be pulled in a perpendicular to base housing at a maximum rate of 25 mm per minute. 實驗最終端子(無鎖住)始終保持於塑膠內 最大速率 25mm/min	Pos.× 0.08kgf MAX 单 PIN 最大力量 0.08kgf

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6.2.4	Unmating force 拔出力	Insertion is conducted between applicable connectors.(without locking lever) The end of terminal shall be pulled in a perpendicular to base housing at a maximum rate of 25 mm per minute. 實驗最終端子(無鎖住)始終保持於塑膠內 最大速率 25mm/min	Pos.× 0.03kgf MIN 单 PIN 最小力量 0.03kgf
6.2.5	Vibration 振動	Subject mated connectors to : Frequency : 10-55-10 Hz Amplitude : 1.52mm Direction : three perpendicular axes Direction : X、Y、Z axes/2 hours (MIL-STD-202, Method 201) 將公母端配合置於下列測試環境 頻率:10~55-10 Hz 振幅:1.52mm 方向:三軸, X、Y、Z 軸/兩小時 (MIL-STD-202, Method 201)	There shall be no current discontinuity of more discontinuity of more then 1µsec. And there shall be no mechanical defect on the parts during and after test. 無斷電及中斷超過 1µ秒, 實驗中外表無損毀
6.2.6	Mechanical Shock 機械衝擊	Duration : 2 hours in each of X,Y,Z axes. 將样品与适合之 FPC 连接, 通过 DC 1 mA 测试条件连续测试 3 次。在 X、Y、Z 3 轴 6 个垂直方向施加重力加速度 .490m/s ² {50G} 冲击。 (MIL-STD-202, Method 213, Condition A) Mate applicable FPC and subject to the following shock conditions. 3 times of shocks shall be applied for each 6 directions along 3 mutually perpendicular axes, passing DC 1 mA current during the test. (MIL-STD-202, Method 213, Condition A)	There shall be no current discontinuity of more discontinuity of more then 1µsec. And there shall be no mechanical defect on the parts during and after test. 無斷電及中斷超過 1µ秒, 實驗中外表無損毀

6.3 Electrical performance 電汽特性

Item	Parameter	Procedure	Requirements
6.3.1	Contact Resistance 低功率接觸阻抗	Mate applicable FPC and measure by dry circuit,20mV Max, 10mA. 將样品与适合之 FPC 连接, 测试电压 20mV, 限电流10mA 下进行阻抗测试。	30 mΩ Max. 30 mΩ 以下.

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6.3.2	Insulation Resistance 絕緣阻抗	After 500 V DC for 1 minute ,measure the insulation resistance between the adjacent contacts of mated and unmated connector assemblies (MIL-STD-202, Method 302, Condition B) 將與連接器連接，於兩相鄰端子間給予電壓 500V DC 進行測試。 (MIL-STD-202, Method 302, Condition B)	50 MΩ Min 最小電阻 50MΩ
6.3.3	Dielectric Withstanding Voltage 耐電壓	Test between adjacent contacts of mated and unmated connector assemblies with a voltage of 250 V AC (r.m.s) for 1 minute (MIL-STD-202, Method 301) 施以250V AC.電壓在相鄰電路與端子間1分鐘 (MIL-STD-202, Method 301)	No current leakage and flashover or damage detected. 無漏電及損毀

6.4 Environmental performance

Item	Parameter	Procedure	Requirements
6.4.1	Humidity resistance 恆溫恆濕	Subject unmated connectors to 96 hours at 25~65°C with 90% to 95% R.H. 使連接的公母端置於 25~65°C、90% 到 95% 溼度的設定狀況下 96 小時	Contact resistance: 40mΩ Max. 接觸阻抗最大 40mΩ
6.4.2	Salt spray 鹽霧實驗	Subject specimens to 5±1% salt concentration at 35±2°C for 48 hours, After test, rinse the sample with water and recondition the room temperature for 1 hour.將公母配合置於 5±1% 濃度之鹽霧環境中，溫度 35±2°C 持續 48 小時，放在室溫下恢復 1 小時后再測試	Contact resistance: 40mΩ Max. 接觸阻抗最大 40mΩ
6.4.3	Thermal Shock (Temperature Cycling) 冷熱衝擊	Subject unmated connectors shall be tested in accordance with(JIS C0025) -55±3°C(30 minute) →+25±2°C(5 minute) → +85±2°C(30 minute) →+25±2°C(5 minute) consecutive 25 cycles. (MIL-STD-202, Method 107, Condition A-1) 將公母結合的連接器置入 -55°C(30 分鐘) →+25°C(5 分鐘) → +85°C(30 分鐘) →+25°C(5 分鐘) 連續進行 25 次 (MIL-STD-202, Method 107, Condition A-1)	Appearance is no damage. Contact resistance: 40mΩ Max. 外觀無損毀 接觸阻抗最大 40mΩ

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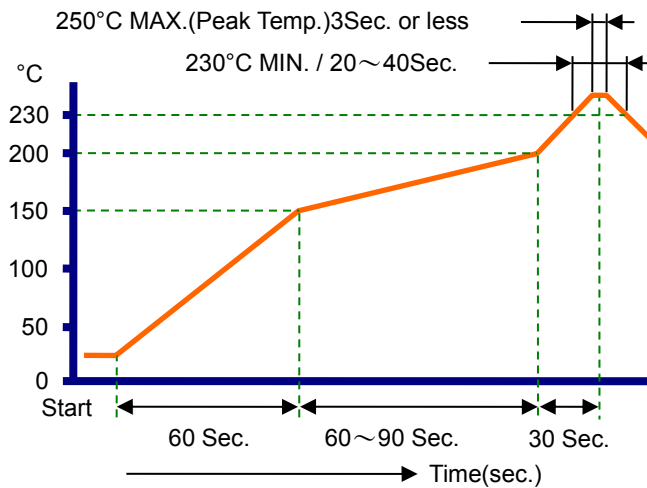
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6.4.4	Solderability 沾錫性	Solder time to be 3~5 seconds at 245±5°C, using unactivated flux. (MIL-STD-202F, Method 208) 熱焊溫度 245±5°C時間 3~5 秒 使用無活性助焊劑 (MIL-STD-202F, Method 208)	More than 95% of the immersion shall be covered with solder. 覆蓋率超過 95%
6.4.5	Soldering heat withstanding 耐焊錫性	使用烙铁手焊时须可符合下述焊锡条件 Hand soldering Solder Temperature: 380 ± 5°C, 3 ± 0.5sec. For Tin (Lead Free) using (When re-flowing) See paragraph 7. 使用红外线回焊时请参考第 7 点	no physical damage 外觀無損毀

Note: 1. plating under the 5u" is not suited

7. RECOMMENDED INFRARED REFLOW CONDITION :



NOTE: Please check the re-flow soldering condition by your own devices beforehand .
 Because the condition changes by the soldering devices, p.c. boards, and so on.

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8. PRODUCT QUALIFICATION AND REQUALIFICATION TEST SEQUENCE

產品驗證次序

TEST GROUP 測試群組		Sample Groups 樣品群組										
測試項目	TEST OF DESCRIPTION 測試說明	A	B	C	D	E	F	G	H	I	J	K
1	Examination of product 外觀尺寸比對	1,5	1	1	1,5	1,5,8	1	1,3	1	1	1,3	1,4
2	Low Level Contact Resistance 低功率接觸阻抗		2		2,4	2,4,7						3
3	Contact retention force 端子保持力								2			
4	Durability 耐插拔	4										
5	Mating force 插入力	3										
6	Unmating force 拔出力	2										
7	Vibration 振動										2	
8	Dielectric withstanding voltage 耐電壓									2		
9	Insulation resistance 絕緣阻抗									3		
10	Humidity resistance 恆溫恆濕				3							
11	Thermal shock 冷熱衝擊											2
12	Salt spray 鹽霧實驗			2								
13	Temperature life cold 耐寒試驗					3						
14	Temperature life high 高溫壽命					6						
15	Solder ability 沾錫性			3			2					
16	Soldering heat with standing 耐焊錫性							2				
NUMBER OF TEST SAMPLE 測試樣品數		30	30	30	30	30	30	30	30	30	30	30

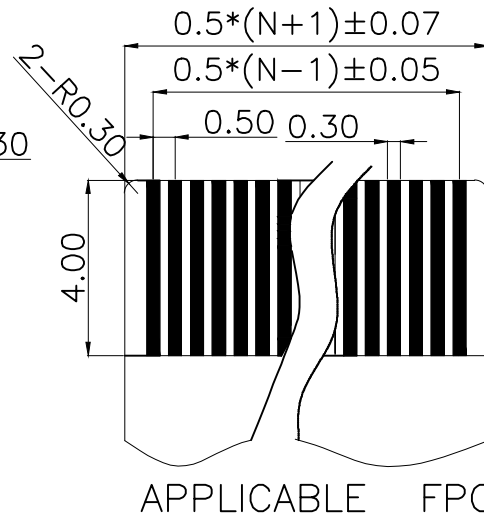
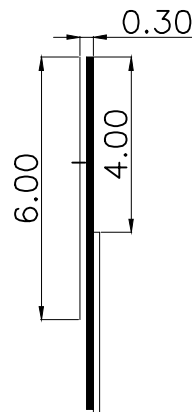
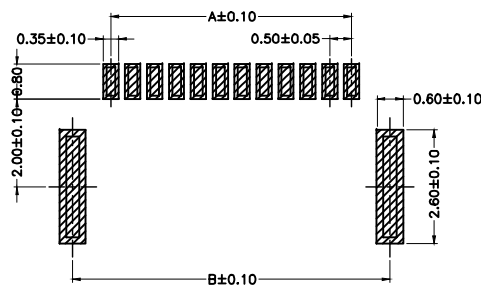
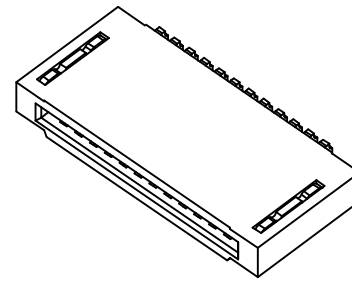
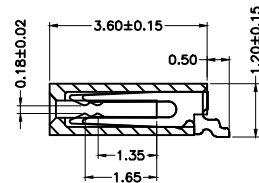
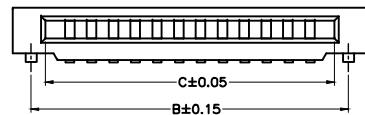
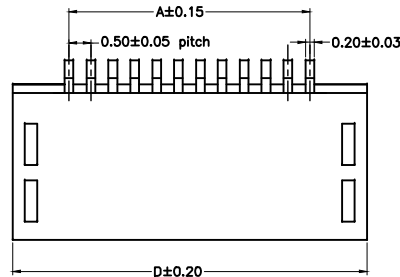
FPC Conn. P=0.5mm H=1.2mm Right Angle/Double
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PITCH 0.5mm NO ZIF FPC CONNECTOR SMT TYPE



1.MATERIAL

HOUSING:LCP UL 94V-0

CONTACTS:COPPER ALLOY

PEG:COPPER ALLOY

2.PLATING:

CONTACTS:TIN OVER NICKEL

PEG:TIN OVER NICKEL

3.PART NO:

OPERATING VOLTAGE:50V AC,DC

CURRENT RATING:0.3A AC,DC

OPERATING TEMPERATURE:-25C~+85C

4.PART NO:

THD1012-xxR-GF

GF:GOLD FLASH

SN:TIN OVER NICKEL

NO.OF CONTACTS:(04Pin~45Pin)

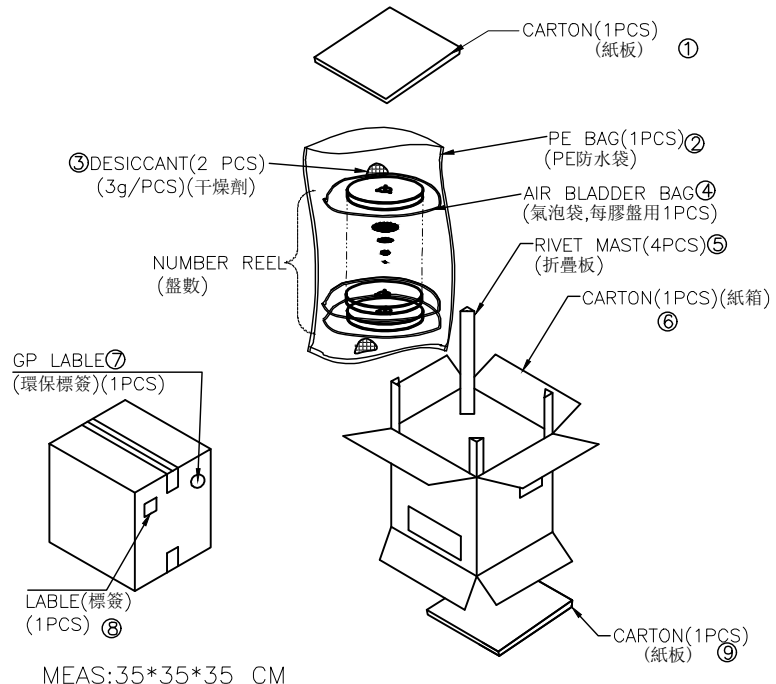
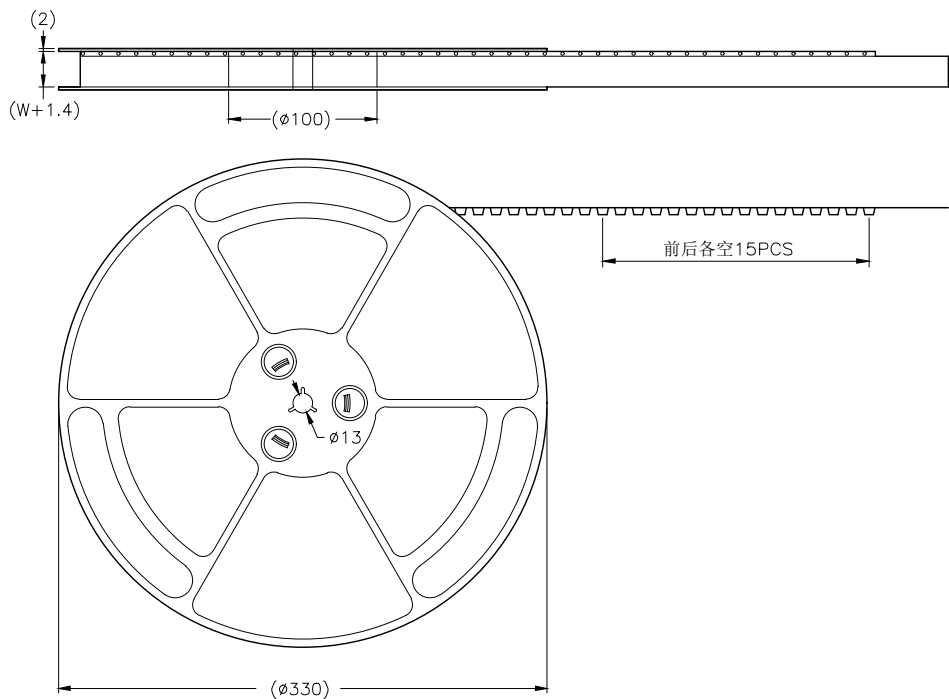
Circuits	Dimensions (mm)				Circuits	Dimensions (mm)			
	A	B	C	D		A	B	C	D
04	1.50	3.25	2.00	4.10	26	12.00	19.75	19.10	14.80
06	2.00	3.75	3.10	4.80	28	12.50	14.25	13.80	15.10
08	2.50	4.25	3.00	5.10	27	13.00	14.75	14.10	16.60
07	3.00	4.75	4.10	5.80	28	13.50	15.25	14.80	16.10
09	3.50	5.25	4.80	6.10	29	14.00	15.75	15.10	16.80
10	4.00	5.75	5.10	6.80	30	14.50	16.25	16.00	17.10
10	4.50	6.25	5.80	7.10	31	15.00	16.75	16.10	17.80
11	5.00	6.75	6.10	7.80	32	15.50	17.25	16.80	18.10
12	5.50	7.25	6.80	8.10	33	16.00	17.75	17.10	18.80
13	6.00	7.75	7.10	8.80	34	16.50	18.25	17.80	19.10
14	6.50	8.25	7.80	9.10	35	17.00	18.75	18.10	19.80
15	7.00	8.75	8.10	9.80	36	17.50	19.25	18.80	20.10
16	7.50	9.25	8.80	10.10	37	18.00	19.75	19.10	20.80
17	8.00	9.75	9.10	10.60	38	18.50	20.25	19.60	21.10
18	8.50	10.25	9.80	11.10	39	19.00	20.75	20.10	21.60
19	9.00	10.75	10.10	11.80	40	19.50	21.25	20.80	22.10
20	9.50	11.25	10.80	12.10	41	20.00	21.75	21.10	22.80
21	10.00	11.75	11.10	12.60	42	20.50	22.25	21.80	23.10
22	10.50	12.25	11.80	13.10	43	21.00	22.75	22.10	23.80
23	11.00	12.75	12.10	13.60	44	21.50	23.25	22.80	24.10
24	11.50	13.25	12.80	14.10	45	22.00	23.75	23.10	24.80



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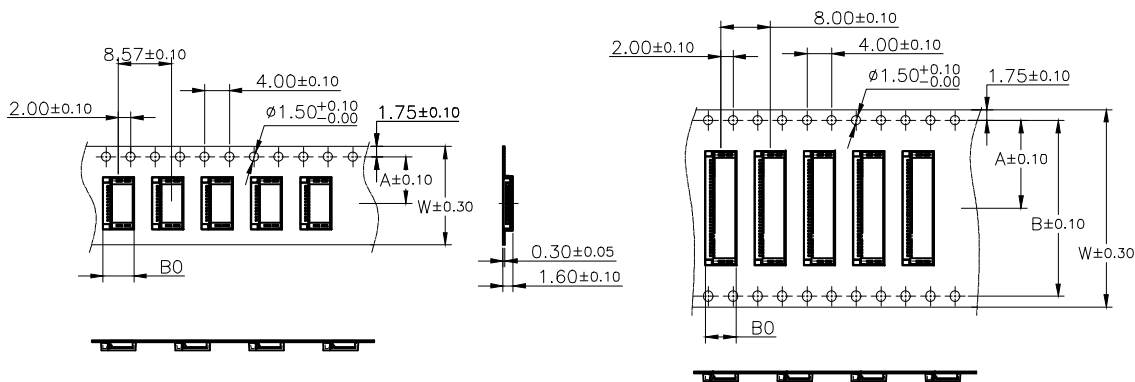
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X.X ±0.25				CHECKED Jim 2012.05.10		TITLE: 0.5 PITCH 1.2H NO ZIF FPC CONN.	
X.XX ±0.20				APPROVED 黄德进 2012.05.10		SHEET 1/1	
X.XXX ±0.10				UNIT MM		SCALE 1:1	
ANG. ±3°				SIZE A4		REV X1	
X	Prototype	JIM	2012/05/10				
REV.	REVISIONS	CHK	DATE				

REEL Dim



Notes:

- 1.PER REEL : 4000pcs.
- 2.Material : White Conductive Polystyrene Alloy.
- 3.Thickness : 0.3 ± 0.05mm.
- 4.All dimensions meet EIA-481-C requirements.



Tape width 16 and 24 mm

Tape width 32 and 44 mm

PIN NO.	W	A	B	PCS /REEL	REEL/CARTON	SUM(PCS)
4PIN~12PIN	16	7.5	—	4000	15	60000
13PIN~24PIN	24	11.5	—	4000	10	40000
25PIN~36PIN	32	14.2	28.4	4000	8	32000
37PIN~45PIN	44	20.2	40.4	4000	6	24000


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GENERAL TOLERANCE UNLESS OTHERWISE SPECIFIED				DRAWN Jim 2012.05.10		PART NO. THD1012-xxR-SN	
X.X ±0.25				CHECKED Jim 2012.05.10		TITLE: 0.5 PITCH 1.2H NO ZIF FCC CONN.	
X.XX ±0.20				APPROVED 黄德进 2012.05.10		SHEET 1/1	
X.XXX ±0.10						UNIT MM	
ANG. ±5°						SCALE 1:1	
X Prototype		JIM		2012/05/10		SIZE A4	
REV.	REVISIONS	CHK	DATE			REV X1	

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